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Lutz Ilisch’s article (1979) on the re-inscribed mint names found on third-century ‘Abbasid dirhams sparked my interest in the subject of die-engravers when I first read it nearly fifteen years ago. More recently he has supplied images of the coins from the Forschungsstelle für islamische Numismatik (Tübingen University) collection which are cited in this study and, as the footnotes reveal, has patiently answered the many questions I have put to him. Steve Album and Jere Bacharach read drafts of the book at different stages and gave me invaluable feedback. Michael Bates’ unpublished notes on the mints of the Panjhīr region provided the starting point from which to address the wider monetary context of silver production in this region and, in particular, encouraged me to look again at Yāqūt’s famous passage on the Panjhīr mines.

Warren Esty’s formulae (2006) for calculating estimates of annual die output supplied the key to quantifying the labour involved in die production in this period. Had it not been for his and Eleanor Robson’s help in applying the formulae to the die data, I would still be fumbling the key in the lock and Mujīb and Ḥasan would have slumbered on in decent obscurity. And finally, I am grateful to Alison Wilkins for her marvellous drawings of the engravers’ signatures, which provide the visual thread along which the narrative runs.

INTRODUCTION

WHY WRITE ABOUT SIGNED DIES?

The signatures which are discussed in this book are barely visible to the naked eye. They were inscribed over a thousand years ago on the metal surfaces of coin dies which themselves measured no more than three and half centimetres in diameter. The dies were used to strike coins over the course of a single year and then destroyed to prevent their illegal re-use. Although not a single signed die has survived to the present day, a small number of the many thousands of coins made from them remain in coin collections all over the world. The curious reader might wonder what such tiny marks have to tell us about the early medieval Islamic world.

In fact they tell us a great deal about the working lives of two metalworking craftsmen, Mujīb and Ḥasan, who made dies for Islamic mints in Afghanistan and Iran (293/905 to the 360s/970s). The signatures allow us to identify a number of dies that can be attributed to each engraver. By comparing the signed dies to unsigned dies of the same period we can build up a corpus of objects that can be assigned to each man. This die corpus provides a pool of evidence upon which to base a detailed study of his working practices. It allows us to see how he manufactured objects, what kind of tools he used, the styles of script he chose and even the mistakes he occasionally made. For me, this is where the excitement of working with signed coins lies. By studying them closely we can track the process by which the dies came to life under the engraver’s hands, as if we were watching him at work. The die corpus also enables us to calculate the estimated annual die output from mints for which we have sufficient data. Die estimates have proved to be crucial in reconstructing the craft of coin manufacture because they give us an approximate measure of the labour required to operate a given mint through time.

But to see how the engraver fitted into the wider monetary context in which he operated we need to look beyond his place of work. From the time the first coins were produced in Greece in the fifth century BC to the introduction of machine-struck coinage in the sixteenth to eighteenth centuries CE, engravers’ signatures were a very rare phenomenon. Unlike metal and ceramic artefacts which were made for sale in the market, coin dies were made exclusively for the ruler who commissioned them. The images and legends on coins were designed to reflect the ruler’s status and left no place for the signature of their humble maker. The

signing practices revealed on our Islamic coins thus contravened the traditional modes of mint operation. Yet while the mint authorities who employed our engravers probably did not approve of signing dies, neither did they prohibit it altogether. This book asks why signatures first appeared on these Islamic coins; how the practice survived in the face of official opposition; and why it came to an end when it did.

To answer these questions we first need to step back from the coins and look at the history of die engraving in the unitary caliphal state which preceded the late third/early fourth century AH in which our engravers lived. In the earlier period we find a highly centralised system of die production which was controlled by the caliphal administration. The dies were made in a single workshop in the caliphal capital Baghdad and distributed from there to the provincial mints. When the unitary state broke down in the late third century, die production was devolved to the provincial successor states, creating an acute temporary shortage of skilled labour. Mujīb and Ḥasan responded to this demand in the newly established mints of the Sāmānid and Būyid states. They took advantage of the loosely regulated mint structures they encountered by introducing new working practices, including die-signing, that would have been unacceptable in earlier times. Their stories illustrate the profound changes wrought upon the craftsman's world by the transition from the unitary state to the smaller successor states which replaced it.

