

## **The Soho Mint**

### ***& the Industrialization of Money***

#### **Chapter 9: A Case Apart: The United States of America**

**By Richard Doty**

Elsewhere in this book, we have been examining the story of Boulton, Watt & Company in simple terms of success or failure. Our approach has been a generally linear one: a contact is made, a request goes out for a mint, for coins, for tokens, or for copper planchets. The request is honored – or refused or retracted by either side. And the story can usually be told in a logical progression from beginning to end.

Soho's dealings with the United States were otherwise. Throughout the long years of the contact between the Birmingham firm and the new republic, there was a peculiar note of tentativeness, of diffidence, of something approaching suspicion; this note was sounded on both sides of the Atlantic. Again and again, opportunities would loom up, catching one or both sides unprepared. When either Soho or the Americans were ready to act, chance, mutual distrust, or a curious lethargy would set in, and the contact would be broken off, the opportunity lost. The five decades of business dealings between the Boultons and the United States can only be written with an eye towards what might have been, as well as what actually happened. While mints might have been built, coinage might have been supplied, and America's money might have been stamped with a new industrial aspect, what finally came to fruition was almost anticlimactic: the United States Mint needed planchets for copper coinage, and Soho supplied them.

Significant events on the larger stage shaped events on the smaller. The American War of Independence meant many things on many levels, for Briton and American alike. But one result, unexpected at the time and generally overlooked since, was that thereafter neither side could convincingly claim to know the other as well as it had previously assumed. A nervousness set in, an insecurity in dealing with former members of a single family. And citizens of Great Britain and those of the United States would regard each other warily, suspiciously, inconsistently: for they could no longer see each other clearly.

From the larger stage to the smaller: Englishmen were ambivalent about their American cousins, and vice versa. And the very English Matthew Boulton shared in the ambivalence, as did a succession of American

statesmen, Mint Directors, and simple travellers. Let Boulton speak for them all: at the beginning of 1775, well *before* the actual outbreak of the American War for Independence, he was one of the leaders in a Birmingham petition to Parliament, demanding that that body uphold the law against the American malcontents, come what may.<sup>1</sup> But a few years later, he was able to write to an American correspondent that he wished the new country and its new government well.<sup>2</sup> He was surely sincere in the first instance, almost certainly so in the second. For the Americans might well be ingrates, but they held a fascination and an attraction as well, so like and yet so unlike their transatlantic relations.

It is appropriate that the first coinage contact between Matthew Boulton and the United States had the substantiality of smoke, dissipating into thin air, leaving virtually no trace. This involved Charles Borel of South Carolina, and it took place during the year 1786. At that time, the states were essentially sovereign powers: because the striking and distribution of coinage has always been considered an attribute of sovereignty, a number of them either had coinage made for them (Connecticut and New Jersey), struck their own (Massachusetts), or considered the idea but did nothing (New York). In addition, another entity which called itself a *republic* rather than a state had a contract coinage of its own: this was Vermont, whose land dispute with neighbouring New York would keep it out of the federal compact until 1791.

The Matthew Boulton papers prove that another jurisdiction was thinking about the contract coinage idea. Some American numismatists will have heard of John H. Mitchell, an ambitious young merchant from Charleston, South Carolina. But they are unlikely to have heard of Mitchell's neighbour, Charles Borel. Borel was French-speaking, and he had apparently settled in the French-founded Carolinian city some years previously. He prospered, and when he made a coinage proposal to the South Carolina legislature in the late winter of 1786, his influence sufficed to obtain legislation empowering him to solicit coinage for the state.

This ordinance was enacted on 22 March, and it stipulated coinage in copper and *silver*, £10,000 in copper pieces, divided equally between pence and halfpence, and £20,000 in silver shillings and sixpences, three of the former coins to one of the latter. Borel was given fifteen months to import such coinage into the state. The weights of the coins were to correspond to their British counterparts, but the fineness of the silver was to be on the French standard — an interesting monetary holdover from the days of Gallic control. The state's Governor was to select the designs.

Once Borel had secured his contract coinage, he was to submit it for assay; if it were found to be to the state's standards, he was to receive payment for it in the state's paper, value for value. It is difficult to see what advantage would accrue to Mr. Borel for his pains; but so the ordinance read.

