

Calcutta Mint, c1800 to c1830

Summary

The gold and silver coins produced between 1800 and 1818 continued in the same style as those discussed in previous sections. As well as these, in 1817 the Calcutta mint began to produce Farrukhābād rupees for use in the Ceded and Conquered territories (see appropriate section), and in 1818 changes were made to the weight and fineness of both the gold and silver Calcutta sicca coins, and the edges were changed to straight milling. However, the reduction in the fineness of gold was not popular and in 1825 the gold standard was increased and the new coins were given an edge with the milling grained to the left.

Copper coins were produced in ever increasing numbers and this, together with the new gold and silver coins and the expansion of British power across northern India, put an increasing strain on the mint. By 1820, a review of mint capacity revealed that a new approach would be needed to meet the ever increasing currency demands. A decision was taken to obtain a complete new mint from England and Captain Forbes was sent there to ensure that it would meet local requirements. In the meantime, minor improvements were made to the existing mint, which continued in operation until about 1831/32.

Detailed discussion

Introduction

During the period under review in this chapter, the frontiers of the Bengal Presidency were greatly extended, firstly following the acquisition of the Ceded and Conquered Territories between 1801 and 1803 and, secondly, following the third Maratha war in 1818. The Farrukhābād rupee became the main coin of these newly acquired territories, giving the Presidency two different main types of rupee, the Calcutta sicca and the Farrukhābād rupees.

Another major factor affecting the coinage during this period was the publication of a document by the Board of Directors in London, in which they expressed their desire for the different parts of India under their control to standardise their coinages. As well as the Bengal Presidency, the EIC also had the Bombay and Madras Presidencies, and these all had different monetary systems. The Board gave quite a clear indication of the way in which they wanted the different systems to coalesce into one. Of course, this did not happen until the introduction of the uniform coinage in 1835, but the document acted to provide a set of guiding principals for changes that did happen between 1806 and 1835. They first discussed the fact that there should be a uniform coinage and that it should be of silver:

...We have noticed also the recommendations expressed in some of those papers for the adoption of one general system for the formation of the coin, for the currency of the whole of our possessions on the continent of Asia, which has our most entire approbation, as we are fully satisfied the various evils complained of can only be remedied by the introduction of a gold and silver coinage of one weight and fineness; such coin to become the universal measure of value for British India.

It is our intention to enter into the consideration of the subject, and to detail our views and opinions, that our several governments may report their sentiments thereon, in order to supply us with the most perfect information upon this important subject, previous to our final decision upon a plan which shall embrace every practical advantage within our reach.

In the prosecution of our enquiries we have referred to a letter from the Earl of Liverpool to the King, on the coins of the realm (lately published), copies of which we transmit with the present despatch. We think his Lordship has established the principle that "money or coin which is to be the principle measure of property ought to be of one metal only". In applying this argument to a coin for general use in India, there cannot be doubt in our opinion that such coin must be of silver.

They then went on to propose that the rupee should weigh 180 grains:

Assuming that the coin for general use in India, as the principle measure of property is to be of silver, we proceed to the enquiry of what weight this coin should be? The standard weight of the silver coins issued from the mints of our several Presidencies we find to be as follows:

<i>Calcutta sicca rupee</i>	<i>Troy grains</i>	<i>179 2/3</i>
<i>Madras Arcot rupee</i>		<i>176 2/5</i>
<i>Bombay Rupee</i>		<i>179</i>

The weight of the coin originally issued from the Moghul mints we understand was uniformly one sicca, or ten massa, being troy grains 179 2/3 or 179.5511 decls. We should be inclined to propose this weight for the coin under consideration, did we not think it would answer a good purpose to fix the gross weight in whole numbers; we should therefore prefer the weight of troy grains 180 as the nearest to the sicca weight, and in so doing we are not aware of any inconvenience resulting therefrom at either of our Presidencies, but we are rather inclined to think the measure will be found useful in as much as it will produce a greater degree of simplicity in the valuation of the coin in respect to other money. But we are by no means desirous of effecting an alteration in the standard weight of the currency of Bengal, should our government there be of opinion it would be likely to prove the foundation of a new batta, or of any other inconvenience sufficient to counterbalance the advantages we expect in the calculation of the relative value of Indian and other coins.

Finally they discussed the fineness of the proposed new coin:

Assuming the standard weight of the new rupee to be 180 troy grains, the next point to be considered is the proper standard fineness. Upon the subject of the fittest alloy for coin, and its proportion to the quantity of fine metal, our attention has been directed to a "report made to the Right Honble the Lords of the Committee of Privy Council, appointed to take into consideration the state of the coins of this country, and the present establishment and constitution of His Majesty's mint, January 1803". In this report (copies of which are forwarded) the British standard for gold coin, 1/12th alloy and 11/12th fine is, by a variety of extensive experiments, proved to be the best proportion, or at least as good as any which could have been chosen; and that such alloy for gold coin may be of fine Swedish copper, so as to answer every purpose of a mixed proportion of silver, without occasioning any further waste of that metal. There is no reason to doubt that 1/12th alloy of copper would be equally proper for silver coin; it has certainly the advantage of greater facility in the valuation of the coin. Therefore we are of opinion this proportion should be adopted for the coin proposed; in which case the new rupee would be of the gross weight of

	troy grains	180
Deduct 1/12 th alloy		15
& contain of fine silver		165

...

1800 to 1818 – Gold and Silver Coins

Gold and silver 19 sun siccas of the same type as those discussed in chapter 4 continued to be produced in the Calcutta mint up until 1818. Various records give some figures for the output of the mint during this time and these have been extracted, rounded to whole numbers and compiled into a table for easier viewing 2:

	Gold in Mohurs	Silver in Sa Rupees
1799/1800	138,487	8,991,559
1800/1801	101,106	1,093,749
1801/1802	104,068	3,345,020
1802/1803	129,678	4,704,086
1803/1804	89,489	7,741,784
	Sicca Weight	Sicca Weight
1808/1809	71,559	11,065,459
1809/1810	35,632	8,430,642
1810/1811	287,016	21,545,082

The mint output for subsequent dates is shown later in the chapter (sicca weight seems to be equivalent to the weight of a rupee or mohur)

1817 – Farrukhābād Rupee at Calcutta

In 1817, a decision was taken to strike the Farrukhābād rupee at both the Calcutta and Bānāras mints 3:

Regulation XXVI, 1817, Authorizing the Circulation of Farruckabād Rupees coined in either of the Mints of Calcutta Farruckabad or Bānāras or at any other mint, Established by Orders of the Governor General in Council

Whereas it may from time to time be found expedient to coin rupees of the weight and standard of the Farruckabad rupee at the mints of Calcutta or Bānāras, it has been deemed advisable to rescind so much of section 2 of regulation 45 of 1803, as tends to limit the coinage of Farruckabad rupees to the mint of Farruckabad, and to direct that the following enactment be henceforward in force:

The silver coin denominated the Farruckabad rupee and of the weight and standard prescribed by section 2 of Regn 3 1806, struck at the mints of Calcutta, Farruckabad or Bānāras or at any other mint established by order of the Governor General in Council is hereby declared to be the established and legal silver coin in the ceded and conquered provinces.

This activity strained the resources of the mint and in December 1817 the mint master, Saunders, wrote 4:

...As it was an object of great importance that this coinage [2,500,000 Farrukhabad Rupees] should be conducted with all practicable dispatch, the mint was kept at work day and night until it was completed, and I have great pleasure in bringing to your favourable notice the unabated exertions of Mr Da Costa, foreman of the mint, Mr Urquhart, 1st assistant, and indeed all of the junior assistants and fixed native establishment. The former cheerfully devoted their time, day and night when required, to superintending the different departments and the occasional repairs of the machinery which got out of order from constant work. By such assistance I was principally enabled to strike off Rupees 140,000 (40,000 rupees per day more than had ever before been coined at this mint). I mention this in the full hope that their exertions will be readily and thankfully acknowledged.

The power of the mills in the mint was provided by humans, even though Madras had harnessed bullocks to their equipment as early as 1807, and many workmen were required to undertake this task. The difficulty of getting enough men was recorded by the mint master, and led to the first suggestion that steam might be used to drive the machinery:

The difficulty I experienced in procuring coolies to work the laminating mills was so great as to have nearly defeated the hope I expressed to Government of completing this coinage within the short space of time named by me. This arose partly from the illness that was then prevalent amongst the natives, but principally from the great demand for lascar coolies consequent to the erection of many new cotton screws in the neighbourhood of Calcutta, which renders it very difficult to procure extra workmen when required, even at the enhanced wages now demanded by them (at least one rupee a man per month more than they used to get). This appears to make it very advisable if possible to dispense with their services altogether in the mint, which I have little doubt might easily be effected by substituting a steam engine for turning the laminating mills. I am given to understand that a considerable saving would be thus effected, and many other obvious advantages would attend the adoption of this plan should it be found feasible. I beg that the question may be brought to the notice of Government and that I may be authorized to prosecute my enquiries on the subject, the result of which I would hereafter more fully report to you

Saunders' enquiries did eventually lead to the installation of a steam-driven mint but this took a number of years (see appropriate section)

1819 – The New Gold and Silver Coinages

The gold and silver coinages were reviewed in 1818. The reasons for this review are set out in a draft regulation put forward by the mint committee in December 1818 5. They included the fact that the Calcutta sicca coins were of a very high precious metal standard, but the most telling reason for making changes was the desire to move to a standard coinage for the whole of British India, as set out by the Board of Directors and discussed above:

Reg – 18—

Regulation for altering the standard of the Calcutta sicca rupee and gold mohur and for further modifying some of the rules in force respecting those coins passed.

I. The high standards established for the gold mohur and sicca rupee having been found productive of many inconveniences both to individuals and the public in as much as they are ill calculated to resist the wear and defacement to which coins are necessarily exposed and as they are only to be obtained by having recourse to the expensive process of refining, diminishing consequently the productiveness of most of the sorts of bullion imported into the Company's territories and it being desirable also that as much uniformity as can be instituted between the currencies circulating at the different Presidencies should be preserved and consequently at an approximation of the standard of the Calcutta coins to the standard of those current at Madras and Bombay should be effected, it has been resolved to rescind the provision of former regulations relative to the standard of the gold mohur and nineteenth sun sicca rupee and to coin in future of the preparations hereafter to be specified.

As a reduction in the value of the sicca rupee from its being in great measure the money of account both in private and public transactions would necessarily change the terms of all existing contracts and might be productive of embarrassment and trouble, it has been determined to leave the rupee unaltered in this respect. The new Calcutta sicca rupee will consequently contain the same quantity of fine silver as that heretofore struck and, representing the same value, will of course circulate on the same terms.

The mint proportions of silver and gold being it is believed inaccurately estimated at present, and it being also desirable that an uniformity in this respect should be introduced at the three Presidencies of Calcutta, Madras and Bombay, it has been thought advisable to make a slight deduction in the value of the gold mohur in this Presidency in order to raise the relative value of fine gold to fine silver from the present rates of 1 to 14.861 to that of 1 to 15. The gold mohur will still continue to pass current at the present rate of sixteen rupees...

Specimens of the proposed new coinage were sent to the mint committee on 27th August 6:

I have the honor to transmit to you herewith for the purpose of being laid before his Excellency the Most Noble the Governor General in Council, one box containing specimens of coins struck at this mint of the weight and standard of the proposed new coinage, namely gold fineness 189.462, alloy 17.204 – 206.666 [grains] weight; [silver fineness 175.923,] alloy 16.077 – 192 grains weight.

I likewise submit for comparison with them, gold and silver pieces of the present currency and some new English coins for your inspection.