The research which underlies this book builds on the efforts of several scholars. George Miles was the pioneer in this as in many other important areas of Islamic numismatics. In 1938 he published the first example of Ḥasan b. Muḥammad's signature, which he had found on a dirham of Iṣfahān dated 358/968 in the collection of the American Numismatic Society. In the same year, he also published specimens of the work of Muḥammad, the Iṣfahānī engraver of the fifth century, in the first of a series of articles on Kākwayhid coins. Carol Manson Bier published two more signed specimens by Ḥasan, from Iṣfahān and al-Muḥammadiyya, in 1979. In this article she noted an exceptional dirham of al-Muḥammadiyya dated 362/972, made from a die from which Ḥasan's signature had been erased before the coin was struck. This was an important discovery because it showed for the first time that the mint authorities opposed the practice of die signing. On the basis of stylistic comparison between Ḥasan's coins and others, Bier also suggested that Ḥasan had made unsigned dies for Ziyārid and Bāvandid mints in Ṭabaristān, thus opening up the possibility he had worked in a wider regional context than previously thought. In 1993 Stefan Heidemann followed Bier's lead when he published new specimens of Ḥasan's signature, including a dirham issued by the Būyid mint of Arrajān in Fārs province. In the same paper Heidemann contextualised the numismatic evidence by comparing the die signing phenomenon with the incidence of signed objects in metalwork and ceramics. He noted that die signing appeared to fall out of fashion in the fifth century AH, just as signatures on non-numismatic objects were beginning to proliferate.

While these scholars have dealt with the legacy of Ḥasan's work in central and western Iran, Welin's (1961) and Rispling's (1989) articles opened a window onto the work of Mujīb, an older contemporary of Ḥasan's, who began signing dies in northern Afghanistan in the late third century AH. Welin published a group of dirhams from the Panjhīr region dated 299–300 bearing inscriptions which identified Mujīb as the engraver of the dies from which the coins were struck. Rispling discovered many new examples of dies which he had signed over the period 293–302 and showed that signing was not an isolated phenomenon that could be attributed to the idiosyncrasies of a single engraver, but a more widespread practice that had to be explained by reference to the prevailing working environment.

With this data and the unpublished studies of Rispling and Lundberg to hand, I have been able to plot the activities of engravers through time and space. The book offers an object-led approach to the study of Islamic material culture, which reflects the perspective of the craftsman rather than that of the patron. It attempts to form a coherent narrative out of a long sequence of coins, mostly without the aid of supporting textual evidence. The unusual format combines text with a large number of coin images. This places a heavy burden on the reader, who frequently has to stop reading and look at the images that contain the evidence on which the narrative hangs. The story which I have told is undoubtedly open to question at several points where the coins are forced to bear a heavy load in the absence of other forms of evidence. And as all numismatists know, new numismatic discoveries have a way of rendering obsolete at a single stroke even the most carefully formulated arguments. I have tried to make the text and images as accessible and comprehensible as possible so that readers, numismatists and historians alike, will be able to weigh up my arguments and review them critically.

CONVENTIONS

In this book I often refer to the 'dies' which were made by an engraver, when I am in fact discussing the coin which was struck from such dies. I have chosen this shorthand in preference to the longer phrase ('the die from which this coin was struck') in order to simplify a text which is already overburdened with technical terms. However it is important to bear in mind that our engravers were signing dies, not the coins themselves. I have made every effort to reconstruct the form of the original die which was used to strike the coin, in other words, to take account of changes which have occurred to the appearance of the die through poor striking, die wear and coin wear.

All the coin images in the figures and plates in this book have been enlarged to a standard size to reveal as much detail as possible: some of images in the figures are accompanied by hand drawings which highlight those (often very small) parts of the coin to which the text refers. The diameters of the illustrated coins range from 18 to 35 mm. A selection of the illustrated coins is shown to scale below, in order to show the reader who is unfamiliar with this material the true dimensions of these coins.