Charles Borel now set to work to secure a moneyer. It is unclear when he thought of Matthew Boulton, and his known connection with the then-fledgling coiner will be found in precisely two letters in the Matthew Boulton Papers. The first, written on 19 August 1786, requested Boulton's terms for striking five tons of copper coins for use in South Carolina — *with no mention of a silver coinage*. Boulton's reply naming terms is lost, but Borel agreed to them on 14 September. He asked for most or all of his coppers within three weeks' time, likely intending to take them back to America with him. But Boulton either could not or would not comply (his coinage for Sumatra was just getting under way) and we hear no more of the project in the Matthew Boulton Papers.

Had it proceeded, we may assume that Borel's coins would have been simple affairs, struck on manual screw presses, during time left over from the larger order for the East India Company. But the project never left the preliminary stage, and the mantle of *soi-disant* purveyor of Carolinian coinage passed to another, John H. Mitchell.

We know a good deal more about Mitchell than Borel – in part because an eventual descendant published most of the correspondence between Mitchell and Matthew Boulton in 1931; while scarce, enough American numismatists have seen copies of the Mitchell-Boulton letters to have realized that plans for an American coinage struck at Soho were under active discussion by the late 1780s. But there was rather more to it than that.

From the very beginning, Mitchell thought in grandiose terms. At a time when he had not yet informed the Governor or the General Assembly of his plans (let alone secured their agreement to them) he invited Boulton to participate in the plentiful supply of a state coinage (a drawing of the proposed design has survived; it is essentially a rendition of the state arms). When it became apparent that the government under the new federal Constitution would take a dim view of state coinages (this was the very sort of rampant federalism which the new organic law was intended to stop), Mitchell blithely suggested a new *national* coinage, all to be struck at Soho! The Americans would need no less than £200,000 worth of coin, an amount divided equally between gold, silver, and copper – and this would merely be the first of many orders. Mitchell clearly saw himself as the middleman, supplying Congress with Mr. Boulton's coinage, paying Mr. Boulton with rice, indigo, or any other local commodity of interest. Speed was of the essence: all of the coinage must be made by the autumn of 1791, two years from the time of the proposal. And Boulton would do well to state his terms quickly and precisely, for Congress would be meeting at the beginning of January 1790 and a concrete proposal must certainly be in place by then.

While harbouring doubts, Boulton dutifully produced an estimate of charges in late November

1789; with luck, it would reach Mitchell in time to ' inform the Congress. Copper coinage could be made for £46.13.4 per ton, provided the Americans found their own metal. If Boulton had to find it, the price per ton would rise by about £84. Mitchell could pay for his coinage by shipping indigo, rice, tobacco (or any other American products of value) to London, the articles to be sold there on the coinage account. This highly unusual arrangement suggests that Matthew Boulton was desperate to do business with America, at a time when it seemed increasingly unlikely that he would do much with England in the foreseeable future.

Unfortunately, his proposal only reached its audience in mid-March 1790. All the same, Mitchell submitted it to Congress, and his native optimism cheered him with the thought that a Boulton proposal received several months late was still better than a proposal anyone else delivered on time. But influential people in the new government would see things differently.

Chief among them was Thomas Jefferson, Secretary of State and the leader of an emerging political opposition group to the Federalist Party. Jefferson was somewhat anti-British and decidedly pro-French. But his observations concerning John H. Mitchell's proposals, and the Birmingham magnate who stood behind them, transcended parties and pettiness.

Jefferson's report of 14 April 1790 acknowledged that Boulton could coin in the manner which he and Mitchell claimed. But technical excellence must yield place to national interest and safety: the Mitchell-Boulton proposal was admirable, *provided it could be carried out in America*. If it had to be effected in Great Britain, it could not be seriously entertained.

It could not be entertained because it would be far too risky. In times of war, ships laden with coin for America would make tempting targets for enemy vessels. Even in times of peace, such cargoes would always run the risk of mutiny and piracy by the crews to whom they were entrusted. And since coinage was a visible aspect of sovereignty, how could the new nation, whose nationality was still in process of formation, transfer coinage, which stood very close to the centre of the identity of *all* states, recent and established, to the safe keeping of another nation? In sum, Matthew Boulton could not be allowed to strike America's money at Soho.

Back home in Charleston, Mitchell learned the bad news in mid-May 1790, about a month after Jefferson had handed down his opinion. The merchant wrote Boulton almost immediately, stressing that the Secretary had invited Soho to extend its operation to the United States. But Boulton was unprepared for such a drastic step (and was perhaps becoming aware that Mitchell was not the go-between for the job, a dreamer more interested in turning a profit than in reforming a coinage); and the two men henceforth restricted their dealings to the more prosaic

articles of the Anglo-American trade. Some years later, when Boulton's nephew Zacchaeus Walker, Jr. visited Charleston, South Carolina, he made a point of visiting his uncle's old acquaintance. He found Mitchell charming as always, but 'with the unlucky talent of trying to preserve the splendour of a Gentr [Gentleman] without adequate means'<sup>13</sup> -not the sort of person to carry off an American coinage for Soho.