Up until that time, the weight of the gold mohur had been 190.87 grains (12.36g now 13.36g) and the silver rupee 176.6 grains (11.64g now 12.40g)

Two sets of patterns seem to have been sent. The first were exactly the same as the coins then in circulation, except that they had straight-grained edges. The second type had a raised rim as well as the straight-grained edges:

As the difference in the size and weight of the new coins might not be considered sufficient to enable all persons at once to distinguish them from the old ones I have thought it expedient to affix such further distinctive marks as may be obvious to the most ordinary person.

Parcel No. 1 contains specimens differing only from the old coins in the appearance of the milling, which is upright like the new English coins, instead of sloping.

The specimens in parcel No. 2 bear the further distinctive mark of having a raised rim in imitation also of the new English coins. This latter operation I have found is difficult to perform with proper accuracy and expedition without sacrificing the advantage of giving the impression from the master dies.

I am further induced to apprehend that the raised rim which is intended to protect the impression from [wear] would soon be reduced even with the surface of the coin by some artificial process common amongst the natives here for such purposes. Its great prominency subjects it also to be soon worn away without application of artificial means, as may be seen from one of the accompanying new English coins, which can only have been about 12 months in circulation.

Should a decided preference be given to the raised rim coin, I beg to assure your committee that every effort shall be made to overcome the difficulties which appear to oppose its execution and I am far from considering them insuperable altho' from the want of the proper machinery they will be great.

The specimens were sent to the Governor General and Council by the mint committee on the 31st August together with their comments 7:

In continuation of our letter of the 28th July last and in reply to the orders of Government directing the adoption of some distinctive mark on the currency, we have the honor to submit the accompanying copy of a letter received from the mint master under date the 27th instant and to forward for inspection the specimens of the coins referred to in his letter.

The specimen No. 2 is in our opinion extremely well calculated to answer the purposes proposed by the Government & to afford by the distinctions of a raised rim and perpendicular milling a difference of appearance from the present coinage not to be mistaken. It also surpasses the present coinage & the coinage No. 1 in the beauty of its execution and is altogether we conceive the most desirable form for the new sicca rupee.

Under the circumstance of this preference, it appears that the difficulties which it is stated by the mint master attend the fabrication of the dies of the rupee with a raised rim in the Calcutta Mint will be overcome, & in that case we are disposed to consider them as recommendatory of the adoption of this form. The more difficult it is to execute any currency the less is the danger of its fraudulent imitation and with every advantage of workmen and machinery which this country affords the Calcutta mint [still] finds a difficulty in preparing the dies for the proposed currency, it is to be hoped that the task will be almost impracticable by inferior and unauthenticated means.

The rapid wear of the border of the coin as apprehended by the mint master might form an objection of greater magnitude but we are inclined to think that upon the whole any loss arising from this cause will be counterbalanced by the protection it affords to the face of the coins and that a diminution of the weight of the coin will be rather retarded than accelerated by it, and it has also been preferred in the new currency of Great Britain. We conceive it may be introduced here with safety and advantage.

These patterns have not been identified. Pridmore referred to the possibility of proof coins existing (Pr. p. 242) but he had not traced them, although he stated that they "are recorded". These proofs, if rediscovered, may turn out to be the patterns submitted to the Calcutta council.

The draft regulation proposed by the mint committee in December 1818 and discussed above, went on to set out the standards and weights of the new coins 8:

...For the purposes and objects above enumerated, the following provisions are hereby rescinded and declared to be in force from 1st January 1819

II Cl I. So much of section 2 Regn 35, 1793, as fixes the weight and standard of the nineteenth sun sicca rupee and gold mohur is hereby rescinded.

Cl II. The weight and standard of the Calcutta sicca rupee and gold mohur shall be as follows:

	Weight (Grs)	Fine Gold (Grs)	Alloy (Grs)
Gold Mohur	204.710	187.651	17.059
Half ditto	102.355	93.825	8.529
Quarter ditto	51.177	46.912	4.264

	Weight (Grs)	Fine Silver (Grs)	Alloy (Grs)
Sicca Rupee	191.916	175.923	15.993
Half ditto	95.958	87.961	7.997
Quarter ditto	47.979	43.981	3.998

III. All Calcutta sicca rupees and gold mohurs of the weight and standard specified in section II which may be coined in the Calcutta mint, after the 1st January 1819 & also their halves and quarters, are to be considered as legal tender of payment in all public and private transactions throughout the provinces of Bengal, Behar and Orissa in like manner as the nineteenth sun sicca rupees and gold mohurs and the fractional parts of them, now in circulation, and any native officer of Government refusing to receive them shall be subject to the penalty prescribed in section III Regn 35, 1793.

The following provisions shall be substituted for those of section 2, Regn 2 of 1812, which are hereby rescinded:

All silver bullion or coin not being rupees struck at the Calcutta mint which may be delivered into that mint for coinage shall be subject to a duty at the rate of two per cent on the produce of such bullion or coin in sicca rupees of the above weight and standard, and the amount of the said duty shall be accordingly deducted from the return to be made to the proprietor.

Individuals who may be desirous of it may be at liberty to have their bullion or coin converted into halves or quarters of the above rupee, on condition of paying a duty at the rate of one per cent established by the preceeding clause.

Should the coin however brought to the mint for that purpose, consist of Calcutta siccas of the former or present weight or standard, the proprietors shall only be subject to the additional duty of one per cent and not to the duty on all other coin and bullion.

On delivery of the silver bullion or coin into the mint, the mint master shall grant to the proprietor a receipt entitling him to a certificate from the assay master for the net produce of such bullion or coin agreeably to the table subjoined to this regulation and marked No 1, payable at the General Treasury at Calcutta the expiration of ten days if the produce be deliverable in whole and the expiration of twenty days if the produce be deliverable in halves or quarters of a rupee from the date of such certificate. In the latter case the additional duty established by clause second section IV of this regulation is, of course, to be deducted from the net produce.



Star



No star

The distinguishing features of the new coin are, firstly, their weight. The new rupee weighed 12.43g (11.64g for the older coins) and the mohur 13.26g (as opposed to 12.36g). Secondly, the new coins had edges that were straight-milled compared with edges grained-right on the older coins.

In addition, the rupees of this issue usually have an extra star on the obverse (Cat. No. 6.13), but rarer examples exist without this star (Cat. No. 6.12). These latter coins may have been struck before those with a star, but no reference to this has been found in the records

The '1818' Pattern



6.9

Pattern rupee 1818

Pridmore discussed a rupee pattern in a paper written in 1961 9. He gave a number of reasons for assigning the coin to 1818 but perhaps the most convincing is the fact that the pattern has straight-edge graining, as on the new 1819 issued coins, but has a weight of 11.65g, which is the same as that on the earlier coins (1793-1818), rather than the new coins that weighed 12.23g. Thus this pattern fits nicely in the middle of the two issues. If this dating is correct, then it shows that some consideration was given to the introduction of a more European style at this time, although nothing was done about it in practice. This matter was further discussed in the 1820s (see [appropriate section](#)) and eventually resulted in the 1835 coinage showing various emblematic devices as well as the bust of William IV.

1819 – 'S' Rupee



Certain rupees of the new 1819 issue have a tiny letter S in relief at the top left of the reverse. The reason for the presence of this letter is not known. Pridmore suggested that these coins might be part of an early trial and that the letter stood for the name of the mint master, Saunders. No other satisfactory explanation has been offered, so this hypothesis must stand for the moment.

1825 Gold Standard

The reduction in the fineness of the gold coins was not well accepted and in 1825 the old 1793 standard was restored. The coins were given an edge with graining to the left to distinguish them from the previous issues.

1813 to 1828 – Mint Output of Gold and Silver Coins

The activity of the mint can be summarised with the mintage figures for gold and silver coins (rounded to whole Calcutta sicca rupees). It can be seen that the Calcutta mint struck coins for the Madras and the Bombay Presidencies, as well as for Bengal 10. These will not be discussed further in this work:

	Madras rupees value	Gold mohurs value	Calcutta sicca rupees tale & value	Farruckabad rupees value	Bombay rupees value
1813/14		1,084,428	2,755,150		
1814/15		1,501,748	6,589,913		
1815/16		935,900	13,739,981		
1816/17		1,362,944	22,007,940		
1817/18		1,566,940	4,981,209	4,798,450	
1818/19		361,428	12,584,289	4,013,481	
1819/20		531,652	25,285,664	1,029,998	
1820/21		823,456	10,788,230		
1821/22		424,520	7,264,825		
1822/23		263,904	6,360,000		485,854
1823/24	738,416	125,396	1,262,950	260,562	2,340,883
1824/25	229,037	2,971,088	5,176,000	416,082	54,667
1825/26		3,361,248	9,271,935	324,376	
1826/27		3,426,832	8,097,615		
1827/28		479,616	5,751,101		

1807 – Shortage of Copper for Coinage

The coinage of copper pice had begun in 1795 and further coinages took place over the years. In December 1800 the mint master was instructed to issue a copper coinage to the value of 10,000 rupees 11. In May 1801, the Governor General ordered that all the copper in the Import Warehouse suitable for coinage, should be sent to the mint to be turned into pice 12; and in October 1801, yet more copper was sent to the mint 13:

As a supply of copper coin is much wanted at present both for disbursements at the public treasuries and as a medium of exchange, I beg leave to recommend that the Import Warehouse Keeper be directed to send to the mint as soon as possible, 500 maunds of sheet copper fit for the purposes of coinage.

By 1807, copper coin was required for Bihar and Bānāras (see later section), as well as Bengal, and meeting all these demands was causing problems, not least because there was insufficient copper available. Also, a decision had been made to reduce the weight of the pice and the Calcutta mint master, Forster, believed that this would cause further problems 14:

In consequence of having received instructions from the Calcutta mint committee to coin three hundred thousand rupees of pice for the currency of the province of Bānāras, and understanding it is intended to coin Forty thousand rupees of pice for behar, and further that the Committee at length propose recommending a reduction in the weight of the Bengal pice, which will consequently render an entire new coinage for the two latter provinces absolutely necessary, instead of a trifling issue to supply the present deficiency, as those now in circulation will be immediately withdrawn on the issuing of a new coin of inferior weight, bearing a value equal to the old. I therefore take the liberty to submit through you some observations of the proposed coinage for the consideration and final orders of His Lordship in Council.

The coinage for the Bānāras province alone, at the weight fixed by the Committee which appears equitable, will require six thousand factory maunds of sheet copper, which is a greater quantity than I imagine can be furnished by the Import Warehouse fit for the purpose of coining, to which is to be added forty thousand rupees

of pice for Behar @ one anna greater weight per pice, and I presume that not less than four hundred and forty thousand rupees of pice will be absolutely necessary for the currency of Bengal, where they are in much greater and more general circulation, and these are to be of the same weight as those of Behar, I may state the quantity of sheet copper for these. Five hundred thousand rupees of pice, each weighing nine annas at factory maunds 9000 which is a far greater quantity than can possibly be obtained...

1807 – Square Pice

In order to ameliorate these problems, Forster suggested that the shape of the pice should be changed from round to square:

...I beg leave to submit it to His Lordship's consideration whether in order to obviate the above difficulties, it would not be advisable to change the shape of the pice from round to square, for the difference in the amount of copper to effect the above coinage in square pice, and the consequent advantage to Government, I beg leave to refer to the enclosed estimates numbered 1 & 2. By the first it appears 6000 maunds of copper will be requisite, and that Government will gain a profit of sicca rupees 1768. By the second it appears that 3680 maunds will be sufficient and that the profit accruing to Government will be sicca rupees 57,120...

