VOLUME 13

JOURNAL OF THE NUMISMATIC ASSOCIATION OF AUSTRALIA INC.

http://naa-online.com/

The 1933/2 Overdate Penny

Paul M. Holland

Australian collectors are fortunate in having a predecimal bronze coinage with so many interesting die varieties. Among the most important of these is the 1933/2 overdate penny, apparently the only twentieth century bronze overdate coin of the British Commonwealth. Since there are no official mint records of the production of an overdate penny for 1933, its origin and mintage have so far remained unknown. Careful numismatic study of both 1932 and 1933/2 pennies, however, coupled with a review of available mintage records, examination of mint practices and other information have now allowed many of these details to be deduced. The dies themselves were apparently made by over-hubbing a batch of six partially completed working dies dated 1932 with a 1933 dated hub on about 16 December 1932. The dies were transferred to production on 4 March 1933 and used to strike 460,000 overdate pennies shortly thereafter. Direct numismatic observations have helped confirm this, with overdate coins from four different working dies clearly identified out of the batch of six believed to have been prepared with the overdate. It has also been possible to deduce the identification numbers of these working dies as well as mintage figures for each die. The details make for a fascinating numismatic story.

In numismatic research on die varieties, access to a large number of coins for examination is often very useful. Fortunately condition is not especially important and coins which might be considered culls (damaged, cleaned, etc) are serviceable as long as key features can still be distinguished. Numismatic study of these coins needs to be considered in the light of technical mint practices related to die production and wherever possible be correlated with contemporary mint records. Here, published Annual Reports of the Royal Mint are especially valuable as they include carefully compiled information on the total numbers of working dies and tools (master dies and punches) prepared each year. Unpublished mint records such as the 'Balance of Dies' book, 'Die Account' books, 'Press Books' and contemporary correspondence can provide much additional detail. Unfortunately, such original records are often inaccessible and in some cases may no longer exist. In a few cases, published summaries of information taken from mint records are available, and these can be very helpful when the original records are unobtainable. However, as with other secondary sources of information such as numismatic literature and coin catalogues, these need to be carefully evaluated.

Production of working dies for a large coin such as the pre-decimal penny involves a six step process—as summarized in the book by Cooper, former Chief Engineer at the Royal Mint, London[1] and illustrated in Figure 1. Beginning with a standard die forging with a cone shaped top (machined to a 146° angle), the first of three blows with the fully dated punch (or hub) is made. In the specific example of British pre-decimal penny dies made at the Royal Mint, this results in an initial impression of about 23 mm

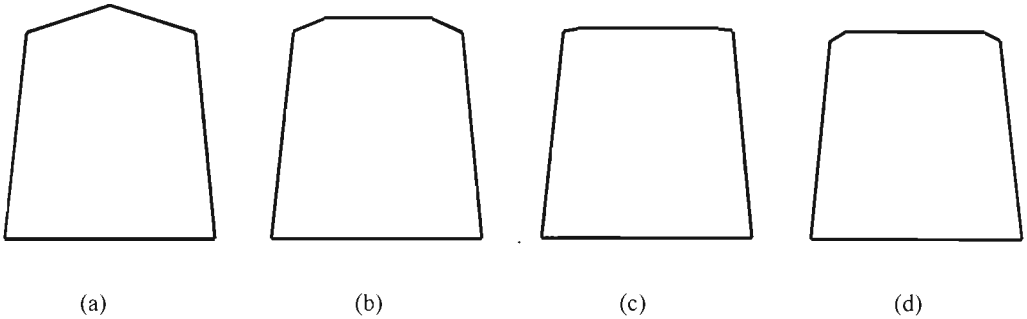


Figure 1. Steps in the production of penny working dies showing: (a) initial die forging with 146° cone shaped top; (b) die body after first blow; (c) die body after annealing and second blow; (d) penny die body after turning down edge, annealing and third blow (see text).

diameter. This is followed by an annealing step (heat treatment to re-soften the metal). The second blow results in an impression about 29 mm in diameter. The edge of the now distorted rim at the base of the cone is then machined off in a lathe to prevent interference with the third and final blow, which is made after another annealing step. This completes transfer of the design to the full 31 mm diameter of the penny die. The die body is then machined to a cylindrical form to fit the coining press and collar. It should be noted that transfer of the impression to the die during the earlier blows will be more complete (deeper) near the centre and shallower near the edge due to the initial cone shape of the die forging. Also, the diameter of the impression produced at each intermediate stage will vary depending on the type of hobbing press used and the pressures attained.