The Borel and Mitchell contacts envisioning South Carolina coinage were an accurate reflection of interest in coinage on the state level. But the United States national government was also interested in a coinage, and its concern would yield another potential opportunity for Soho.

When the federal government looked around, it saw a sort of monetary chaos. There was no standard firmly in force for the lower end of the nation's monetary scale, and American citizens were treated to an unappetizing concoction of state coppers of varying weights, worn-out British and Irish genuine and counterfeit halfpennies, other copper coins or tokens of the same general size as the old British halfpence - and American counterfeits and evasive pieces of several descriptions. The country's citizens used all of these monies as they came their way, for they were starved for small change; but Congress believed they deserved better.

So that body determined to circulate a decent copper coinage, one which would henceforth serve as a standard against which other peoples' monies could be judged. It passed the enabling legislation on 21 April 1787. The next step was to choose a coiner: Congress may have had the power to legislate a coinage into being, but it lacked the necessary establishment to strike it.

Early on, there were two major contenders for the honour. The initial edge was enjoyed by General Matthias Ogden, of Rahway, New Jersey, who produced interesting patterns called *Immunis Columbia*' coppers. But he lost his position to a Connecticut resident named James Jarvis, who produced a ten-thousand-dollar bribe for the head of the Board of Treasury, Colonel William Duer. Jarvis got the contract. And he also got nearly thirty-two tons of copper from the complaisant colonel, with which to begin the coinage. For his trouble, Duer was to receive a portion of the profits.

For there *would* be profits. If one figures that Jarvis owed the United States government 11 1/4 pence per pound for the copper, and that he was federally-authorized to strike forty-four and four-ninths coins from each pound of copper (coins which would then circulate as halfpence or cents), a quick calculation suggests that Jarvis and Duer would be making a profit of roughly one hundred per cent, less the cost of coinage!

Of course, it was one matter to secure a lucrative contract, quite another to grow rich from it. Jarvis's plan for fulfilling his agreement was to buy controlling interest in a private mint in New Haven, which was currently striking coppers for the state of Connecticut. He had gained control by the beginning of June, whereupon he called a halt to the production of state coins, directing his designer Abel Buell to begin making dies for national ones. These would feature a sundial and the Latin motto 'Fugio' (I fly) and 'Mind Your Business' for the obverse, thirteen linked rings for the reverse. (The designs had originally been conceived by Benjamin Franklin for national paper and coinage back in 1776, and Congress had stipulated their resurrection for this new attempt at a federal coinage.)

As Buell set to work, Jarvis was faced with a major problem. His contract with Congress called for 345 tons of copper coins. He had thirty-two tons of copper on hand (an amount soon to decrease, as Jarvis' father-in-law and mintmaster, an enterprising gentleman named Samuel Broome, found that he could turn a greater coining profit resuming lightweight Connecticut coppers than by undertaking full weight federal ones; Broome merrily mulcted the national government to the tune of some three million state coppers). Jarvis had to get more metal, and quickly. And it would obviously help if someone could roll it out and blank it for him in advance. These considerations led him to Matthew Boulton's door in the late winter of 1788.

Boulton was Jarvis' first choice for the job, although he apparently let it be known that he was in contact with Boulton's competitor Thomas Williams as well. By late February 1788, the American was ready to make his first proposal.

Boulton's jaw must have dropped when he saw it. At a time when he was desperately attempting to extort a few halfpenny specimens from the baulky Droz, for the delectation of a still more baulky Committee on Coin, here was someone who wished to place an order for no fewer than three hundred tons of coppers! This was a gigantic order by Boulton's current standards, and it must have looked like salvation at the time, a tempting prospect indeed.