...I beg leave to enclose a few rough musters for His Lordship's inspection, and have to observe that should I be authorized to coin square pice, I confidently think I would contrive a machine at a very small expense not only adapted for milling the sheets of copper into shapes with the least possible wastage of metal but for forming the blank pice at the same time, with the utmost accuracy, which would greatly expedite the proposed heavy coinage...

...Having above expressed my hope of being able to contrive a machine for the better cutting the copper, I must add that whether it succeeds or not, it will but immaterially affect the calculations in the accompanying statements, for it can be cut in the present mode with a trifling loss. It will therefore appear that not more than 4180 additional maunds of sheet copper will be requisite for the coinage of eight hundred thousand rupees of square pice that will be required for three hundred thousand rupees of round pice, that is 10,180 maunds will suffice for the former, whilst 16,000 maunds will be wanted for the latter. Difference in favour of the square pice 5820 maunds which becomes sizer and which a loss of 22 rupees per maund may be fairly estimated as per enclosed statements, amounting to 128,040 rupees, or an unnecessary expenditure both of copper and money, in the first instance, of 384,120 rupees...

It is clear from the above statement that Forster actually submitted some square pice to the mint committee, although none is presently known. They appear to have been quite crudely made (see the comments of the mint committee below). Forster went on to state the number of pice that had so far been struck and to indicate their main areas of circulation:

...It is impossible to form any opinion respecting the quantity of pice now in circulation in Bengal, seeing they have been constantly melted down as soon as issued, being of less value as coin than metal, but I beg leave to state that since the new coinage in 1795/96 there has been coined to the amount of 223,912 rupees, which falls far short of the sum I have deemed necessary for the present coinage, first because they have always in private transactions passed at fifty six or fifty eight, nay as low as fifty four, instead of sixty four per rupee, the value at which they have been issued by Government, and secondly, because in consequence of their scarcity, their circulation has been chiefly limited to Calcutta and one or two of the principal towns such as Moorshedabad and Dacca. In Behar I understand they have been frequently passed at forty eight per rupee.

The Calcutta mint committee did not agree with Forster's assessment of the situation and rejected the idea of producing square pice, and this was supported by the Governor General 15:

...we are of opinion therefore that a coinage to the extent of 2 lacks of rupees for the currency of the Lower Provinces and 1½ for the Province of Bānāras, will be fully sufficient until the arrival of a further supply of copper from Europe when the coinage may be extended to whatever amount may be deemed necessary for the circulation of those provinces.

With respect to the alteration in the shape of the new copper coin from round to square, from which the mint master estimated so considerable a saving of copper would arise, we beg leave to observe that this saving is stated upon a supposition that there will be no loss from sizer by making the coin of a square form, but whether the mint master succeed or not in forming the instrument that he has in contemplation, we are convinced that it would be impracticable to cut out the square shapes of such an exact weight as to prevent the loss of sizer, and that the saving to be obtained by a coinage of a square form, is more conspicuous on paper than it would prove to be on execution.

The square or copper dumps proposed by Mr Forster, would have hardly the appearance of a coin, and in every country where copper coins are in circulation, a neatness and beauty in the fabrication seems in some degree to be attended to, as well as in the more valuable coins. The present copper coinage of Bengal is a very handsome coin, and to alter its form at the same time that so considerable a reduction is proposed in its weight, tend greatly to prevent the introduction of it into general circulation...

...We are therefore clearly of opinion that it would not be advisable to change the form of the copper coin from round to square...

Circulation of Copper Coins in the Presidency

In 1808, information was collected about the circulation of pice and the requirements in local areas. The consequent report shows that very large amounts of copper coin were needed and also that some areas were still not using copper coins. Presumably those areas were still using cowries 16:

District	Amount of pice required for circulation (Laks)	Remarks
Bhaugbhon	30,000	
Beerbhoom		Copper coin not current in this district
Burdwan	781-4 [Rs]	or 50,000 pice
Chittagong	50,000	
Dacca		Copper coin not in circulation in this district
Dingapoor	2000	
Jessore	6250	or 400,000 pice
Moorshedabad	22,000	
Mymensing	400	
Nuddea		Copper coin not in circulation in this district
Purneah	1562-4	or 100,000 pice
Rajehahye		Copper coin not in circulation in this district
Rungpore	10,000	
Sylhet		Report wanting
Tipperah		Copper coin not in circulation in this district
24 Pergannahs	1000	
Behar		Cannot ascertain the extent of the copper coin in circulation
Sarum	52,000	
Shahabad	30,000	
Tirhoot	36,000	
Hidgellie	5,000	
Midnapore		Copper coin not in circulation
Bānāras	700,000	
Laks	946,993-8	

In 1809, the Board of Directors in London were considering the possibility of ordering a copper coinage for Bengal from the Soho mint (see later section), but this never came to anything and the copper requirements of the Bengal Presidency were satisfied by the Presidency mints despite the difficulties encountered.

1810 – Continuing Shortage of Copper

A further copper coinage was ordered in 1810 but the difficulty of obtaining enough copper continued to cause problems. Madras was asked if there was any suitable copper in their warehouse 17:

The Vice President in Council understanding that a supply of copper is much wanted at this Presidency for the purposes of coinage, ordered, that the Governments of Fort St George and Bombay, be requested to give orders that any copper remaining in store at those premises, which may be fit for the purpose of coinage, and which may not be required for the service of those governments, be sent round to Bengal by the first safe conveyance.

In May 1810, Madras sent specimens of copper to Calcutta asking if it would be suitable for coinage 18, but the Calcutta mint master replied that it would not meet his requirements 19. The lack of copper was exacerbated by the fact that the Court of Directors had determined to send only 150 tons of the metal from England that year 20:

We have the honor to acknowledge the receipt of Mr Secretary Tucker's letter dated the 19th May last, requesting us to submit our opinion as to the expediency of either the copper, copper coin, or copper scissel, being sent round to this Presidency from Fort St George.

We were expecting that the Europe ships would have brought a supply of copper from Europe but as we are informed it is the intention of the Honble Court of Directors only to send out 150 tons of copper this season, that there is hardly any copper in store which can by any process be manufactured into coin, and that the demand for a supply of copper money is extremely urgent, we would beg leave to recommend that all the copper in store at Fort St George may be sent round to the Presidency by the earliest opportunity.

If we should be disappointed in our expectations of converting the copper into coin, we have no doubt it can be disposed of here on much more advantageous terms than at Fort St George and for this reason we would beg leave to suggest that all the copper scissel in store at Fort St George may also be sent to this Presidency...

There was some copper available in Bengal and the mint committee recommended that this should be purchased. Calcutta government agreed with these proposals:

...There are about 600 maunds of copper for sale in this settlement which can be procured on reasonable terms and which can be converted into coins either through the mills or by manual process with the hammer, and we beg leave to recommend that the Acting Mint Master may be accordingly authorized to purchase it.

Some copper was quickly bought from Messrs Colwins & Co 21.

The mint output for a few years at this time, is known:

	No. of Pice
1808/1809	23,976,218
1809/1810	17,246,049
1810/1811	22,395,298

For some reason, copper coins were still being made by the hammered process in 1810, but it is not clear why this should have been so 22:

I want very much for the use of the mint about 100 black churnar stones for making pice by the hammer, and request you will be so good as to procure an order to Colonel Garstin to deliver this number to me from the stores at Cooley Bazar, where they are lying. If they should afterwards be wanted for any public purpose they can be returned.

Madras 20 Cash Coins for use in Bengal

Madras apparently had a lot of copper coins that had been sent to them from England, but that they could not get into circulation. The mint committee at Calcutta believed that the twenty cash coins might be used in Bengal, valued at one and a half pice 23:

...With respect to the London made copper coins at Fort St George, of which there is stated to be eight thousand pagodas worth in store and which cannot be brought into circulation at that Presidency, we are of opinion that the twenty cash pieces might be circulated here at the value of one and a half of the Bengal pice, and that in the present scarcity of copper coin it would be advisable to send the whole lot to Bengal.

The Governor General authorised the twenty cash coins to be sent from Madras to Bengal, but no further reference to these coins has been found, and whether or not it actually happened is a matter for speculation.



Madras twenty cash copper coin

Copper Coins Declared Current Throughout the Presidency

At first, as has been seen, the Calcutta mint produced copper coins for the whole presidency. A further example of this happening occurred in 1812 when 40,000 rupees worth of pice were prepared for use in Bihar, packed in 160 boxes and sent there with a military escort 24. In 1813 a further 80,000 rupees worth of pice were sent there 25.



Bānāras pice

7.186

Eventually, copper pice began to be produced at Bānāras (see later section) and Farrukhābād (see later section) as well as Calcutta, and this helped address the problem. However, this then meant that there were three types of pice in circulation in the Presidency.

In 1817, a regulation was issued making the pice struck at the different mints within the Presidency (Calcutta, Bānāras and Farrukhābād) valid currency anywhere within the Presidency 26:



Calcutta pice

6.25



Farrukhābād pice

8.120

We have the honor to acknowledge the letter of the Secretary to Government in the financial department of the 10th ultimo, directing us to submit the draft of a regulation for the purpose of giving the circulation of copper pice throughout the Lower Provinces including Orissa, the sanction of a law, and we accordingly forward the draft of the regulation required.

As the weight and rate of pice struck at the mint of Calcutta have never been adjusted by a positive regulation, we have considered it advisable to introduce these points into the present enactment, adhering to the rate at which the pice have hitherto circulated and deviating from the actual weight of the pice now struck in the Calcutta mint only so far as to avoid a fractional difference rather nominal than real, and with the view of establishing a uniformity in the pice coined at Calcutta, Farruckabad and Bānāras, both which last have been fixed by law at 100 troy grains.

As the value of the pice coined at the three mints will thus be the same, we have further thought that it might be useful to give the three sorts a common currency throughout the provinces subject to this Presidency, as by this means all difficulties in the intercourse which may bring the pice of one mint in contact with those of another will be avoided and no inconvenience can result from such an arrangement to individuals or the public.

Regulation XXV 1817

A regulation for fixing the weight of the pice struck at the Calcutta mint and for giving general circulation to pice struck at any of the mints subordinate to this Presidency.

- I. Whereas it has been deemed expedient to adopt some precise rules for the coinage and currency of the copper pice struck in the mint of Calcutta as also for extending the circulation of those pice as well of the pice struck at the mints of Bānāras and Farruckabad, the following rules are therefore enacted to be in force from the date of their promulgation throughout the provinces immediately dependent on the Presidency of Fort William.
- II. The copper pice struck at the Calcutta mint shall be of pure copper and of the weight of 100 grains troy.
- III. The inscription shall be on one side – One Pie Sicca in the Bengalee, Persian and Nagari characters, and the date on the obverse.
- IV. They shall be issued from the mint and public treasuries at the rate of 64 to one sicca rupee, at which rate they will be received again by the public officers in payment of the fractional parts of a rupee and they shall also be legal tender in payments of the same nature at the rate of 64 to the rupee of the local currency throughout the provinces subject to the Presidency of Fort William.
- V. The pice struck at the mints of Bānāras and Farruckabad agreeably to the provisions of Regn 10 1809, Regn 7 1814 and Regn 21 1816, shall also be considered as circulating equally with the pice of Calcutta coinage throughout the above mentioned provinces and shall in like manner be received as a legal tender in payment of the fractional parts of a rupee of the local currency at the rate of 64 pice for each rupee.

Pice continued to be struck in the Calcutta mint throughout the 1820s and various mintage figures are available 27 (shown below).

	Copper Coinage (tale)
1813/14	11,777,016
1814/15	299,400
1815/16	
1816/17	
1817/18	6,841,000
1818/19	302,600
1819/20	
1820/21	5,672,300
1821/22	6,108,550
1822/23	
1823/24	864,400
1824/25	3,103,000
1825/26	2,650,000

In 1836 a report showed the total number of these pice that had been struck. The report gives the start date as 1792 but this may be a mistake for 1795 since no record has been found of pice being struck as early as 1792: 28

...

