THE SIGNIFICANCE OF DIE-AXIS IN THE CONTEXT OF THE LATER ANGLO-SAXON COINAGE

By R. H. M. DOLLEY

Eadgar's sixth and last substantive type, B.M.C. vi, Brooke 6, and Hildebrand C2, marks an epoch in the late Saxon coinage. From now on—with exceptions that on closer examination almost always appear to be deliberate and possessed of inner significance—the essential of the obverse type is the royal portrait and, until the middle of the reign of Edward the Confessor, a right-facing portrait at that. A similar unity is found on the reverse where the legend is invariably disposed in a circle and where the name of the mint is as much an essential as that of the moneyer. Alone among Eadgar's types, the "new model" may be found in the eleventh- and even twelfth-century Scandinavian coin-hoards, and the student is left with the feeling that with it Eadgar initiated a major reform of the currency. The historian, however, is usually suspicious, and not without some justification, of arguments based on an appeal to style, and the accident of discovery is not the surest of foundations for a thesis that aims at conviction. Probable as it is that Eadgar did extend his administrative zeal to the coinage—he was in all things the disciple of Alfred—the numismatist up to the present has had little that is tangible in support of such a hypothesis. Certain hoards may suggest demonetization, for example the 1950 Chester find apparently unassociated with civil disturbance, but there is no drastic revision of weight or purity by which the coins themselves can corroborate in the most telling fashion a host of indications that may seem individually to smack overmuch of inference and subjectivity.¹

Recently, however, a line of investigation suggested to me by Mr. C. E. Blunt would seem to provide positive proof for the view that Eadgar's sixth type represents a coinage that was "new" as no other since Offa standardized, if he did not introduce, the penny. The innovation is limited regularity of die-axis, by which we are to understand the introduction of some technical device which secured that the die-axis of a normal striking should be confined to one of four possibilities, 0°, 90°, 180°, or 270°. Before this, the die-axis of a Saxon coin would appear to have been quite capricious, though a certain degree of regularity may occasionally be detected, due very probably to the use of square-faced dies such as those that have left their imprint on the Alfred trial-piece described elsewhere in this number of the Journal. The beautiful centring of the coins may suggest the use of a collar, but it is clear that the dies were engraved without reference to the die-face, i.e. the initial cross of a non-portrait type

¹ The reform is known from a late chronicler, Roger of Wendover, who states that a new coinage was instituted because the old had become so bad "ut vix nummus obolum appenderet in statura". The passage will be discussed in greater detail in my forthcoming study of the ELIMO(sina) coins of Alfred.
was not necessarily engraved so as to coincide with the bisection of one side. Any uniformity of practice that may have been achieved before Eadgar would seem to have been achieved by local initiative and to have been quite ephemeral, though this should not be insisted upon until the earlier coinage has been subjected to the same investigation as the later.

In contrast to the pattern—or rather complete lack of pattern—presented by the die-axes recorded in the publication of the 1950 Chester hoard, we may select the figures for the Kannungs find from the parish of Hellvi on the island of Gotland. In size the hoard is roughly comparable to that from Chester, that is if we exclude the coins that are not English in origin. The 640-odd Saxon coins range from Edward the Martyr to Cnut. In the case of 137 the die-axis is 0°; of 156, 90°; 166, 180°, and of 159, 270°. Only in the case of 25 is the die-axis irregular. This systematic regularity of die-axis is in fact characteristic of the English coinage well into Norman times, and limited experience with the derived Scandinavian coinages suggests that the technique was continued by English moneyers abroad and by their Scandinavian pupils.

Remarkable as is this implication that some 95 per cent. of the late Saxon and early Norman coins achieve limited regularity of die-axis, it is by no means the sum total of what may be inferred from a sufficient number of coins. Normally the difficulty confronting a numismatist is the problem of assembling a sufficient quantity of die-duplicates, a point that not always disinterested critics of museum policy might care to ponder, but the admirably comprehensive Systematic Collection of the Royal Swedish Coin Cabinet was able to supply this crying need. A hundred pairs of die-duplicates, all of the reign of Æthelræd II, were picked out at random from as wide a range of mints as was practicable. An analysis of their die-alignment gave the following results:

<table>
<thead>
<tr>
<th></th>
<th>0°</th>
<th>90°</th>
<th>180°</th>
<th>270°</th>
<th>Irregular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>53</td>
<td>32</td>
<td>45</td>
<td>43</td>
<td>27</td>
</tr>
</tbody>
</table>

Six of the coins, however, proved to be from dies that on stylistic grounds could safely be regarded as unofficial, and it is perhaps not without significance that in each case the die-axis was found to be irregular. Three further pairs of die-duplicates were substituted, and the emended totals were as follows:

<table>
<thead>
<tr>
<th></th>
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<th>90°</th>
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<td>Count</td>
<td>53</td>
<td>32</td>
<td>46</td>
<td>46</td>
<td>23</td>
</tr>
</tbody>
</table>

While the discrepancy between the final column and that arrived at on the basis of the Kannungs find amounts to some 7 per cent., the two figures are so close as to be beyond coincidence. Moreover, the Kannungs hoard was in fact more fully representative of the Anglo-Saxon coinage as a whole, for analysis of the hundred pairs of die-duplicates showed that an undue proportion were from the York mint,
some 9 per cent., whereas the Kannungs hoard suggests a true proportion of rather less than 6 per cent. The discrepancy is important because it is at York and York alone that we find irregularity of die-axis almost the rule rather than the exception. In the Kannungs hoard, indeed, the York coins with regular die-axis still slightly outnumber those with irregular die-axis, whereas among the hundred pairs of die-duplicates regular die-axis is exceptional only at York, but these slight divergencies from the norm only serve to emphasize the need to range as widely as possible over the coinage as a whole. In fact the true proportion of York coins with irregular die-axis would seem to be in the neighbourhood of 50 per cent., but considerably more research will be needed before that figure can be established as substantially accurate.