For Jarvis had decided that he wanted *coinage*, and not coinage blanks - a hundred tons on 1 September 1788, the second hundred tons a year later, the final hundred a year after that. This would presumably allow Boulton to test and perfect his new machinery in a leisurely fashion, rather than risk everything with a single, larger, order. Better still, Jarvis hinted that there might be funds available 'for an impressing apparatus': with luck, Boulton might be able to sell a mint as well as coinage to this amiable American. But there was a catch. Boulton must deliver his first hundred tons on the first day of September, 1788. He could not expect payment until the first day of September, 1789. 'This advance [Boulton's first hundred tons, at Boulton's risk] will be a leading principle in any contract that I may make'.<sup>4</sup>

The delay in payment gave Boulton pause, but not for long. In an undated memorandum from early March 1788, he proposed reducing the total amount of coinage by half, deliverable at around five tons per week, shipment to commence about a month after his agreement with Jarvis was signed. Instead of the other 150 tons of coins, Boulton would supply 200 tons of blanks – and 'a Coining Machine & six Pair of Steel Dies properly hardened, Tempered, & finished and exactly conformable to the Dies which strike the 150 ton aforesaid'.<sup>5</sup> The coins could be supplied at £122.16.8 per ton, copper included, while the blanks alone would cost £105.10.0 per ton, cut out, milled, and ready for pressing. Casks and carriage to Hull or Bristol would add another two pounds or so to the cost. But Boulton expected payment for his workmanship at the time of delivery, not a year down the road; this insistence on quick payment suggests he was having second thoughts about the American possibility.

And he was being urged to be careful by those around him. While Jarvis searched for ways to make the proposal more attractive (several letters to Boulton have survived, wherein Jarvis puts forth various, and increasingly elaborate, security arrangements, finally having to fall back lamely on the claim that 'no security can be more valid than what I offer, as the whole United States of America gurantee me—')<sup>6</sup> Boulton's London banker sourly advised that he had learned that 'Mr. J. ... has no Security to offer that it would be proper for you to accept & therefore it would be better to let the Business drop.—'.<sup>7</sup> And Boulton came to agree.

Jarvis left Britain for America on 21 May 1788, still hopeful that an agreement with Boulton could be concluded. He arrived in America to find the federal coinage in a state of collapse. Samuel Broome had by now appropriated virtually all of Colonel Duer's copper for Connecticut coinage but had wisely kept a portion back to retain appearances. On 21 May, just as Jarvis was beginning his homeward journey, his New Haven mint shipped a trifle under nine thousand pounds (or 398,577 pieces) of copper coins to the national government, then located in New York City. Broome and his cronies then turned back to the more profitable Connecticut coinage, using most of the remaining copper for that purpose.

Modern collectors call these coins 'Fugio' or 'Franklin' cents, from the motto and the man who inspired their designs. Those who actually used them in trade called them 'Congress coppers'. But they were not popular with anyone. Their unfamiliar designs made them unpopular with the public (for whom a 'normal' copper coin featured a man's head on one side, a seated female on the other), and Congress found that, owing to the peculations of the Jarvis combine, the 'standard' coppers were scarcely heavier than those lightweight pieces which had inspired their creation. Jarvis arrived home in time to find that an exasperated Congress was about to void his contract. It did so on 16 September 1788, and it eventually fined him \$10,842.24 for his failure to live up to his contract. Typically, it was unable to collect a cent of

the money owed: the Fugio fiasco was a powerful argument in favor of a new, stronger national government, one which could get its policies carried out, one strong enough and enterprising enough to establish its own mint and do its own coining.

Meanwhile, with no further legal reason for existence, the current coinage contractors disbanded and went their separate ways. Samuel Broome sold the New Haven mint's machinery to Captain Thomas Machin, whose establishment near Newburgh, New York was able to expand its production of light-weight coppers (including a few Fugios, whose club-like rays proclaim their identity); Broome sailed to Europe on the proceeds. Aware of his role in the massive embezzlement of federal property, and remembering the consequences of his previous brush with the law (a brand mark on his forehead and the loss of part of an ear – the common penalty for counterfeiting), Abel Buell left for Europe as well. James Jarvis and his brother Benjamin left the United States too. They made for Paris, where they reunited with Samuel Broome. And Broome and Benjamin Jarvis, at least, made a final proposal to Matthew Boulton.

This did not involve coining, but something even more chimerical in the context of the times. They proposed to establish a gigantic, steam-powered flour mill in Paris, something along the lines of Boulton's Albion Mill in London. And they wanted Boulton's help in setting it up.