D – Single pice first struck at the old mint in 1792

There were 104,987,501 of this description coined. Their coinage was discontinued in 1831/32

...

Completing the Mechanisation of the Minting Process

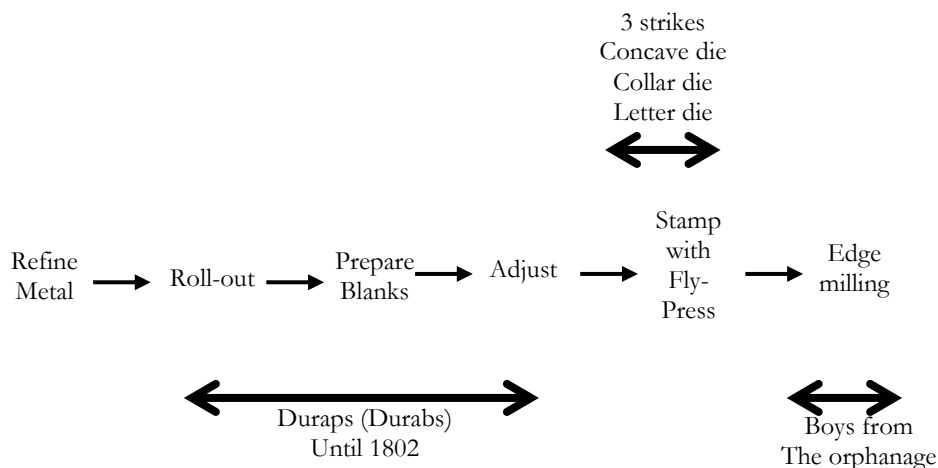


Diagram of the minting process

The introduction of machinery into the Calcutta mint had started in the early 1790s (see [earlier section](#)), but the process was not fully mechanised until the early 1800s. Although trials for the production of blanks by machinery had been conducted in 1792, the cost was considered to be too high, and this part of the process continued to be undertaken by teams of duraps using a manual process. This required the blanks to be struck three times. Once with a concave die, then with a collar die and finally with the letter die, with the blanks being annealed between each striking. This was a very tedious process and the mint master, Mr Mure, planned to mechanise the production of the blanks in April 1801 29:

I consider it my duty to inform Your Lordship that the laminating office is now completed with flattening and cutting machines calculated for a large coinage of gold, silver and copper.

I beg leave to observe to Your Lordship that some of these machines were formerly in use in the mint and appear to have been laid aside merely from the circumstance of the coinage having been entrusted to the management of some of the head duraps, whose interest it was to have it defeated, and who did defeat the object intended by making a considerable waste of silver equal to 20 annas in the thousand rupees, and still demanding a greater allowance for loss.

Being convinced in my own mind that from the accurate construction of the several parts of these machines as now erected, the precautions taken in forming the annealing furnace and by rendering the cleaning of blanks unnecessary, that the loss of silver must be inconsiderable, or less than what is allowed by the present mode,

I directed three different trials to be made in silver under the inspection of Mr Spalding, the foreman of the mint, and two of the [milling] young men, and have now the honor to subjoin the results.

There is then a list of the trial results, and he goes on:

From the above trials it would appear that the average loss is about 10 annas a thousand, which is two annas less than the allowance made to the duraps in the present mode of coinage, and I am fully satisfied that through the whole operation of an extensive coinage by the means of the machines, no greater allowance than twelve annas per thousand can be required.

In addition to the advantages expected to be gained by a coinage by the laminating and cutting machines over the old mode, a considerable saving in the expense is certain, and I beg leave to subjoin for Your Lordship's information a comparative statement of the present expense of coining and forming 20,000 rupees a day per month, with one that would appear to be necessary for a similar coinage by the machines.

To present durap establishment of 65 shops @ 40 Rs ea	2600	To 19 people employed in laminating & cutting the blanks	114
22 feeders to the concave, collar & letter dies	135	14 ditto attending annealing furnaces and carrying bullion to and from the machines	70
52 lever men	208	5 ditto feeding the letter dies	35
1 Headman in the stamping office	12	20 levermen for ditto	80
	2955	32 ditto for laminating machines	128
		1 Headman for the machine room	12
		40 men adjusting blanks	240
			679

I take the liberty of apprizing Your Lordship that although I have stated the expense upon a coinage of 20,000 rupees a day, the usual coinage of the Calcutta mint upon an average of some years, does not exceed 8,000 in tale daily, or about 200,000 a month. Of course much of the expense would be avoided as many of the people to be employed are day labourers.

I also beg leave to mention to Your Lordship that with a proportional number of adjusters of blanks only, a coinage equal to the duraps upon a full establishment (which was last year 73 shops) might when expedient, be effected with much greater care through the means of the machines.

If it shall please Your Lordship under the above statement of facts, to direct the new mode to be adopted, I request the honour of Your Lordship's commands, begging to assure Your Lordship that every attention shall be paid on my part, to effect a reduction of the expenses of the mint, and making those savings which are obvious can be made in every department of the mint by a new system of coinage.

At the same meeting it was decided to appoint a committee for managing the mints at Calcutta and Bānāras and their terms of reference were set out in April, 1801 30:

Resolved that the secretary write the following letter to the Board of Revenue

I am directed by His Excellency the Most Noble the Governor General in Council to transmit to you the accompanying extract from the resolutions of Government of this date, regarding the appointment of a committee for reporting upon the general state of the mints at Calcutta and Bānāras, and to inform you that His Lordship desires you will instruct the Collector at Bānāras to correspond with the committee on all matters relative to the coinage of that province.

The cost of producing coins was investigated in April 1801 31

	Coinage of 30,000 pieces per day in 1794	Coinage of 20,000 pieces per day in 1799	Coinage of 50,000 pieces per day in 1799
Foreman's Salary	500	500	500
English Office	232	457	457
Bullion Office	583	588	608
Melting Office	309	270	442
Planchet Office	1600	1120	2160
Stamping Office	287	254	578
Dye cutters	70	70	70
Smiths Shops	81-8	70-8	70-8
Carcannahs for machines	298	210-8	366
Milling Office	300	590	621
Total	4260-8	4130	5872-8
Cost per piece	0.142 Rs	0.206 Rs	0.117 Rs

In June 1801, the final 25 durap shops were discharged from the mint 32 and by May of 1802, the mint was fully automated and all the duraps had been dismissed from the mint so that they could not interfere with the laminating and cutting process. A number of other proposals were also authorised by the Governor General

...On a consideration of your report, particularly of the circumstances stated in the 24th paragraph of your letter, the Governor General in Council is pleased to direct that the European mode of coinage now established at the Calcutta mint, be continued.

The Governor General in Council observes that the establishment entertained for conducting the business of the mint, according to the above mentioned process, does not at present appear to admit of any reduction. His Excellency in Council at the same time approves your suggestion for reducing the establishment of the mint hereafter by diminishing the number of milling boys whenever vacancies may occur in that branch of the establishment, and finally limiting their number to three, leaving the machines to be worked by khlassies whenever an unusual increase of business may require the labor of extra people.

In order to guard against delay in the delivery of the refined bullion, the Governor General in Council approves your proposition for publishing an advertisement for the receipt of proposals for refining gold and silver bullion during the term of one year. You are accordingly desired to submit to His Excellency in Council the draft of an advertisement for that purpose.

The Governor General in Council concurs in opinion with you that it would be advisable to preclude the officers and workmen of the mint from engaging in the contract.

The Governor General in Council approves your suggestion for advertising for the receipt of proposals for supplying charcoal for the use of the mint for the period of one year, and you are accordingly desired to prepare the draft of an advertisement for that purpose.

The Governor General in Council approves your proposition for rendering it the duty of the assay master, or of his deputy, to inspect the workmanship of the money coined at the mint...

...The Governor General in Council approves your recommendation for employing the duraps lately discharged from the mint, as adjusters whenever vacancies may occur in that branch of the establishment.

His Excellency in Council also approves your suggestions for selecting one of the most intelligent of the milling boys for the purpose of assisting the foreman of the mint and of being regularly instructed in the different branches of the business of the mint, and of eventually supplying the place of foreman.

This last paragraph seems to have led to the promotion of Mr Da Costa, who eventually became foreman of the mint for many years (see Madras).

Maintaining the Mint and Assay Office

The natural wear and tear on the mint apparatus and buildings, and the increase in the output of coins, meant that the buildings themselves needed maintenance, and sometimes had to be replaced.

The assay office needed rebuilding in 1810 34 and an estimate was requested and provided in June 35. With the estimate approved, work started on demolishing the existing building, but first some temporary furnaces needed to be built so that the work of the assay office could carry on 36. The foundations for the new building were completed by November 37 but when the work was examined it was found that the site was not suitable for a large building, and work was stopped 38.

In January 1811, a new site was identified 39 and by the end of the month authorisation had been received to pull down the existing building on the new site and build the new assay office 40. Plans were prepared in February 41, final authorisation received in March 42 and the work completed in November 1811 43.

At about the same time, the mint master requested that he be allowed to have the mint buildings repaired, painted and white-washed, since this has not been done since 1806. Permission was granted 44. The mint and assay offices had to be repaired again in 1814 45.

The increase in the amount of work conducted by the Calcutta mint can be illustrated from the following account of the assay master in 1820 46:

...In the five years from 1804 to 1808 only 9,582 assays of gold and silver were made, whilst during a similar period from 1809 to 1813, 30,121 were made, and from 1814 to 1818, 40,308. In the first nine months of 1819, 10,902 were made, which would give in the same number of years, viz five, upwards of 78,000 assays, being more than 8 times the number made from 1804 to 1808...

This letter is also interesting for the description of a particular type of fraud practiced in the mint:

...Previously to the assay department of the mint being conducted on the European plan, and some time after, the frauds committed by the melters were of considerable extent, and though the assays from the meltings clearly proved the existence of these frauds, there was great difficulty in discovering in what stage of the process, and how, they were effected. At length one of the persons employed informed the assay master that if he would attend at the melting rooms at the time the crucibles were placed on the fire, he would point out to him the method adopted in depreciating the metal, to avoid detection. He attended. All the crucibles were taken off the fire and the clay covers (which are placed upon them to prevent the charcoal and fuel from falling into the fused metal) were removed. In these covers a certain number of copper pice were stuck, not visible whilst the clay was moist, but when it became heated and contracted, they of course dropped into the melted bullion. A quantity of silver equal to the weight of the pice had been previously taken from the crucibles, so that the weight of the mass continued the same as before. The loss sustained by this artifice was calculated to amount to about 3,000 rupees per month, and it was supposed at the time that this discovery had put an end to all irregularity in the melting rooms...

1819 – Operation of the Mint

The operation of the Calcutta mint was examined in detail by the mint master, Saunders, and the assay master, Wilson, in 1819, and they submitted a paper describing its operation and recommended that a new mint be obtained from England (see chapter 9). Their paper provides a clear description of exactly how the Calcutta mint operated at that time 47:

...Prior to the date of the correspondence which led to the the impression entertained by Government in regard to the necessity of constructing a new mint, a reference was made by the mint master to the Superintendent of Public Buildings requesting him to report on the actual state of the mint premises, and the practicability of making such alterations and additions to them as might admit of the operations of the mint being rendered more proportionable to the public demand for coinage. The accompanying copy of that officers reply will show your Committee that the proposed improvements and additions could not under any circumstances be made to the present mint buildings, and that their general state is such as to preclude the hope of their being long serviceable for carrying on even a limited coinage without undergoing more thorough and expensive repairs, a measure which we conceive would involve the greatest public inconveniences from the consequent stoppage of the coinage, at a time, too, when every effort is required to increase it.