Careful examination of 1933/2 overdate pennies clearly shows variation in the distinctness of the underlying numeral 2. The fact that traces of the upper part of the 2 (which is nearer to the centre of the coin) are quite prominent and the lower portion mostly absent, strongly suggests that the overdate was produced by over-hubbing rather than by manual over-punching of a single date numeral. This is reinforced by the presence of doubling in the other date numerals, especially the 9 and 3. Furthermore, during the period in question—late 1932 to early 1933—reverse penny working dies were always produced in batches of six, usually in conjunction with corresponding batches of six obverse dies.[2] This allowed annealing of six dies per plumbago pot, as described in detail by John Sharples in volume 6 of this journal.[3]

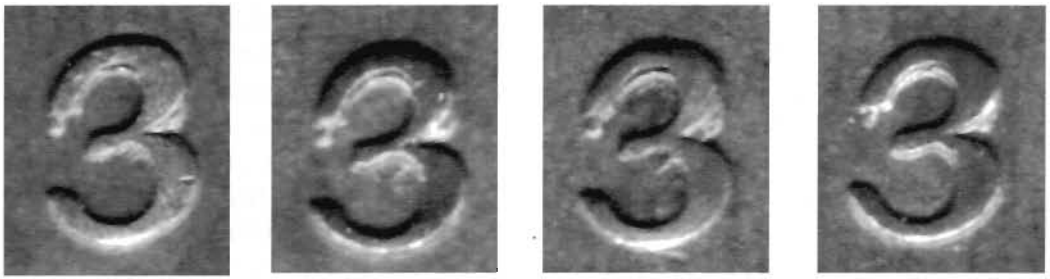
These initial observations and considerations suggest that the 1933/2 overdate penny dies were probably produced in a single batch of six at the end of 1932 or beginning of 1933 from a partially completed batch of dies which had already received two blows from a 1932 dated punch. This would likely have been done to save time as well as costs, by avoiding the use of six new die forgings and up to five processing steps. By overstriking the dies with a 1933 dated punch, most of the underlying date would have been obscured. This is especially true for the '3 over 2' striking, since the earlier blows (with the 1932 punch) would have brought up the design properly only on the inner part of the die—including the top part

of the 2, whose shape closely resembles the upper part of the 3. Thus most of the visible upper portion of the underlying 2 would have been nearly obscured by the shape of the 3, leaving only a few exposed traces. That this overstriking was successful is demonstrated by the fact that more than 30 years passed before the first published mention of the existence of the 1933/2 overdate penny[4], and this occurred only after several years of strong interest in varieties during the early 1960s.

The most unambiguous way to demonstrate that a batch of 1933/2 overdate penny dies was produced is to identify multiple reverse working dies by the presence of die cracks, flaws or other distinctive features. To this end, 103 examples of the overdate were amassed for careful study. Initially it was thought that die cracks or other flaws could be used for this, but unlike for earlier years of George V pennies, die cracks and flaws are uncommon and none was observed on any of the survey coins. Consequently the focus shifted to careful examination of the overdate itself for distinguishing features. Slight differences in positioning of the 1933 dated punch (when overstriking the impression from a 1932 dated punch) ought to produce different distinguishing features from die to die. An advantage of this approach is that *all* the survey coins are now useful. Since grime was frequently encountered in the overdate numerals, the point of a rosebush thorn was used to clear this away allowing better observations to be made. For examining details of the overdate numerals themselves, a stereo zoom microscope with up to 70x magnification was especially useful.