Their timing could scarcely have been worse. Benjamin Jarvis' initial approach came in a letter to Boulton of 27 August 1789, the American observing that profit might be made and civil calm restored by turning steam power to the service of the Parisian poor. But events were already beyond the control and even the conception of a group of failed, somewhat shady businessmen on one side of the English Channel and an enterprising industrialist on the other. The industrialist saw most clearly: while Jarvis continued to regale him with plans and data through much of the autumn of 1789, Boulton finally put a close to the project in early November, advising the Americans that continuing French unrest, as well as the magnitude of the project, had persuaded him and his partner Watt to 'determine against engaging in the concern as Partners & Proprietors; but as Engineers we offer our best services'.<sup>8</sup> Since Jarvis and his friends wanted Boulton's money as well as his mind, the great French flour mill scheme collapsed.

The creation of a new American government under the Constitution of 1787 presaged the collapse of Matthew Boulton's more ambitious dreams for the Western Republic as well. The new compact specifically forbade the states from coining money, and it implicitly pledged the federal government to do so instead, a pledge made explicit with the Mint Act of 1792. Coinage denominations and designs were stipulated, and a national mint was ordered to be built in the national capital, then Philadelphia. In

time, Matthew Boulton would find that his opportunities in America had been dramatically curtailed. The new mint would take advantage of his services in carefully circumscribed ways, allowing him to do only those things which it was impossible or impracticable for it to do – with enough hints at larger vistas to keep him – and later his son – hoping for more for the next forty-five years.

In 1790, chances looked bleak. Thomas Jefferson had just served notice that a Soho coinage for the new government was out of the question. But within two years, matters were taking a more promising turn. If the Americans persisted in striking their own coinage, they could obviously use some assistance in doing so. And by 1792, it began to appear as though they would turn to Soho for help.

As would be so common elsewhere, Matthew Boulton conducted his business with a public power through a private intermediary. In this case, the emissary was an Englishman named Ralph Mather, who was about to sail for Philadelphia, there to join his father-in-law in a business venture. In mid-1792, he was travelling between Birmingham and Manchester, apparently taking notes on all manner of British manufacturing activity (and the profits which it might reap from an American trade), including coining. He visited Boulton in late June or early July and was shown the best of Soho Manufactory, including Soho Mint. The two men entered into an informal agreement; provided Boulton gave him samples to display in America, Mather would do his best to drum up business in Soho's various products, including coining machinery.<sup>9</sup>

Mather sailed for the United States about the first of August. He carried with him a two-part proposal concerning an American coinage connection, a proposal which he eventually delivered to Thomas Jefferson. The latter was more favourable to this scheme than he had been to that delivered by John Mitchell. For Mitchell seemed to be suggesting a permanent connection between Soho Mint and America. This new prospectus assumed a temporary one: Boulton would produce coinage for the United States only until the fledgling federal mint was ready to take over the work. Meanwhile, he would sell the United States copper coinage for 5 1/4 pence per pound over the cost of the copper.

The second part of the proposal dovetailed nicely with the first. To ensure that the national mint would soon be up and running, and running well, Boulton offered to sell it machinery on the model of that now at work at Soho Mint. A rolling mill and a coining apparatus (the latter capable of striking from two to three hundred thousand pieces per day, many times more productive than anything the Americans could make on their own) could both be prepared and sent out, at a cost of about £10,000.

Jefferson was indeed impressed, and tempted, by the offer of coinage if not by that of a mint. Mather advised Boulton that stressing the temporary nature of coinage exports was a stroke of genius, going far to allay the fears of the Secretary of State. But a contract was still not a foregone conclusion. While everyone

from President Washington down was pleased with Boulton's samples (they should have been: Mather had given them some of Droz's halfpenny patterns), the American minister must first come to Soho, examine Boulton's mint, treat with Mr. Boulton, and then report home. His report would come before a Congressional committee, which would make the final decision.

So Mather reported early in February 1793; by the time Boulton got his letter, matters were beginning to unravel.

Rufus King, the American emissary who later got Soho the right to prepare the first struck United States Indian peace medals, may indeed have visited Soho at the end of 1792 or the beginning of 1793. But he left no record of his passing, and Matthew Boulton would soon find that events in America were working against him. Much to everyone's astonishment, the Americans were actually able to get a mint of their own in operation, a makeshift facility which opened its doors to regular coining at the start of 1793. The Philadelphia mint only struck copper during its first year of operation, and it only made two sorts of coins, cents and half-cents. It cautiously added other metals and denominations as time went on. It was never very good at what it did. *But it was unquestionably American*, and its products, while crude and scarce, were immensely satisfying to public and private opinion. And when foreign events conspired with American ingenuity (Britain declared war on France early in 1793: now American sensibilities were tugged in yet another direction), the prospect of the sale to America of Mr. Boulton's coinage, much less that of the sale of Mr. Boulton's mint, vanished like a puff of smoke.