The foregoing consideration, added to much practical inconvenience experienced by the officers of the mint at all times of urgent pressure from the want of space, as well as systematic arrangements in the departments requiring active supervision, leaves no doubt to us of the expediency of constructing an entirely new mint, suitable for all purposes of coinage, on an extended scale, and which combine all the advantages which modern scientific improvements in the construction and application of machinery, as well as in the art of fusing the precious metals, have avowedly secured to the Royal Mint in England. Amongst which may be enumerated security, dispatch, economy and perfection in the fabrication of the coins.

That the above desiderata are in no high degree attainable under our present system of coinage will clearly appear from the following short account of the several departments of this mint. Nor is this any reflection on the officers who have successively been placed in charge of it, since many of the same imperfections existed at the Royal Mint at so late a period as 1810, and were particularly noticed in the Earl of Liverpool's treatise on the coins of the realm.

Milling Department

The furnaces in use here are open blast furnaces, which emit such heat and noxious vapours from the charcoal, as to make it impossible for any persons but the melters themselves to approach them whilst the crucibles are in the fire, which affords an opportunity of fraudulently introducing into the pots small portions of copper alloy and keeping back an equal weight of silver, which the melters find means of conveying out of the mint in spite of the strictest search.

The crucibles are made of wrought iron and contain 1000 sicca weight only of bar or cake bullion, or 600 sicca weight of seizel, hence arises greater wastage than if a larger mass were melted together, and now that bullion of such different standards is brought to the mint, great difficulty is experienced in combining and blending the various better and inferior qualities in order to reduce the metal to the proper standard, to effect which it is necessary to cut the ingots, or even coins, into many small pieces previous to potting them. This operation occasions additional labor, waste and expense. It is impossible moreover under the present system for the assay master to assay separately samples taken from each crucible as there are frequently 300 crucibles melted in one day.

The practice now observed is to cut small pieces from the end of each ingot cast, and to melt them into a mass for assay. Thus if alloy has been fraudulently put into a small proportion of the crucibles from which the samples are cut, the refinement of the other samples, when all mixed together for assay, will probably render the discovery difficult, though could a sample from each crucible be separately assayed, those to which alloy had been surreptitiously added, would easily be discovered. Instances have occurred of the day's meltings being reported fully standard, and of the seizel and coins of those identical meltings proving below the standard. So long as this be of rare occurrence, it is not otherwise important to notice it than as offering a proof of the difficulty of exercising effectual control over the present melting department.

There is another inconvenience which we think might be remedied in a great measure by melting a large mass of bullion together. It is that arising from the flaws or holes which are frequently only discovered in the ingots after they have been several times passed thro' the laminating rollers. This increases the quantity of seizel from its being necessary to cut out such flaws, and causes a greater number of the blanks to require plugging. Various experiments have been tried to obviate this serious inconvenience, which not only diminishes the quantity of coin produced, but entails great loss from remelting.

It is impossible not to observe how defective and insecure is this mode of conducting the meltings...

Laminating Department

This consists of six mills or sets of rollers kept in motion by manual labor. Each mill requires about 40 men to work it now that the ingots are so much harder than they were under the old standard. Four reliefs would be necessary to ensure planchets sufficient to give a regular coinage of 100,000 pieces per day, but this number of coolies is not to be procured with any certainty, even at the enhanced rate of wages of 5 rupees per month to each man. The unsteady application too of their labor occasions the blanks when cut from the planchet to

vary much in weight so that nearly the whole of them require to be rasped or plugged as they may be too heavy or too light.

Adjusting Department

The cause above mentioned makes the work of this department very heavy, and when the pieces are too coarsely filed down at the edges, a great number of them are necessarily put aside to be remelted.

Stamping Department

The machine used for stamping the blanks consists of a screw to which the upper die is attached, and is worked by a fly which forces it against the lower die. The impression being more or less perfect depends on the steadiness of the force with which the blow is given, and should it not succeed in striking out all the file marks left by the adjusters, the appearance of the coin becomes defective to the eye and many of them are condemned after the whole labor and expense of the intermediate processes have been uselessly incurred.

Enough has been said of our present mode of coinage to satisfy your committee that there are many radical defects in the melting as well as operative departments of this mint, the latter of which can only be removed by the introduction of that improved machinery, which has of late years been invented, and from which every branch of British manufacture has profited in so great a degree. To persist then in a system of acknowledged error when the means of improvement are attainable, would be inconsistent with every principle of sound policy and would betray a culpable indifference to the real interests of Government, in a very important part of the service.

Saunders and Wilson went on to recommend that machinery for a complete new mint should be obtained from England (see chapter 9).

Refining

Refining of gold and, particularly, silver had always been a problem and the process had been outsourced to various local refiners. In 1810, serious consideration was given to undertaking the process in the mint itself 48. The letter stated that tenders for refining gold and silver bullion were much higher than in the past, and the mint committee, therefore, recommended that refining should be undertaken in the mint. They were not sure how much this would cost, and recommended that a series of trials be conducted. In addition, they recommended that the cost of refining should be covered by a charge of seignorage of 1½ per cent, in the belief that this would be effective because a charge of 1½ per cent had been levied on gold coinage since 1792, without any adverse effects. The letter goes on:

... & the only reason which seems to have existed against levying a duty at the same time on the silver coinage was the expediency of giving encouragement to the importation of silver bullion in preference to gold bullion.

At the period the duty on gold bullion was first established, and for several years after, the quantity of gold coin in circulation so greatly preponderated that more than 2/3^{ds} of the revenues of the lower provinces were paid in gold, & Government in consequence experienced a considerable loss every month from the necessity which they were under of exchanging gold or silver for the payment of the troops, provision of investment, etc.

Of late years however, the gold coin has passed equally current with silver & no batta has been known to exist, & as it may be inferred from the following statement, furnished by one of our members, of the coins in which the revenues of Bengal, Behar and Orissa have been paid during the last 13 years, that the quantity of silver money has been gradually increasing, that at present the principle part of the currency in circulation in Calcutta and in the lower provinces, consists of silver money, and that the bullion which has been imported into this settlement of late, has consisted chiefly of silver, we conceive it to be no longer necessary to exempt the silver coinage from the payment of the proposed duty as there will still be a difference of 1 per cent in favor of the importation of silver bullion...

There then follows a table showing the payments of revenue from 1796/7 to 1808/9. The amount of revenue paid in gold coin went from 20.1 million rupees to 1.8 million. In silver it went from 6.8 million to 27.0 million.

These suggestions were accepted, but it was not always easy to find people who could do the refining and, in 1814, the process was still being outsourced 49.

Metal could come either from the Company's bullion imports, or from private individuals, and sometimes the source of metal from this last group could be questionable. In 1810 the Superintendent of police asked to be sent a form every month detailing who had taken gold and silver to the mint to be coined. He was suspicious that stolen gold and silver ornaments were melted and then taken to the mint. The mint master was ordered to provide the required information 50.

1802 to 1804 – Mint Masters

In July 1802, Mr Mure, the mint master, fell seriously ill and had to "make an excursion up the river". Mr Plowden was appointed to stand in for him 51, but in August, Mr Plowden was moved to another post, and Mr Henry Pitts Forster took over as acting mint master 52. In January 1804, Mr Mure asked to return to England because of his health 53, although it was not until August 1805, that Mr Forster was finally appointed full mint master 54.

Meanwhile, in November 1803, the mint premises had been extended 55 and, in July 1804, Mr Forster, the acting mint master, tried to justify the expenditure of purchasing the extra land and expanding the mint 56:

As Government were induced on my recommendation of the advantages which would arise from enlarging the premises of the mint, to incur a heavy expense in the purchase of the house and grounds of Mr Gillett, it may be expected that I should show how far the benefits held out have been realised.

I therefore beg leave to submit to your Lordship's inspection a comparative statement of the coinage and charges of the Calcutta mint from May 1799 to 30th April 1804.

However favourable the statement may appear on the whole, there are some losses and charges which I have reason to hope will be much reduced in my future accounts, that is whenever I may have an opportunity of erecting the new furnaces for melting and refining, which your Excellency authorised, but have hitherto been delayed on various grounds, particularly on account of their having been merely adapted to the then circumscribed limits of the mint. I have now to solicit your sanction to my erecting on a more enlarged plan, so as to provide for the utmost probable pressure of business, as is the case at present. The difference between the expense of building them on the new enlarged plan will not bear any proportion to the advantage from it, and I pledge my honour to adhere to the strictest economy. I cannot at present state the precise sum it will cost, as the materials themselves are not procurable in the market, but must be prepared on purpose, particularly the firebricks.

Mr Hughes, who had been a key player in mechanising the mint from the very beginning, came in for particular recognition:

In submitting the present account, I feel it my duty to point out in a particular manner to Your Excellency's favourable notice, Mr Hughes, the foreman of the mint, as the person to whose indefatigable application and professional skill I am entirely indebted for being able to effect the saving which appears on the face of the accounts, for introducing the business of refining in the mint could not but necessarily impose a very considerable encrease of labour on him, yet I found him most heartily disposed to further my views and render me every assistance in his power to effect this and every other beneficial alteration which has taken place in conducting the duties of the different branches of the mint.

I likewise beg leave to add that exclusive of this additional duty which he has so voluntarily taken on himself he has been required by Government to construct and prepare machinery for the Madras Mint, which has proved a very heavy and laborious charge and I have the satisfaction to say that the best mechanics in Calcutta who have from time to time inspected the work, admitted it to be executed in a masterly manner, and I am fully persuaded will meet the approbation of Government.

I trust your Lordship will consider his superintendance of it as an extra duty not necessarily connected with his situation as foreman of this mint, independent of there not being any single tradesman in Calcutta capable of constructing the different parts of it as it embraces at least three or four distinct professions. I am confident no tradesman in Calcutta would contract to make it for less than fifty per cent above what it will cost Government by being made in the mint.

As the refining the bullion in the mint is now fully established and will prove a permanent saving to Government, so it will continue a constant addition to the foreman's personal labour. I therefore humbly beg leave to recommend the circumstance to your Excellency's liberal consideration, not doubting if he meets encouragement from Your Lordship, he will exert his best endeavours to carry the improvements which the business is still capable of receiving to a very superior degree of perfection.

The mint committee was not impressed with Mr Forster's claims about having made improvements to the operation of the mint, although they agreed that Mr Hughes was a great asset and worthy of reward 57:

We have the honor to acknowledge the receipt of Mr secretary Dowdeswell's letter of the 12th ultimo, enclosing copy of a letter from the Acting mint master, and a statement of the coinage and charges of the Calcutta mint from May 1802 to April 1804, compared with the average of the three preceding years, and directing us to report our sentiments thereon, as well as on the various propositions submitted by Mr Forster.

With regard to the statement, we are of opinion that if it was intended to exhibit the decrease in the charges of coinage since the introduction of the new machines, the comparison of the charges of the mint during the time it has been under the superintendance of Mr Forster, should have been confined to the year preceding his taking charge (Vizt 1801/2), when the laminating machines and cutters were first introduced.

We beg leave to observe that when the present mode of coinage was recommended for introduction by the late mint master, Mr Mure, he stated that a considerable reduction of the fixed expense would be effected and a better wrought coinage produced by the use of machinery, than was delivered to the public by the method then practiced, and that the committee in their report on Mr Mure's plan also stated their expectation that the dismissal of the duraps would occasion an immediate reduction of charge, and that a further reduction might be expected when the workmen became familiarized to the new mode of coinage. The attention paid by Mr Forster to the duties of his office, and the improvement suggested by Mr Hughes, the foreman, have doubtless contributed to perfect the introduction of the machinery, and thereby fulfill those expectations, but the apparent reduction in the charges for the year 1803/4 may in part be ascribed to the large coinage in that year, for a considerable part of the expense of the mint being a fixed monthly charge, the decreased rate per cent of the expense of coinage will in a great degree depend on the amount coined. In proof of this we beg leave to refer to Mr Forster's statement, by which it appears that in the year 1799/1800, during Mr Mure's administration

when bullion was not refined in the mint and the new machinery not used, the rate per cent of the charge of coinage was, in consequence of the large amount coined, less than in 1802/3, when the machinery was used.