In developing a classification scheme for these overdate coins, the primary consideration was to enable clear distinction to be made between different types so that even worn coins could be classified. Initially it was thought that this might be a difficult task for overdates produced by overhubbing, since the features on the dated punches used to produce them would be identical and any differences in the working dies would depend only on minor variations in the depth of the blow and minor misalignments of the punches between successive blows. Furthermore it was thought that die wear during striking of the coins might affect the relief of key features in the overdate and thus defeat a classification scheme. Fortunately it was possible to identify key die markers within the lower loop of the 3 in the overdate, and these were sufficiently well protected from wear that it was possible to classify all coins in the survey.

The results showed that based on their position, all the 1933 penny overdate numerals examined could be sorted into three distinct basic types, one of which could be further divided into two sub-types (which almost certainly came from different working dies). This indicated that at least four different working dies were used in striking 1933/2 overdate pennies. These are illustrated as enlargements of the overdate numeral in Figure 2. The Type 1 variant shows a minute pair of distinct, raised lines ('prongs') projecting a short distance into the lower loop of the 3. The projecting tip of the 2 is also nearly aligned with the front of the upper loop of the 3. The Type 2 variant shows a larger and much longer pointed single 'spike' projecting into the lower loop of the 3. The position of this is lower in the loop of the 3, the base of the 'spike' is much thicker, its relief varies and it is irregular in appearance. Type 2a closely matches the



(a) (b) (c) (d)

Figure 2. Close-up of 1933/2 overdate numeral, showing: (a) Type 1, (b) Type 2, (c) Type 2a, and (d) Type 3 (see text).

position of Type 2, but has a much more uniform 'spike' in higher relief with a narrower, more uniform width. This is the type illustrated in the photograph in the Rennicks catalogue.[5] Also, the tip of the numeral 2 in Types 2 and 2a is slightly back from the front of the upper loop of the 3. Type 3 shows nothing in the lower loop of the numeral 3, and the tip of the numeral 2 which projects from the upper loop of the 3 is further back than in all other types. A summary of the numbers and percentage of each type found in the survey are presented in Table 1.

Having confirmed empirically that multiple working dies were used to strike the 1933/2 overdate penny, the problem of establishing their origin then arises. Fortunately mint records which deal with the production of dies[2] are available along with a detailed summary of Melbourne Mint records by Mullett.[6] Coupling this information with detailed numismatic observations of the coins themselves, makes it possible to deduce when and how the overdate working dies were produced, including their die identification numbers and detailed

Table 1. Results for Classification of Different Working Dies of 1933/2 Overdate Penny

Type	Number Found	Percentage	Comment
Type 1	23	22.3%	two 'prongs'
Type 2	44	42.7%	irregular 'spike'
Type 2a	5	4.8%	strong 'spike'
Type 3	31	30.1%	no 'spike'
Total	103		

(a) (b)

Figure 3. Close-up of date numerals of 1932 pennies with (a) 'low 2' and (b) 'high 2' (see text).

mintage figures.

A key to understanding the 1933/2 overdate lies in first understanding the reverse dies of 1932. Two varieties of these have long been known although their descriptions vary depending on author. Dean[7] describes these types as 'low 2' and 'high 2', Skinner[5] treats the former as normal and describes the latter as '3 tilted left' and Clarke[8] has 'high 3' and 'low 3 (high 2)'. Careful examination using a magnifier with measurement reticle suggests these might best be described as 'high 3, low 2' and 'low 3, high 2' types. For purposes of this article, we will use Dean's description of the two varieties: 'low 2' (Dean P32B, Skinner B31, Clarke 85a) and 'high 2' (P32A, B31A, 85b, respectively) as shown in Figure 3. Working dies for both of these varieties were clearly produced from pre-dated punches (hubs). The 'low 2' type has a higher 3, and the 2 is closer to the rim teeth than the inner beaded circle, with all examples exhibiting a small clockwise rotational doubling of the 2. The 'high 2' type has a lower 3, with the 2 more evenly placed between the rim teeth and inner beaded circle. Careful measurement (using the magnifier with reticle) of the position of the 2 projecting from the overdate clearly indicates that the overdate penny dies must have been produced from overstruck 1932 'high 2' penny dies. This is confirmed by comparing the 'low 3' position on 1932 dated coins with 1933/2 overdate coins.