But there was still the matter of Mr. Boulton's planchets. Over the next few decades, the sale of copper blanks for cents and half-cents would define the relationship between the world's first industrial coiner and the world's largest republic.<sup>10</sup> And both sides would attempt to expand the contact into something greater, leading to the purveyance of modern coinage or a modern mint to the Philadelphia moneyers.

These hopes would never be realized: but those in Britain might have indeed taken note of what had been accomplished, for it was no small thing. Between the 1790s and the late 1830s, the most likely coins to be seen in circulation by the average resident of the United States were the cent and half-cent. So typically 'American' are these coins considered that a sizable percentage of American collectors and researchers have specialized in them, to the exclusion of other denominations. And yet, of all cents struck between 1797 and 1837, more than two-thirds were made of Soho-supplied planchets. And *all* half-cents struck during the first third of the nineteenth century started out in Matthew Boulton's workshop.

Students of coining technology have tended to see the process of striking as the most difficult step in

the making of coin. But there is another, anterior step which was far more challenging in the early days of mechanical moneying, and that was the rolling of metal into a consistent strip suitable for blanking into planchets. The metamorphosis of a thick block of metal into a thin fillet for coining required two articles, both of which were in short supply at the beginning of the industrial age. It demanded several sets of heavy steel rollers of high, unvarying quality. And it demanded a massive motive force, allowing those rollers to squeeze and shape the otherwise-useless ingot into a useful strip of metal. The scarcity of good steel and sufficient power meant that a bottleneck was always possible during the rolling stage.

The next step, the actual cutting of planchets from the fillet or strip, would pose no particular problems for the pre-industrial technology then in common use — except if a very large number of planchets were wanted. And then a second obstacle would arise, based partly on the motive force required to cut planchets from strip, stemming also from the fact that it was not possible for one man to cut more than a few dozen such planchets per minute by hand.

Both bottlenecks existed at the early Philadelphia mint. Heirs to the British coiners' disdain for copper, officials of the new United States Mint would have greatly preferred to restrict their efforts to the 'noble' metals, gold and silver. And common sense strengthened their preference: it obviously took one hundred times as much rolling, blanking, and coining to make a dollar's worth of copper cents as a dollar's worth of silver dollars. But economic and political realities dictated that, like it or not, copper must be struck, and struck in sizable quantity.

The economic reality was that, at a time and in a place where wages and prices were low, copper coins (which occupied the lowest rungs on the monetary ladder) were extremely important to most buyers and sellers. Matthew Boulton had recognized this truth in Birmingham; a succession of Mint Directors was forced to recognize it as well in Philadelphia. And while other nations' coins might be used in the higher echelons of the nation's new monetary system, there was much less available at the bottom of the scale. Congress was confronted with the unwelcome fact that, were it not to act decisively, the only low-value coins which most of its citizens were likely to see would be counterfeits of one sort or another (unpalatable on general principle), state coppers (which had been repudiated by the new Constitution) - or genuine British halfpence and farthings. And if the latter, what would that say about the nature of the new national sovereignty, about the plausibility of the new national government? From a political point of view as well, a reasonably plentiful copper coinage must be provided.

The United States Mint wrestled ineffectively with the copper problem for the first few years of its existence (and with an additional difficulty, which would have likely turned its eyes to Europe even had it had modern machinery: a lack of available native copper). It began making cents and half-cents in 1793, but

by the beginning of 1796 had still struck only a million and a half cents and a quarter of a million half-cents - Soho's production during a fortnight. After three full years of operation, the harried Elias Boudinot, Director of the Mint, was looking for help in the striking of copper. He would turn to Britain, and to Matthew Boulton.

Despite the record of earlier contacts between Soho and the Americans, it was not inevitable that he would do so. Early in 1796, Boudinot made *two* proposals to Britons for the supply of planchets to the United States Mint. He had his nephew, Samuel Bayard, approach Boulton, Watt & Company, while he himself wrote to a second firm, the Governors and Company of Copper Miners in England. One of the proprietors of this second firm had a father-in-law named Thomas Clifford, who was currently a major force in Philadelphia politics. This political consideration suggested that the Company of Copper Miners be approached; so did the fact that it had important ties with the former Welsh copper power-house, the Parys Mines Company. It is unclear whether Matthew Boulton ever knew that the old rival to his Cornish Metal Company was in contention for the American planchet contract; he would not have been amused had he known.