We are not aware that the purchase of Mr Gillett's premises has yet contributed to lessen the charges of the mint, because the refining furnaces are not yet erected thereon. A large quantity of bullion has been refined in the mint in the ordinary process observed by the natives, and the conducting the operation there, is attended with advantage to Government, and expedites the business of the mint. Additional labour has certainly devolved on the foreman, whose exertions and skills are highly commendable, and when the furnaces are erected further savings in the expense of the mint may be expected.

We concur in opinion with Mr Forster that the furnaces to be erected for melting and refining should be calculated to meet any pressure of business that may be expected to occur, and altho' it may not be practicable to state the precise sum necessary to be disbursed, yet we beg leave to recommend that an estimate of the probable expense to be incurred, may be submitted to Your Lordship in Council, previous to commencing the furnaces upon the proposed scale.

When the whole of the machinery for the Madras mint shall be completed, we are of opinion that it should be inspected and reported on. The construction of the machinery is an extra work, not connected with the office of foreman of the Calcutta mint, and as such, Mr Hughes, to whose talents and assiduity we beg leave to add our testimony, will on the completion of the work, in our opinion, be entitled to a compensation from Government...

Mr Forster does not seem to have been very popular with the mint committee. We have already seen how his ideas to produce square pice were rejected, and his views that lower weight pice would lead to the immediate withdrawal from circulation of the existing pice, were proclaimed to be wrong. Now his claims that he had reduced the costs of running the mint were also not accepted.

In July 1807, Mr Forster again wrote to the mint committee, which was composed of R W Cox, W Egerton, J W Sherer and Geo Davidson, extolling his own virtues as mint master 58. His letter concerned the coining of silver and started by comparing the production of silver coins from Spanish Dollars in Madras to that in Calcutta. Calcutta apparently did it better. Mr Forster then went on to discuss how much better the Calcutta mint had performed under his direction and discussed how it could have been even better if his advice had been followed. The mint committee were sceptical about his claims and at one point they state:

Melting: This loss is very considerable and has been incurred since the introduction of the new machinery. We cannot however concur with Mr Forster in his proposition to revert, in consequence of it, to the old method of coining by Duraps, nor are we of opinion that the actual loss which has hitherto been incurred in the process of melting, may be lessened and the rates reduced, but the necessity of remelting so much bullion may in great measure be obviated by care and attention.

The small ingots cast by the duraps in the native mode are divided into pieces intended to weigh one sicca rupee. The workman is guided solely by his eye in cutting the ingot, and scarce any one piece is cut of the exact weight, though by use and experience the duraps come to it. By this mode plugging is more frequently resorted to than when the machinery is used and experience is requisite to fabricate the coin well by duraps. If a large quantity of bullion is required to be converted into coin on an emergency, where are expert workmen to be procured? In using the machinery with an expert foreman and assistant, the whole of the machinery may be employed by the addition of extra workmen who do not require any extraordinary skill. It is true that an adept will cut out thirty blanks in a minute, and one who is not used to it will fall rather short of that, but by the employment of all the cutting machines and changing the workmen, it is practicable to cut out 300,000 blanks in eight hours, the usual working period in the mint, and the numbers might nearly be doubled by working twice that time. On extraordinary occasions when the duraps were employed we are informed that working night and day with the greatest number of them that could be collected, the coinage did not exceed 80,000 rupees, while by the present establishment a lac has frequently been coined.

Mr Forster, the fraudster

In 1810 it was discovered that various spurious transactions had taken place with the mint accounts and the mint master, Mr Forster was asked for an explanation. At first he simply failed to reply to the letter but when chased he explained that he had not replied because he needed information from the mint officers and these people had been fully occupied with the Company's attorney. However, he hoped that he would have access to these people soon.

The advocate general was ordered to proceed immediately to take whatever measures were necessary without waiting for Forster's explanation 59.

In July, Mr Forster finally provided a detailed reason for not having replied to the accusations made against him 60:

When I acknowledged on the 25th ultimo the receipt of your letter of the 23rd, and explained the cause of the delay in replying to yours of the 24th May, down to that period I was in hopes of being immediately enabled by the attendance of Ram Sunker Neugye, the late bullion keeper, to have obtained from him the necessary information, but I have now to state for his Lordship's information and orders, the steps instantly took and what has been the result and have to hope I shall stand acquitted not only for all blame for the delay, but freed from

the ill consequences held out in your letter of the 23rd ultimo in case of any further procrastination on my part, as it would be a severe hardship on me to be subjected to a prosecution thro' the capricious default of another. I therefore beg leave to represent that immediately on my receipt of your last mentioned letter, I sent word to Ram Sunker Neugye to meet me at the mint, which he did on the 26th and I stated to him the nature of the call that had been made on me and the points on which I required an explanation and urged his speedy compliance. To this he readily acquiesced and only required a day or two to give it. But after a second and third delay and ultimately a positive refusal, I told him I found myself under the necessity of applying to one of the magistrates to ascertain whether I could not compel him to give the information required, and went accordingly to the police office to state the circumstances, but as it was then late, the office was shut, and before I could make the application, the next day, late in the afternoon, I received a note from the Honble Company's attorney dated 3rd July acquainting me that Ram Sunker Neugye had several times represented to him that I had threatened to put him under charge of peons to force him to make his deposition at my house and that tho I had assured him I could not think of adopting such a measure, still he could not remove his alarm and had therefore written to me on the subject, in reply to which I requested he would desire Ram Sunker to attend and I would call next day, which I did, when he entirely explained away his former representation, and before I left him agreed to give me the information sought for and attended the next day at the mint for the purpose, but from motives unknown to me he returned home without furnishing a single explanation.

Under these circumstances, I am compelled to solicit the interposition of his Lordship and that orders may be given for him to attend me at the mint and that no steps in the meantime may be taken to my prejudice, as my answer is delayed solely for want of his explanations.

From the expression several times in Mr Taylor's note, it is clear Ram Sunker Neugye had previously determined on withholding an explanation, tho' he continued to amuse me with promises thus unnecessarily extending a delay already too long tho' he was aware of the serious consequences it might be to me.

and he summarised the charges against him, pleading guilty to some of them 61:

...The charges of an abstract nature relate

1st, to my having a howalut or running account

2nd, To the transactions with the house of Muthoor Mohun Sane regarding their detention for a length of time of the bullion committed to them to refine and ultimately paying in cash instead of returning bullion

3rd, Allowing the above house to have a howalut account to a considerable amount

4th, the same respecting Shib Chunder Mitter

The other matters involve matters of suspicion, Vizt

1st arising from the mode in which my howalut is stated to have been closed on the 28th April 1807

2nd the transactions respecting the debits and credits of 75,172 Rs 9 As 10 P, in the names of Huboo and Tilok in December 1808, January and February 1809, whilst the money was only received from the house of the said Sanes in the following July and August and that false entries were made with my privity.

The advocate general pushed for a criminal case to be brought against Mr Forster 62:

...I request you to assure the Right Honble the Governor General in Council from me that all due attention shall be paid to the interests of the Honble Company in regard to their claims of a civil nature against the several individuals implicated in the transactions of the mint. But there is another question concerning Mr Forster. He stands affected with strong proofs of a breach of public trust, for which, unless he can clear himself, I suggest he should be prosecuted criminally, and it is with relation to that measure that I beg leave respectfully to call the attention of Government to his letters of the 25th ultimo and 6th instant.

Mr Forster was informed by your letter of the 24th May that in the course of an investigation into certain transactions at the mint, grounds had appeared for charging him with having, in different instances which were pointed out, made use himself, and allowed others to make use of, the public treasure under his charge for private advantage.

He was informed that the books and accounts of the mint and such other accounts relating to the matters in question as had been kept by the late native cash keeper, would be open for his inspection and that those accounts exhibited the particulars of the transactions in which he appeared to be implicated.

I think it clear that the charges against Mr Forster are such in their nature that a public officer ought to be able to give an answer to them at once from his own consequence and his own recollections. Such an answer at least as he is alone called upon by Government to give. For he has not been required, nor would it be fit that he should, to go into proofs, but merely to tell his own story, which must consist of course either in a denial of all knowledge of the practices imputed to him, or in the admission and explanation of the whole or part of the facts. In the former case he cannot have the least occasion for any reference to others, and in the latter it must be supposed that he is sufficiently in possession of a story which concerns him so nearly, to be able to state it, if not with entire precision, yet fully enough to enable Government to make such further enquiries as may be necessary for his vindication and its own satisfaction. This is all he is called upon to do, and even this it is of course in his option to do, or to decline it. But I can see no reason whatever for the interposition of Government in the way in which he asks it. It would be irregular as an exercise of authority, and it is at least unnecessary till Mr Forster states what are the points upon which he requires explanations from the Bullion

Keeper, and shews in what way he can be prevented by the want of them from saying whether he did or did not, or if he did upon what grounds he did, himself make use of, or permit others to make use of the public treasure for their private purposes.

I therefore submit that Mr Forster should be required either at once to submit what he has to say in his vindication, or to state that he declines so doing, and reserves his defence for a court of justice. It may be proper at the same time to inform him that he is at liberty to take the latter course without the least prejudice, and that in calling upon him for an explanation, Government has no intention to exact a disclosure which may commit him, but to give him the opportunity of averting a public prosecution if he has the means and inclination to avail himself of it. The delay which has already taken place will render it impossible to bring the matter forward in the Supreme Court (should it be ultimately necessary) before the next term. There would be nothing to regret in this if any sort of progress had been made by Mr Forster towards his own vindication upon any one point of the charges, but I cannot help saying that the time appears to me to have been merely wasted on his part. And without taking anything for granted, I submit that the evidence is so strong as it stands, that Government cannot consistently with a due regard to public example refrain from acting upon it without very serious proof on the part of the accused of a disposition to clear himself.

Mr Forster will have every opportunity of being heard in a court of justice, and if he does not think fit to avail himself with the least possible delay of the opportunity which has been afforded him, I think he should be heard in a court of justice only.

Mr Forster continued to try to explain why he had committed the fraud, and to complain that he couldn't get all the information that he felt he needed to defend himself 63, even offering to pay the interest due on any monies that he may have misappropriated 64. He was allowed the salary of an unemployed civil servant 65, because, of course, he had been removed from his post, with Mr Davidson being appointed firstly, acting mint master, and later mint master at Calcutta 66. But the advocate general continued to pursue the case 67 and requested that 190,655 rupees should be transferred to Mr Forster's personal debt as a result of the fraud 68. Eventually, in March 1811, he was found guilty of a breach of trust and sent to prison although the other charges against him were dropped 69:

I beg to report for the information of the Right Honorable the Governor General in Council that on the 10th January last an information was filed in the supreme court against Henry Pitts Forster Esq, [late] mint master of the Honourable Company's mint at Calcutta, for a misdemeanor in having while in charge of the duties of that office been guilty of a breach of trust by converting to his own use certain bullion, the property of the Honourable Company.

On the same day another information was filed against him for a demeanor in having while holding the same appointment leant to Netoy Churn Sean and Mothoormohun Sean, bullion also the Honorable Company's property; to both of which informations he on the 15th of the same month pleaded not guilty.