The Royal Mint report for 1932 shows that 46 reverse penny dies were produced.[9] This figure matches the entries in the Balance of Dies book (Table 2)[2], which shows successive batches of 4, 12, 12, 6, 6 and 6 (46 total) reverse dies transferred to the coining department between 27 June and 21 December, 1932. Fortunately the information on dies and their production revealed in Mullett's summary is sufficiently detailed that it is possible to correlate this with the batches of dies listed in the Balance of Dies book, including die identification numbers. Of special interest are the four penny reverse dies, 250–253, transferred on 27 June 1932. According to Mullet these were made in late November of 1931 from a new 1932 dated punch (hub). This information is important, as it demonstrates that the number of dies listed in the Royal Mint report corresponds to totals in the Balance of Dies book, and not to dies made in the workshop (before they were transferred). In any case, the Balance of Dies book and the summary of mint records in Mullett enable us to account

for all 46 reverse dies dated 1932, including their transfer dates, die identification numbers and their mintages. The one exception is the mintage of three dies in the 39–50 batch which were referred to as 'not stated'.[6] A summary of this information is presented in Table 2, along with the number of dies used and their apparent type. If the die type changed after the June transfer of dies, then fewer than 60.8% of the coins should be of the 'low 2' type and more than 39.2% of the 'high 2' type (bearing in mind that some mintage is 'not stated'). If, however, the type changed after the August transfer, then more than 75.8% of the coins should be of the 'low 2' type and fewer than 24.2% of the 'high 2' type. Examination of 145 pennies dated 1932 showed that 81 (or 55.9%) were of the 'low 2' type and 64 (or 44.1%) were of the 'high 2' type, suggesting that the 39–50 dies were of the 'high 2' type.

The overall mintage of the 1932 penny based on these records is 1,527,000 plus the unstated mintage of 3 dies. This is significantly lower than the 2,116,800 figure quoted in standard catalogues,[5, 8] part of which may be based on coins struck in 1932 but dated 1931. For example, Mullett indicates that coinage of pennies dated 1931 continued until about 9 July 1932, and he has developed revised mintage figures for a number of years based on his study of mint records. There is unfortunately some confusion in his figures, and independent evaluation of such revised mintage figures is not possible since copies of the original mint records are currently unavailable (these were apparently transferred on permanent loan to the Royal Australian Mint in Canberra from the Public Record Office, Victoria). Because the summary information provided by Mullett for the coinage of 1931 pence is less complete than for 1932, details here are also more difficult to follow. However, he does show that the coinage of 1932 dated pence commenced on 13 July 1932 and ended on about 17 January 1933.

The first 1933 dated punches (hubs) were prepared in late 1932, while the first batch of 1933 dated working dies was made on 16 December 1932.[6] We consider that this first batch of six dies must have been the overdates, produced (as an economy meas-

Table 2. Working Dies for 1932 Dated Pennies

Date	# Dies	I.D. No.	# Dies Used	Mintage	Type
June 27	4	250–253	4	180,000	low 2
June 29	12	8–19	11	749,000	low 2
Aug 8	12	39–50	10	228,000 + ?	high 2
Dec 12	6	147–152	6	84,000	high 2
Dec 15	6	190–195	5	153,000	high 2
Dec 21	6	S203–208	3	133,000	high 2
Total	46		36	1,527,000 + ?	

ure) from a batch of dies which had likely already received two blows from a 1932 dated punch. By using a 1933 dated punch, most of the earlier date would have been obscured. This is especially true for the '3 over 2' striking, since only the design on the inner part of the die (including the top part of the numeral 2) would have been properly brought up. We deduce that this batch of dies bore the identification numbers 209–214[6] and according to the Balance of Dies book was transferred to the coining department on 4 March 1933. A second batch of reverse working dies, 215–220, was transferred on 8 March, and it is believed that these did not show an overdate, because either they were made with only 1933 dated punches, or they had only received a first blow from a 1932 dated punch and the date area had not yet been brought up. It seems certain that both batches of dies were made (or begun) during 1932, as their numbering clearly fits the numbering sequence for dies made that year; their identification numbers apparently having been assigned in the workshop and not at the time they were transferred. A detailed listing of each of these dies with their transfer date, identification number, mintage and percentage of coins produced in each batch (deduced from the Balance of Dies book and Mullett), is presented in Table 3.

