AN EARLY COIN OF WILLIAM THE LION

N.J. MAYHEW

THE Ashmolean Museum has recently acquired an example of the first coinage of William the Lion. This coinage consists of a small but somewhat miscellaneous group of coins of rather varied types. Burns grouped them rather loosely as 'Coinages prior to the crescent and pellet type', fairly reflecting the fact that the earliest coinage of William the Lion seems to have been not one coinage, but a mixture of types, none of the them now common.[1] Stewart observed that, until the introduction of William's crescent and pellet type, the Scottish coinage varied a good deal from mint to mint, and only once in David's reign was a standard type in production on a national basis.[2]

The new Oxford acquisition is illustrated here (**pl. 17**). The only published coin of even similar type is Burns illustration 26, to which Lord Stewartby kindly directed my earliest puzzled enquiries. He also generously informs me that he possesses a closer parallel with a more exactly corresponding reverse type. The Ashmolean coin was found by metal-detector near Wallingford. It was badly buckled, and has now been successfully straightened.[3] An initial cross is now just visible at about 7 o'clock, followed by several strokes which irritatingly might equally be read as M or W, though we may be confident that the reading should be William. The legend seems to end REX. The bust, however, is very good. The king has a good moustache, but no beard unless a goatee. The crown has much the look of those noted by Burns as associated with Hugo at Roxburgh for David I. The crescent behind the head (which Burns notes for his illustration 26) and the potent sceptre head, are associated with William. The reverse is close to Burns illustration 26, though with four pellets in the angles rather than five. The legend, of which only three letters are visible, reads .GO:D, which may probably be interpreted as Hugo de Roxburgh, although the form *de* Roxburgh is only known for Raul later under William I. Hugo is the only known moneyer for this period whose name could fit the available letters. He struck only at Roxburgh, chiefly under David I, but there are some rarer coins struck by Hugo under Malcolm IV and William the Lion. Nicholas Holmes has kindly informed me of a Malcolm penny in the National Museums of Scotland which might read OGD, perhaps a garbled attempt at Hugo de. However, the vital coin for the interpretation of the new find is the closely parallel coin in the collection of Lord Stewartby. The obverse and reverse dies of the Stewartby and Ashmolean coins differ, yet both obverses have the square cross pattée sceptre head. The reverse of the Stewartby coin reads +hV( )ROCAS, which probably supplies the missing letters from the Ashmolean piece, although positioning of the letters is not identical.

It is tempting to speculate about the identity of this Hugh of Roxburgh, but the name is too common to permit any worthwhile conclusions. The most famous Hugh of Roxburgh was parson of Tullibody, William the Lion's chancellor from 1189 to 1199, and bishop elect of Glasgow in 1199, the year of his death. This Hugh is extremely unlikely to have been our moneyer. He appears to have worked his way up in the royal service from his first appearance at the beginning of William's reign. If the moneyer Hugh also struck in David's reign, (as opposed to striking in his name[4]), he would have been improbably old by the time of Chancellor Hugh's election to Glasgow. A surviving eulogy for Chancellor Hugh makes no mention of an early career as moneyer.[5] We know also of Hugh de Camera, the Chamberlain, and Hugh de Sigillo, a royal clerk who no doubt took charge of the seal, as opposed to making it. Professor Barrow very kindly informs me that the moneyers of William the Lion seem never to have appeared in royal charters: their status was evidently judged too lowly for them to witness royal acts, though they may be searched for as witnesses to the documents of burgesses and the early burghs.

We are on slightly firmer ground in dating this coin to the period 1165 to 1174, when minting was mainly confined to Berwick and Roxburgh. Thereafter, with the English occupation of the Lothian strongholds, minting shifts to Perth. To sum up, we may describe this piece as an early coin of William I, struck by Hugo at Roxburgh before 1174.

[1] E. Burns, *The Coinage of Scotland*, (Edinburgh, 1887), p. 47.

[2] Ian Stewart, 'Scottish mints' in *Mints, Dies, and Currency: Essays dedicated to the memory of Albert Baldwin*, edited by R.A.G. Carson, (London, 1971), p. 191. Section III of Stewart's long essay is entitled 'The early sterlings (1136–95)', and remains the essential work on the subject.

[3] A scientific report on the metallic structure of the coin before straightening appears below.

[4] Stewart, p. 197.

[5] *Regesta Regum Scottorum I. The Acts of Malcolm IV, King of Scots 1153–1165*, edited by G.W.S. Barrow (Edinburgh, 1960), p. 30n; *Regesta Regum Scottorum II. The Acts of William I, King of Scots 1165–1214*, edited by G.W.S. Barrow with the collaboration of W.W. Scott (Edinburgh, 1971), p. 30.