On the 5th instant, Mr Forster was tried upon the latter information and found guilty of a breach of the trust and duty of his office but without a fraudulent intention and was this day brought up to receive the judgement of the court. He was sentenced to pay a fine of 100 rupees to the King, to be imprisoned in the common jail of Calcutta for the period of six calendar months, and to be further imprisoned until his fine be paid.

On the 11th instant Mr Forster was tried on the other information above mentioned but no evidence being adduced on the part of the prosecution (in consequence as I have been informed by the Advocate General [of] a communication to him that such was the pleasure of Government) the defendant was acquitted.

Finally, further action was stopped because Forster simply could not afford to repay the money that he owed 70:

The notorious insolvency of Mr Henry Pitts Forster, the late mint master, and his being now in gaol under execution for a debt of upwards of seventy eight thousand rupees induce me to submit to His Excellency the Vice-President in Council whether it is worth proceeding against him in the Supreme Court for the interest of the money which he appropriated to his own use and the loss sustained by his permitting Jubboo and Tillockram Ghose, two of the mint refiners, to take bullion out of the mint for the purpose of refining it without obtaining from them adequate security...

In reply:

...His Excellency in Council concurs with you in opinion that it would not be expedient to proceed against him for the recovery of those sums for which the Honourable Company have a claim upon him...

Other People at the Mint

In March 1800, a Mr John Mackenzie was appointed assay master at Calcutta, and Mr Davidson, who had been the assay master at Dacca, was asked to move to Calcutta as assistant assay master 71. Mr Davidson was subsequently to become the Calcutta assay master, and later the Calcutta mint master.

In January 1801, Mr Spalding, foreman of the mint, asked if he could retire and that he might receive a small pension. Mr Hughes was appointed in his place 72:

Permit me to inform you that in the year 1789 I was called to the mint by Marquis Cornwallis for the purpose of completing the machinery for the new coinage.

His Lordship having approved of my abilities and conduct in the mechanical department of the mint, was pleased the year following to ratify my appointment in Council.

My length of service together with the nature of my employment in this hot climate has so much injured my constitution that I am advised to return immediately to Europe for the recovery of my health. I have therefore to beg the favor of you to state my case to the Most Noble the Governor General in Council, with the hope that His Lordship will be pleased to permit me to resign my employment in the mint.

I am fully aware that egotizm is unbecoming and indelicate. Permit me however to remind you of at least one considerable saving and improvement which I have made in the mint.

At the time Government ordered the provincial mints to be established it was their intention to employ native die sinkers at each of the mints, which I perceived would be attended with an expense to Government of at least eight hundred rupees per month, including the native die sinkers then employed in the Calcutta mint. I recommended and undertook to get the dies sunk for the Calcutta and the three provincial mints in the European manner for the trifling sum of seventy five rupees per month, which was accordingly done, and an expense prevented to the Company of full seven hundred rupees per month, and that saving took place from the time the provincial mints were established until they were abolished, a period of about six years, and even now the Company would have to pay several hundred rupees per month for die cutters but for my having introduced the European method of die sinking, as stated above for the trifling sum of seventy five rupees per month.

My health is bad and I am rather advanced in years, and the little [money] I have been able to save is far from being sufficient to enable me to live comfortable in my old age on that account, and as a compensation for past services I humbly beseech the Most Noble the Governor General in Council to be pleased to grant me a small pension. Whatever His Lordship may be graciously pleased to confer will most gratefully be received as an honorable testimony of my services having been approved.

Allow me to mention to you Mr Hughes, formerly foreman of the Dacca mint, as a person in every respect qualified to succeed me in office. Mr Hughes' mechanical abilities are well known to many gentlemen in this country, and in particular to Doctor Davidson and his probity and good conduct can be attested by him and several of the most respectable gentlemen in Bengal.

Resolved that Mr B L Hughes be directed to repair to the Presidency with as little delay as possible for the purpose of affording his assistance in the Calcutta mint

Mr Hughes soon showed his value by designing a new furnace for melting the metal used for coins, in 1803, for which he received the approbation of both the mint master and the mint committee (see above) 73.

In April 1803, Mr Mackenzie, the assay master was appointed to another post and Mr Davidson was asked to become acting assay master 74. His salary was reviewed in January 1804 75:

The Governor General in Council, having taken into his consideration the arrears of allowance due to Mr George Davidson, as late Deputy Assay Master and as Acting Assay Master, is pleased to direct that the acting sub-treasurer discharge the arrears due to Mr Davidson in the former capacity at the rate of allowance formerly received by him Vizt 1000 rupees per month from the date on which the payment of that allowance was discontinued until the date of the removal of Mr MacKenzie from the office of Assay Master, when the former allowance is considered to have ceased. His Excellency in Council further directs that the acting sub-treasurer pay to Mr Davidson the established salary of Assay Master from the date of Mr Mackenzie's removal from that situation until the present period. Ordered likewise that Mr Davidson be authorized to draw that salary until further orders.

Mr Hughes, the foreman of the mint, died in September 1804 and a lot of discussion took place about his replacement until finally a Mr Jacobi was appointed as foreman to the mint master and a Mr Cuthbert as foreman to the assay master 76.

There are many entries in the records requesting pay rises or extra money for workers in the mint 77. Just to quote one example from Mr Da Costa, who became a key player in the mint for many years, involved in building the machinery for the mints at Bānāras, Farrukhabad, Dehli and Madras. He appears to have come from the orphanage and started as one of the milling boys. He must have been selected to work as assistant to the foreman, eventually being appointed as foreman himself 78:

...In the year 1793 Mr Spalding the foreman of the Calcutta mint was appointed foreman of the assay office on a monthly salary of 150 sicca rupees. On Mr Spalding's leaving the country in 1801, he was succeeded in both situations by Mr Hughes, on whose demise in 1804, the sanction of Government was obtained for the employment of Mr Cuthbert (who had served many years in the Dacca mint) to the situation of foreman in the assay office.

In December 1806, I was appointed foreman of the Calcutta mint, whilst on my deputation to the Presidency of Fort St George.

In December 1809, Mr Cuthbert died and I did myself the honour of preferring my claim to that situation, as it has in every instance but that of Mr Jacobi been held by the foreman of the Calcutta mint, and to this day,

whenever any machinery or implements or repairs to machinery have been required, I have invariably attended to these calls, and have supplied the wants of that office.

Under these circumstances I humbly trust it will appear to the gentlemen of the mint committee that I am deserving of the additional allowance of 150 rupees...

Mint masters during this period were Mr Mure until 1802, Mr Forster until 1810, Mr Davidson until 1813, Mr Mcleod until 1815 and finally Mr Saunders 80.

As the work of the mint increased, so more people were required to undertake the work. For instance, the establishment of the assay office was increased in 1812 81 and a Mr James Atkinson was appointed as assistant to the assay master in the same year 82. Life in Calcutta was not very secure. For instance, in 1817, Mr Cabell, who was then the assistant to the assay master, returned from sick leave in January, only to die in February 83.

In 1819, James Prinsep, son of John Prinsep (see chapter 3), was appointed assistant assay master at Calcutta. The intention was that once he had learned the job from Mr Wilson, the latter was to be transferred to Bānāras to act as assay master there 84 and in due course Mr Wilson was indeed temporarily transferred to Bānāras 85. After Mr Wilson returned from Bānāras, James Prinsep became assay master there (see chapter 7), and later he, in turn, became assay master at Calcutta.

Closure of the 'Old' Calcutta Mint

With the building of the 'new' Calcutta mint, i.e. the steam-driven mint delivered by Boulton and Watt (see chapter 9), the 'old' mint was gradually phased out, with the buildings being rented out, though exactly to whom, is not clear. In December 1832 there was an agreement to let part of the premises to Messrs Joseph Bates & Co 86:

I am directed to acknowledge the receipt of your letter No 2802 dated 13th ultimo with its enclosures and to acquaint you in reply that the Honble the Vice President in Council is pleased conditionally to sanction the acceptance of the tender made by Messrs Joseph Bates & Co for the portion of the old mint premises advert to, on a repairing lease for two years at a monthly rent of 220 sicca rupees...

but in January 1833 it appears that the whole site had been let to Mr Stopford 87:

By virtue of the order of Government on your reference of the 18th August, Mr Wilson the late Assay Master was permitted to "let the house appropriated to him in the old mint premises should an opportunity for so doing occur". The house is accordingly at present occupied by his furniture and his friends, but I understand that without any previous reference to the mint officers, the whole premises have been recently let by the civil architect, Captain Fitzgerald, to Mr Stopford, a merchant.

I presume that there must have been some misunderstanding with respect to the limits of the premises so let to Mr Stopford, and beg therefore to bring the matter before your committee, that I may be informed how far I am to consider myself authorized to act on the permission granted to Mr Wilson.

References

- 1 Board's Collections. F/4/1016. Extract Public Letter to Bengal dated 25th April 1806.
- 2 Bengal Revenue Consultations (Opium etc). P/89/35. 30th August 1804, No. 1. Letter from Mint Committee (Mr Cox & Mr Davis) dated 24th August 1804.
- Bengal Public Consultations. P/8/4. 1st May 1812. Nos. 25, 26. Detailed accounts for 1809 to 1811. Contains a statement of numbers of coins issued.
- 3 Bengal Mint Committee Proceedings. IOR P/162/70. No. 48. Regulation, dated 18th November 1817.
- 4 Bengal Mint Committee Proceedings. IOR P/162/70. No. 57. Letter from the mint master (Saunders) to Calcutta Mint Committee, dated 19th December 1817.
- 5 Bengal Mint Committee Proceedings. IOR P/162/70. No. 141. Letter from the Calcutta Mint Committee to Government dated 19th December 1818.
- 6 Bengal Mint Committee Proceedings. IOR P/162/70. No. 117. Letter from Saunders to the Calcutta Mint Committee dated 27th August 1818.
- 7 Bengal Mint Committee Proceedings. IOR P/162/70. No. 116. Letter from the Mint Committee to Bengal Government, dated 31st August 1818.
- 8 Bengal Mint Committee Proceedings. IOR P/162/70. No. 141. Letter from the Calcutta Mint Committee to Government dated 19th December 1818.
- 9 Pridmore F, (1961), An East India Company Pattern Rupee of the Bengal Presidency, SCMB 1961, pp. 145-147.
- 10 Bengal Mint Committee Proceedings. IOR P/162/77. No. 15. Letter from Saunders (Calcutta mint master) to Calcutta Mint Committee, dated 3rd February 1827.
- Bengal Mint Committee Proceedings. IOR P/162/78. No. 142.
- 11 Bengal Revenue Consultations (Opium etc). P/89/34. 30th December 1800, No. 1. Letter from the sub treasurer dated 19th December 1800.
- 12 Bengal Revenue Consultations (Opium etc). P/89/34. 28th May 1801, No. 1. GG.