But he need not have worried. While the Company of Copper Miners were first off the mark, their planchets reaching Philadelphia in October 1796, nearly *fourteen months* ahead of the competition, their rival managed to undercut their price per pound when he finally acted. Of still greater importance, his products proved to be suitable for coining at once, whereas those sent by the Company of Copper Miners were so rough as to be virtually useless, even after they had been cleaned and scoured. Rather than winning the favour of the United States Mint for his planchets, Matthew Boulton saw his rivals lose its favour for theirs."

Boulton's maiden shipment was received in America at the beginning of December 1797. Early the following year, the first of what Boudinot anticipated as a regular series of remissions left Soho, arriving in the Schuylkill off Philadelphia in May 1798. The Mint Director looked over the new planchets, was delighted with them, and happily anticipated the establishment of a regular, easy production of good American copper coinage based on good British copper planchets.

What he anticipated and what he got were two different things. While Boudinot assumed that Boulton was as interested as he in a regular planchet trade, the Birmingham industrialist showed a curious and then an alarming disinclination to act in an appropriate manner — or even answer Boudinot's increasingly importunate letters. Boulton, of course, had problems of his own: he was just then rebuilding the Soho Mint, was also winding down one British coinage and desperately looking for another. He was also talking with officials of several countries about building mints for Russia, Denmark,

and Britain. He was in fact a man of many parts, and while he might frequently be at the centre of the United States Mint Director's concerns, the latter and his planchets could scarcely expect reciprocal attention.

This led to some strange occurrences in 1798 and 1799. As the months went by without the arrival of new copper planchets from Mr. Boulton, Mr. Boudinot was forced to curtail production. The total cent coinage for 1799 was 42,540 pieces. Striking seventy pieces per minute, Boulton's eight Soho coining presses could have produced the same coinage in just an hour and a quarter. But then, he had the copper as well as the technology.

The coinage totals for 1799 represent the nadir of American cent production from the birth of the denomination to the present day. Boudinot curtailed coinage, stretching Boulton's planchets as far as they could be extended. But did he look elsewhere for his blanks? In the collection of the American Numismatic Society, New York, there is a curious 1798 cent, which began its career as one of Thomas Williams' 1788 Parys Mines halfpenny tokens. We know its origins because the United States Mint's coining presses were not strong enough to efface the earlier impression — and we can see parts of a lettered edge, guaranteeing payment in Anglesey, London, or Liverpool. Considering the fact that an Anglesey halfpenny was about the same size as an American cent, are we to conclude that Elias Boudinot had become so desperate for copper planchets that he was commandeering other people's money to secure them? We probably should not: this piece is the only one ever seen with a clear, recognizable undertype. And yet the timing of its appearance is so perfect that one is tempted to draw the logical conclusion. And it is difficult to explain the origins of this particular coin: other people's money rarely gets into a mint unless it has both purpose and assistance.

Matthew Boulton belatedly sprang into action. On 18 April 1799, nearly ten tons of cent planchets left Soho on the long journey to Philadelphia. Soho sent another seventeen tons about two months later, suggesting that its master was now determined to make up for lost time. For the United States Mint, the days of desperation would soon be over.

In all, fifty-seven separate shipments of cent planchets went out between 1797 and 1837. Beginning in 1800, they were joined by cargoes of blanks for half-cents. The latter were never sent with the regularity of their larger brothers; indeed, none at all were sent between the summer of 1807 and the spring of 1825, whereas most years saw two shipments of cent blanks and a few (1801, 1802, 1826, 1832, and 1833) saw as many as four. The sporadic nature of remittances of the smaller planchets suggests the relative unpopularity of the half-cent compared with the cent. The former was largely used to make change against the Spanish-American real, which happened to be worth twelve and one-half cents in American

money; the latter was used everywhere.

Earlier planchet shipments ranged from ten to twenty-five tons; later ones tended to be smaller but sent more frequently, the risks of the sea being thus lessened for any given shipment. This practice was wise: there *were* risks, both man-made and natural. As a result, the consistency of the planchet trade between Soho and the United States Mint after 1799 was more apparent than real.