Comparing the earlier results of our classification of 1933/2 overdates by type (Table 1) with the mintages per working die (presented in Table 3), it seems clear that the overdates were produced from the initial batch of six 1933 dated working dies (i.e. 209–214). That only four types of

Table 3. Working Dies for Earliest 1933 Dated Pennies

Date	I.D. No.	Mintage	% of Batch	Comment
March 4	209	140,000	30.7%	1933/2
	210	4,000	0.9%	1933/2
	211	4,000	0.9%	1933/2
	212	127,000	27.6%	1933/2
	213	159,000	34.6%	1933/2
	214	26,000	5.6%	1933/2
	209–214	460,000		
March 8	215	17,000	5.7%	1933
	216	125,000	41.9%	1933
	217	25,000	8.3%	1933
	218	25,000	8.3%	1933
	219	67,000	22.5%	1933
	220	39,000	13.1%	1933
	215–220	298,000		

overdate were identified in the survey is consistent with the fact that two of the dies in this batch produced less than 1% of the coins each. Results of the overall observed distribution also showed the mintage from three of the overdate working dies to be especially high, accounting for more than 90% of the total coins, with the remaining working dies producing about 5%. This distribution supports the conclusion that the overdate occurred in the first batch of dies (209–214) and not in either the second batch (215–220) or both batches combined (209–220). Furthermore, a comparison of the (apparent) total overdate mintage of 460,000 coins with a total 1933 mintage of 5,817,000[8] suggests that 7.9% of 1933 pennies should be overdates. This proportion is certainly consistent with the overdate being a somewhat scarce, but by no means rare coin. In fact, the first published reference to the overdate[4] indicates that in Melbourne (where it was first discovered), the observed ratio of overdates to normal 1933 pennies was about 1 to 9, or 11.1% of the total issue. Since regional differences in the distribution of Australian coins are well documented[10] with the overdate itself first reported in Melbourne, a mintage of 460,000 overdate coins seems to be a reasonable figure.

There has been little discussion on the origin of the 1933/2 overdate published in the literature to date. Mullett himself was unable to find any direct evidence in the Melbourne mint records for the overdate, but speculates that 'if the die variety overdate had any connection with a hub, it would have to be the one with the shallow table'. We now know from direct numismatic observation that several *different* overdate working dies exist—created by over-hubbing and not by manually overdating a hub. While the shallow table hub was apparently used for a single die (number 221), Mullett shows that no production was recorded for this. He also briefly discusses the alternate possibility that the 1932 penny hub with 'tilted 3' ('high 2', Skinner B31A), was used for the overdate, speculating that this would cause a discrepancy in the first numeral 3 of the date. Careful measurement, however, shows that this is not a problem and that in fact the 1932 dated 'high 2' punch (hub) *was* used in generating the 1933/2 overdate dies. Never-the-less, by preserving a summary of Melbourne Mint records, Mullett's work has provided key information for solving the origin of the 1933/2 overdate penny.

The 1933/2 overdate penny provides a fascinating window into an interesting era of Australian numismatics, and the present study has allowed the origin of this unusual twentieth century bronze overdate coin to be deduced. It is hoped that more complete copies of original Melbourne mint records from this interesting period will become available for study in the future. These could help answer other important numismatic questions about George V coinage, as well as provide further details on the 1933/2 overdate penny. For example, while we believe the overdate pennies were probably struck during March 1933, access to original records should allow the actual dates of striking as well as the subsequent fate of the dies of these interesting coins to be determined.

Acknowledgments

The author would like to express special thanks to Jon Saxton for providing copies of information from the 'Balance of Dies' book of the Melbourne mint, and acknowledge the editor (Peter Fleig) for helpful comments.

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