Bengal Presidency, Calcutta Mint c1800-c1830

- 13 Bengal Revenue Consultations (Opium etc). P/89/34. 29th October 1801, No. 2. Letter from the Accountant General (Mr Tucker) to Calcutta, dated 26th October.
- 14 Bengal Revenue Consultations. P/55/4, 18th September 1807. No. 13. Letter from Forster (Calcutta MM) to Government, dated 17th September 1807.
- 15 Bengal Revenue Consultations. P/55/9, 29th January 1808. Nos. 24, 25. Letter from the Calcutta Mint Committee to Calcutta Government, dated 16th January 1808. Letter from Government to the Mint Committee, dated 29th January 1808.
- 16 Bengal Revenue Consultations. P/55/10, 12th February 1808. No. 3. Letter from the Board of Revenue to Calcutta dated 29th January 1808.
- 17 Bengal Public Consultations. P/7/30, 30th March 1810. BS. Resolution.
- 18 Bengal Public Consultations. P/7/31, 19th May 1810. No. 16. Letter from Calcutta Government to the Mint Committee, dated 19th May 1810.
- 19 Bengal Public Consultations. 10th August 1810. No. 40. Letter from the acting mint master (Davidson) dated 4th August 1810.
- 20 Bengal Public Consultations. 14th September 1810. Nos. 10, 11, 12. Letter from the Mint Committee to Government, dated 11th September 1810.
- 21 Bengal Public Consultations. P/7/35. 10th November 1810. No. 71. Letter from the mint master (Mr Davidson) to Calcutta Government, dated 1st November 1810.
- 22 Bengal Public Consultations. 6th September 1810. No. 21. Letter from the acting mint master (Davidson) to Calcutta Government, dated 4th August 1810.
- 23 Bengal Public Consultations. 14th September 1810. Nos. 10, 11, 12. Letter from the Mint Committee to Government, dated 11th September 1810.
- 24 Bengal Public Consultations. IOR P/8/5. 24th July 1812. No. 29.
- 25 Bengal Public Consultations. P/8/21. 17th September 1813. No. 24.
- 26 Bengal Public Consultations. P/8/23. 19th November 1813. No. 37. Letter from the mint master to Government, dated 18th November 1813.
- 27 Bengal Mint Committee Proceedings. IOR P/162/70. No. 46. Letter from Mint Committee(?) to Government, dated 10th November 1817.
- 28 Bengal Mint Committee Proceedings. IOR P/162/77. No. 15. Letter from Saunders (Calcutta mint master) to Calcutta Mint Committee, dated 3rd February 1827.
- 29 Bengal Consultations. IOR P/162/87, July 1836 No 1. Letter to The Mint Committee from the Calcutta Mint Master (Forbes) dated 1st July 183
- 30 Bengal Revenue Consultations (Opium etc). P/89/34. 1st April 1801. No. 1. Letter from the mint master (F Mure), dated 12th November 1800.
- 31 Bengal Revenue Consultations (Opium etc). P/89/34. 1st April 1801. No. 1. Letter from the mint master (F Mure), dated 12th November 1800.
- 32 Bengal Revenue Consultations (Opium etc). P/89/34. 16th April 1801. No. 3. Statement from the mint master, dated 1st October 1799.
- 33 Bengal Revenue Consultations (Opium etc). P/89/34. 11th June 1801. No. 1.
- 34 Bengal Revenue Consultations (Opium etc). P/89/34. 25th May 1802. No. 1.
- 35 Bengal Public Consultations. P/7/30, 21st April 1810. Nos. 27, 28, 29 & 30.
- 36 Bengal Public Consultations. 20th June 1810. Nos. 14 & 15.
- 37 Bengal Public Consultations. 24th August 1810. Nos. 41. Letter from the Acting mint master to Government, dated 20th August 1810.
- 38 Bengal Public Consultations. P/7/35. 16th November 1810. No. 34.
- 39 Bengal Public Consultations. P/7/35. 30th November 1810. Nos. 30, 31.
- 40 Bengal Public Consultations. 11th January 1811. Nos. 41, 42.
- 41 Bengal Public Consultations. 26th January 1811. No. 74.
- 42 Bengal Public Consultations. P/7/40. 23rd February 1811. No. 56.
- 43 Bengal Public Consultations. P/7/40. 15th March 1811. Nos. 17, 18, 20.
- 44 Bengal Public Consultations. 22nd November 1811. Nos. 68 to 71.
- 45 Bengal Public Consultations. P/7/36. 20th December 1810. No. 34.
- 46 Bengal Mint Committee Proceedings. IOR P/162/69. p. 122. Letter from the mint master to Mint Committee, dated 12th October 1814.
- 47 Bengal Mint Committee Proceedings. IOR P/162/71, No. 103. From Calcutta assay master (Atkinson) to the Mint Committee, dated 14th April 1820.
- 48 Bengal Mint Committee Proceedings. IOR P/162/71, No. 25. Letter from the mint master (Saunders) and assay master (Wilson) to the Mint Committee, dated 11th August 1819.
- 49 Bengal Public Consultations. P/7/31, 11th May 1810. Nos. 22 & 23 & 24. Letter from the Mint Committee to Calcutta Government, dated 28th April 1810.
- 50 Bengal Mint Committee Proceedings. IOR P/162/69. p. 20. Letter from the acting mint master (McLeod) to Mint Committee, dated 16th May 1814.
- 51 Bengal Public Consultations. P/7/36. 7th December 1810. No. 29.
- 52 Bengal Revenue Consultations (Opium etc). P/89/34. 8th July 1802, No. 1, 2.
- 53 Bengal Revenue Consultations (Opium etc). P/89/34. 20th August 1802, No. 1.
- 54 Bengal Revenue Consultations (Opium etc). P/89/35. 19th January 1804, No. 1. Letter from mint master (F Mure), dated 16th January 1804.
- 55 Bengal Revenue Consultations (Opium etc). P/89/35. 2nd August 1804, No. 1. Governor General.

- 55 Bengal Revenue Consultations (Opium etc). P/89/35. 10th November 1803, No. 1. Committee for inspecting proposed new premises to be added to the mint, 3rd November 1803.
- 56 Bengal Revenue Consultations (Opium etc). P/89/35. 12th July 1804, No. 1. Letter from the acting mint master (H.P. Forster), dated 5th July 1804.
- 57 Bengal Revenue Consultations (Opium etc). P/89/35. 30th August 1804, No. 1. Letter from Mint Committee (Mr Cox & Mr Davis), dated 24th August 1804.
- 58 Bengal Public Consultations. P/6/48. 23rd July 1807. Nos. 39 to 46. Letter from the Mint Committee to Calcutta Board, dated 3rd June 1806.
- 59 Bengal Public Consultations. 29th June 1810. Nos. 105, 106. Letter from Calcutta Government to Mr Forster, dated 23rd June 1810, also Letter from Mr Forster to Calcutta Government, dated 25th June 1810.
- 60 Bengal Public Consultations. 13th July 1810. Nos. 38, 41. Letter from Mr Forster to Calcutta Government, dated 6th July 1810.
- 61 Bengal Public Consultations. 13th July 1810. Nos. 38, 41. Letter from Mr Forster to Calcutta Government, dated 13th July 1810.
- 62 Bengal Public Consultations. 13th July 1810. Nos. 38, 41. Letter from the advocate general to Calcutta Government, dated 11th July 1810.
- 63 Bengal Public Consultations. P/7/34. 12th October 1810. No. 2. Letter from Mr Forster to Calcutta Government, dated 7th October 1810.
- Bengal Public Consultations. P/7/36. 7th December 1810. No. 44. Letter from Mr Forster dated 30th November 1810.
- Bengal Public Consultations. P/7/36. 14th December 1810. Nos. 27, 29, 30.
- Bengal Public Consultations. P/7/39. 16th February 1811. No. 65.
- Bengal Public Consultations. P/7/45. 13th September 1811. Nos. 16, 17.
- 64 Bengal Public Consultations. 11th January 1811. Nos. 47, 48, 49.
- 65 Bengal Public Consultations. P/7/34. 19th October 1810. No. 78. Letter from Mr Forster to Government, dated 16th October 1810.
- 66 Bengal Public Consultations. P/7/34. 5th October 1810. No. 9. Minute and Resolution.
- 67 Bengal Public Consultations. 26th September 1810. Nos. 12 to 21. Letter from the advocate general to Government, dated 11th August 1810.
- 68 Bengal Public Consultations. P/7/35. 10th November 1810. No. 66. Letter from the Accountant General to Calcutta Government, dated 8th November 1810.
- 69 Bengal Public Consultations. P/7/40. 22nd March 1811. Nos. 11 to 19. Letter from J Taylor, attorney, to Calcutta Government, dated 18th March 1811.
- Bengal Public Consultations. P/7/41. 29th March 1811. Nos. 35, 36. Letter from Forster to Government, dated 29th March 1811.
- 70 Bengal Public Consultations. P/7/45. 30th August 1811. No. 32. Letter from the advocate general to Calcutta Government, dated 16th August 1811.
- 71 Bengal Revenue Consultations (Opium etc). P/89/34. 14th March 1800, No. 1. Resolution of the Governor General, dated 26th February 1800.
- Bengal Revenue Consultations (Opium etc). P/89/34. 18th September 1800, No. 2. Resolution.
- 72 Bengal Revenue Consultations (Opium etc). P/89/34. 26th February 1801, No. 2. Letter from P. Spalding (foreman of the mint), dated 16th January 1801.
- 73 Bengal Revenue Consultations (Opium etc). P/89/35. 20th January 1803, No. 1. Letter from the acting mint master, HP Forster to Calcutta, dated 14th January 1803.
- 74 Bengal Revenue Consultations (Opium etc). P/89/35. 24th April 1803, No. 2. Governor General.
- 75 Bengal Revenue Consultations (Opium etc). P/89/35. 21st June 1804, No. 1. Minute of the Governor General.
- 76 Bengal Revenue Consultations (Opium etc). P/89/35. 13th September 1804, No. 1. Letter from the mint master (Forster), dated 10th September 1804.
- Bengal Revenue Consultations (Opium etc). P/89/35. 11th October 1804, No. 1. Letter from Mint Committee, dated 4th October 1804.
- Bengal Revenue Consultations (Opium etc). P/89/35. 18th October 1804, No. 1. Letter from Mint Committee, dated 5th October 1804.
- Bengal Revenue Consultations (Opium etc). P/89/35. 1st November 1804, No. 1.
- 77 Bengal Public Consultations. IOR P/8/5. 17th July 1812. Nos. 57 to 62.
- Bengal Public Consultations. P/8/19. 23rd July 1813. Nos. 21, 22, 23. Letter from the Mint Committee to Government, dated 9th July 1813.
- Bengal Public Consultations. P/8/20. 27th August 1813. Nos. 37, 38, 39.
- Bengal Public Consultations. P/8/25. 10th December 1813. Nos. 68, 69, 70.
- Bengal Public Consultations. P/8/25. 10th December 1813. No. 71.
- 78 Bengal Public Consultations. P/7/46. 18th October 1811. Nos. 37 to 44. Extract from Mr Da Costa's petition for a pay rise, dated 26th July 1811.
- 79 Bengal Mint Committee Proceedings. IOR P/162/69. p. 39. Letter from the Calcutta Government to Mint Committee, dated 27th May 1814.
- 80 Bengal Mint Committee Proceedings. IOR P/162/69. p. 248. Letter from Calcutta Government to Mint Committee, dated 8th December 1815.
- 81 Bengal Public Consultations. P/8/4. 8th May 1812. No. 34.
- 82 Bengal Public Consultations. IOR P/8/5. 17th July 1812. No. 91.
- 83 Bengal Mint Committee Proceedings. IOR P/162/70, No. 5. Letter dated 10th January 1817.
- Bengal Mint Committee Proceedings. IOR P/162/70, No. 11. Letter dated 10th February 1817.
- 84 Bengal Mint Committee Proceedings. IOR P/162/71, No. 35. Resolution dated 24th September 1819.

Bengal Presidency, Calcutta Mint c1800-c1830

85 Bengal Mint Committee Proceedings. IOR P/162/71, No. 42. Resolution dated 15th October 1819.

86 Bengal Mint Proceedings. IOR P/162/47. December 1832, No. 9. Letter to the Military Board from Calcutta Government, dated 4th December 1832.

87 Bengal Mint Committee Proceedings. IOR P/162/82. January 1833, No. 3. Letter from Prinsep (Calcutta mint deputy assay master) to Calcutta Mint Committee, dated 8th January 1833.