Fals of Samarqand,
280/893 (see Fig. 7)



Dirham of Balkh,
292/904 (see Fig. 10)



Dinar of al-Muhammadiyya,
335/946 (See Fig. 37)

GLOSSARY OF TECHNICAL TERMS, NAMES AND ABBREVIATIONS

AH (*anno hijri*): the Islamic lunar calendar which is calculated from the year in which the Prophet Muḥammad emigrated from Mecca to Medina. Annual dates are given in both the *hijri* (AH) and Common Era (CE) calendars below, although only the CE year in which the *hijri* year begins is cited. References to centuries are given in the AH calendar alone.

ANS: American Numismatic Society, New York.

alloy: all 'gold' and 'silver' coins produced in the pre-modern world were struck from a metallic alloy containing small quantities of base metals as well as the precious metal which gave the coin its title of 'gold' or 'silver'.

BM: British Museum, London.

burin: an engraving tool which was used to incise a continuous line on the surface of the die.

die: two dies were needed to strike a coin. These were round metal discs attached to a handle. The

- surface of the die was engraved in mirror image by the die-engraver (or die-sinker). When prepared for use in the mint, the dies were placed above and below the flan (q.v.) and the upper die was struck with a hammer, causing the design on the dies' surface to be impressed on either side of the flan, which was by this process turned into a coin.
- die link: a die link is said to have been found between two different coins when it can be proved that the obverse or reverse of both coins was struck from the same die.
- die pair: a die pair is the term used to refer to the obverse and reverse dies which are used to strike a single coin.
- dinar: Islamic gold coin.
- dirham: Islamic silver coin with inscriptions but no images, struck after the coinage reforms carried out by 'Abd al-Malik b. Marwān between 77/696 and 79/698. These dirhams are often referred to as 'reformed' or 'post-reform' dirhams.
- ductus: the line inscribed on the surface of the die by the incision of the burin (engraving tool).
- fals* (pl. *fulūs*): Islamic copper coin.
- field: the field inscription of an Islamic coin is the inscription which appears in several horizontal lines in the middle of the coin (cf. 'margin').
- FINT: Forschungsstelle für islamische Numismatik (Research Centre for Islamic Numismatics), Tübingen University.
- flan: a thin blank of precious metal alloy, usually circular in shape, which was placed between two dies, and became a coin once it had received the impression of the dies (cf. 'die').
- (al-)Ḥārith: the name which appears in the signature of the signing engraver of Nīshāpur between 313/925 and 339/950. On the coins, the signature appears as *(al-)ḥārith* or as *ḥā*, which is the first letter of the name, or in the form *kataba / kitāb al-ḥārith*.
- (al-)Ḥasan: the name which appears in the signature of the signing engraver of the Jibāl region between 335/946 and 362/972. On the coins, the signature sometimes appears as *(al-)ḥasan* or *ḥā*, which is the first letter of the name, or in the form '*amal al-ḥasan b. muḥammad*, 'the work of al-Ḥasan, son of Muḥammad'.
- Laqab*: nickname (see *EP* 'laqab').
- Maghrib: the western Islamic lands, from Egypt to Spain.
- margin: the outer rim of the coin, which usually bore either one or two circular inscriptions.
- Mashriq: the eastern Islamic lands, roughly corresponding to Iran and Afghanistan.
- mint: an administrative institution as well as a physical location for the striking of coins.
- Muḥammad: the name which appears in the signature of the signing engraver of the Kākwayhid mint of Iṣ-fahān and neighbouring mints from 413/1022 to 421/1030.
- mule: a hybrid coin that has been struck from two dies, one of which was not originally intended to be used with the other. The dinar of Nīshāpur dated 357/967 in Fig. 32 is an example of a mule: its obverse die is dated to 357, but its reverse die must have been made before 344/955.
- obverse: the side of the coin which bears the first part of the Islamic creed (the *shahāda*) in its field. When both sides of a coin are illustrated, the obverse is shown on the left and the reverse on the right.
- punch: an engraving tool which was used to incise marks of differing shapes (circles, squares, even whole Arabic letters) into the surface of the die.
- reverse: the side of the coin whose field inscriptions begin with the line *muḥammad rasūl allāh*. When both sides of a coin are illustrated, the reverse is shown on the right and the obverse on the left.
- SHM: Statens Historisk Museum (State Historical Museum), Stockholm, Sweden.
- text block: the area in the centre of the coin which is filled by three to five horizontal lines of inscription.