Broadly speaking, then, some 95 per cent. of late Saxon coins will be found to have a die-axis of 0°, 90°, 180°, or 270°, the figure perhaps being somewhat higher if York coins are excluded and lower if York coins are present in substantial numbers—among the hundred pairs of die-duplicates York supplied something like 80 per cent. of the coins with an irregular alignment. The completely different proportion at York is something that will have to be explored very thoroughly—it is tempting to associate it with the suspected presence of archiepiscopal rights of minting, but for the present it seems dangerous to read into it more than an additional argument for provincial cutting of dies, though even here discretion is necessary as it is a phenomenon that persisted long after the Norman Conquest. Nevertheless, it is a valid criterion, and often the fact that the die-axis of an illegible coin was irregular has served to suggest to the writer that the reading would be found by diligent comparison with all the coins in the York trays.

The reason why a hundred pairs of die-duplicates were selected for special study was in an attempt to discover how limited regularity of die-axis was obtained. It was expected that die-duplicates would all have the same die-axis, regularity being obtained by hingeing or pegging, but reflection should have shown that these methods were scarcely compatible with the wide number of die-combinations that are a feature of the late Saxon coinage. In the case of only 44 pairs, however, die-duplicates have the same die-axis. With 17 pairs the die-axis of one coin was exactly opposite to that of the other, and with at least 37 pairs the die-axis of one was at right-angles to the other. Even in the case of coins with irregular alignment, these principles seemed generally to hold good, a coin with a die-axis of 10° being from the same dies as another where the die-axis was 100° or 190° or 280°. Unfortunately it was not possible to discover three English coins where the die-axis was in each case different though all three were from the same dies, but this was noted on three Dublin pennies with the name of Æthelred II, and there can be little doubt but that a sufficiency of die-duplicates would produce other examples.

The obvious way to produce such limited regularity would be to
use square-faced dies, care being taken to engrave each face so that the top of the coin corresponded to the bisection of one of the four sides. It will be remembered, too, that the lead trial-piece of Alfred argued strongly that the dies were in fact square in section, and some such design would most readily explain the marked tendency of ninth- and tenth-century die-duplicates to have the same though irregular die-axis. Striking within a square collar, the moneyer could not well produce a coin other than with one of four die-axes, and the suggestion of this note is that Eadgar ordained that in the engraving of dies the top of the coin should fall opposite the middle of one of the sides. That a square collar was used, perhaps even introduced, seems undeniable, and in all probability it was attached to the lower die. It is interesting that the only example of a double-obverse or a double-reverse that the writer has been able to find in a Scandinavian hoard should have been struck on each face with the same reverse die. (Pl. VI, 6.) Presumably a flan was laid on a block of wood, struck, turned and struck again. Were a collar attached to the die used, the operation would have been impossible. Against the attachment of a collar to either die may be adduced Scandinavian pieces on huge square-shaped flans (Fig. 1), and rare mules of the Confessor where the flan is too large for the obverse die (Fig. 2). The objections, however, are not as formidable as may seem at first sight. The Scandinavian pieces seem never to combine both obverse and reverse of "English" workmanship, and it is the obverse that is generally barbarous. The moneyer of the Confessor who wished to strike a mule would not have found it difficult to remove the collar from his obverse die and to insert the latter into a larger collar.

No Saxon dies would seem to have survived, but a very good idea of their appearance—and also of the feasibility of the design—may be gained from a pair of shilling dies of James I in the Royal Mint...
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Museum (Fig. 3). Hitherto these dies have passed as official, but a future note will argue that they were the work of a forger. The self-same principle is employed in another pair of forger's dies of the seventeenth century, a set for the half-crown of Charles I formerly in the Roach Smith collection and now in the British Museum (Fig. 4). Dies of this type are simple to make and easy to use, and they are admirably adapted to produce the four die-axes that are so characteristic of the late Anglo-Saxon coinage.

Fig. 3.

Fig. 4.

It is not pretended that this investigation has achieved finality, but it may perhaps have suggested why it is that the writer is convinced that it is essential that the proposed international Corpus of the late Saxon coinage should record the die-axis of each individual coin. On
the basis of forty or fifty thousand coins it should be possible to establish the exact proportion of coins with each of the four regular die-axes, and from this perhaps to infer very much more about the mint practice of the period. It only remains for the writer to express his gratitude to the authorities of the Swedish Humanistic Fund for a very substantial contribution to the expenses of his visits to Sweden, to Dr. N. L. Rasmusson for giving him the run of the Systematic Collection of the Kungliga Myntkabinett, and to the Deputy Master of the Royal Mint for permission to reproduce an excellent photograph of the James I dies.