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DE JERSEY AND NEWMAN: STATERS OF CUNOBELIN

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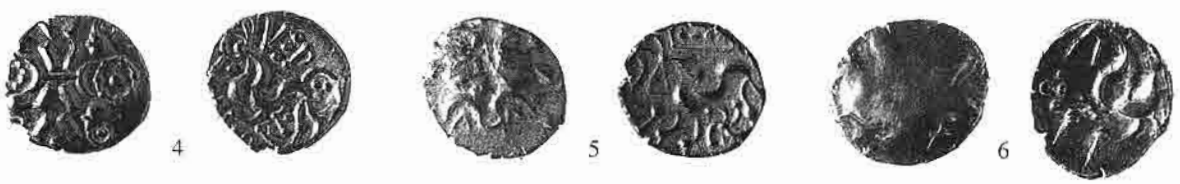

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WISE: BEDWORTH HOARD

MAYHEW: WILLIAM THE LION

Metallurgical Analysis of the Coin

PETER NORTHOVER

A deformed silver penny of William the Lion was submitted for metallurgical study, and to determine whether the coin was in a condition to be straightened. The coin, protected by lead foil, was clamped on edge in a hollow block so that the exposed area of the edge could be ground and polished to a 1μm diamond finish. Analysis was by electron probe microanalysis with wavelength dispersive spectrometry. Operating conditions were an accelerating voltage of 25kV, an absorbed specimen current of 30nA, and an X-ray take-off angle of 62°. The detection limits for most elements was 100–200ppm, but were 300ppm for gold and 0.20% for arsenic. This last is due to the compromises made in selecting lines in the X-ray spectra that avoid the well-known interference between the strongest lines in the lead and arsenic spectra, the lead Lα and arsenic Kα while analysing all desired elements in a single pass. The relatively strong lead Mα line could be used, but for arsenic the most suitable line was the rather weak Kβ line, hence the degradation in performance. A more sensitive routine is available for arsenic as a separate operation but was not thought necessary here. Another interference, between the silver and tin spectra, means that the detection limit of tin in silver is of the order of 400ppm. Again this was not thought significant in the present context.

Three areas, each 50×30μm were analysed on the coin. The individual analyses and the mean compositions of the two silver samples are shown in the table. All concentrations are in percentage weight. After analysis the samples were examined metallographically in both as polished and etched states. The etch used was ammoniacal hydrogen peroxide.

		Fe	Co	Ni	Cu	Zn	As	Sb	Sn	Ag	Bi	Pb	Au	S
wl1a	William the Lion, penny	0.00	0.00	0.02	2.53	0.06	0.00	0.06	0.00	96.60	0.00	0.38	0.33	0.01
wl1b		0.01	0.04	0.00	4.17	0.00	0.53	0.00	0.00	93.78	0.00	1.14	0.32	0.01
wl1c		0.00	0.00	0.02	3.83	0.05	0.00	0.00	0.00	94.80	0.04	0.84	0.40	0.02
wl1d		0.01	0.00	0.01	4.03	0.00	0.00	0.00	0.00	94.60	0.00	1.06	0.29	0.00
wl/Mean	William the Lion, penny	0.00	0.01	0.01	3.64	0.03	0.13	0.02	0.00	94.94	0.01	0.86	0.33	0.01

The alloy used in the manufacture of the coin of high fineness, containing a mean of only 3.64% copper. The principal impurities are 0.86% lead and 0.33% gold, both of which entered the metal with the 94.94% silver. Apart from 0.13% arsenic all other elements were at or below their limits of detection. Both alloy and impurities are entirely typical of medieval production.

Under the optical microscope the analysed area was found to be in sound condition with no penetrating intergranular corrosion. After etching a fully recrystallised equiaxed grain structure with annealing twins was observed with no significant cold work. The grain boundaries now have an irregular, beaded appearance due to the discontinuous precipitation of copper from solid solution in the silver over several centuries. When silver alloyed with moderate amounts of copper is cast and worked at high temperature and then either quenched or air-cooled, the copper is retained in a metastable solid solution, said to be supersaturated. Over long periods at ambient temperature this copper precipitates and grows at nuclei on the grain boundaries, usually giving a sinuous, beaded structure in the grain boundaries, although other morphologies are possible. The observation of this phenomenon has been developed into a test for the antiquity of silver.[6] It can exhibit a range of morphologies and its presence can be taken as a good indictor of age; however its absence does not necessarily condemn a piece because there are circumstances in which it will not occur be easily visible, for example when the silver has been left heavily deformed, or when the copper content is so high that the copper-rich phase is always present to provide a nucleus for copper precipitation. Here the correct conditions did apply and a typical structure was observed.

[6] F. Schweizer and P. Meyers: Authenticity of ancient silver objects, a new approach, *Masca Journal* 1978, 9–10. F. Schweizer and P. Meyers: A new approach to the authenticity of ancient silver objects: the discontinuous precipitation of copper from a silver-copper alloy, in *Archaeophysika 10*, Proceedings of the 18th International Symposium on Archaeometry and Archaeological Prospection, Bonn, April, 1978, pp. 287–98.