The purveyance of British copper to the American mint always functioned within the larger context of British-American relations. When they entered a period of serious decline during the first decade of the nineteenth century, a deterioration which led to open warfare in 1812, Soho's American connection was threatened, then cut. Shipments became sporadic after 1803: there was one in September 1804, but the next did not occur until August 1807, to be followed by a shipment in July 1809, and a final one in February 1812. Then the war intervened, and the commerce would not be resumed until the autumn of 1815. By that time, despite having doled out its planchets with increasing rigour (represented by a progressive decline in cent production from 1812 through 1813 and 1814), the United States Mint finally exhausted its supply of copper blanks and simply shut down production of the cent. The year 1815 is in fact the *only* date unrepresented in the entire story of the cent between its inception and the present day. With the end of the war, the connection was indeed resumed; but those on either side of the Atlantic would never again be able to take it for granted. For it had been abundantly proved that the consistency of the relationship was not immune to the human factor.

Nor was it immune to the influences of nature. Weather was always a threat, and the fact that fifty-five of the fifty-seven cent planchet shipments got through unscathed or nearly so says much about the sailing skills of the captains and skippers of the *Adriana*, the *Amelia*, the *Alleghany*, and all the other wooden ships of the day – especially when the Boultons sent their wares around the calendar, endeavouring from pride and enterprise to anticipate and fulfill the demands of a succession of Mint Directors over forty years. But two of the fifty-seven shipments were not so favoured.

In the first case, Boulton, Watt and the American mint got off fairly lightly. On 8 October 1832, the *Algonquin*, a frequent carrier in the planchet trade, cleared Liverpool with a cargo of twenty-nine casks of cent planchets (representing almost precisely five tons of copper, this was a common cargo size during the 1830s) and a few hundred pounds of fine Swedish copper for alloy in precious-metal coinage. The vessel was wrecked off the British coast, but all the planchets were recovered and brought back to Soho, where they were refinished, annealed, repacked, and reshipped. They then successfully made their way to America, where they were turned into copper cents at Philadelphia. A few uncirculated 1832 and 1833 cents in the cabinet of the American Numismatic Society show light corrosive damage consistent

with brief salt-water immersion prior to striking; I hazard the guess that these pieces are metallic witnesses to a minor disaster at sea.

The second disaster was far more serious. This involved the *Delaware*, and it took place twelve months after the *Algonquin* affair. And while the latter vessel was refloated and her cargo recovered, the *Delaware* would never sail again, and the loss of her cargo would have important repercussions for the United States Mint, and for Boulton, Watt & Company.

The *Delaware* left Liverpool on 26 October 1833 with the usual twenty-nine casks of cent planchets. She had been involved in the copper trade the previous summer; but the speed with which she had sailed back from Philadelphia to Liverpool, and the haste with which she now returned to America with this second planchet cargo, may have told against her. She went down off Wilmington, Delaware in weather so foul that attempts to salvage her were fruitless. Of her cargo of planchets, nine casks and parts of two others were totally lost. The remaining copper was eventually salvaged and acquired by the mint - at a price reduction reflecting the fact that it was useless for coining in its present form and could only be remelted and used as alloy. The dispute over responsibility for the accident and for payment for the planchets went on for nearly two years, and it joined other, ongoing disappointments, frictions, and complaints between the British concern and its American customer, difficulties which would eventually lead to the end of the relationship.

Each partner felt it had grounds for dissatisfaction. Boulton, Watt had a great deal of difficulty extracting payment for its planchets from the United States Government, whose scant resources had generally been allocated for more important purchases many months prior to the arrival of the copper blanks. Soho usually suffered in silence, but on at least one occasion the firm refused to send more planchets until payment had been received for earlier remittances.

The Americans could reply that Boulton, Watt sometimes took less than strict care of the quality and shipping of its product. On one occasion, planchets ordered had an annoying, projecting burr along their edges; on another, the kegs containing the planchets had been carelessly placed in 'a very wet part of the Ship, by which means about one fifth part of them are almost spoiled'.<sup>12</sup> And on many occasions, planchets arrived inconveniently late. A number of other customers suffered from Soho's cheerful inability to deliver its goods in a consistently timely fashion; but the Americans did something about it. They found other suppliers.

In the record of Soho deliveries of planchets to the United States Mint, there are two long gaps. The first, extending from early 1812 to late 1815, has an obvious cause, the unraveling of Anglo-American relations, culminating in the War of 1812. But the second gap, which lasted from April 1821 to May 1826,

has no such obvious explanation: the two countries were at peace, and economic relations were normal, even excellent, during most of the period. But there was an explanation, even if it eludes us at first glance.

The United States Mint had found a second British supplier for its planchets. This was Belles & Harrold, based in Birmingham but with a branch in Philadelphia. In January 1816, the principal on the American side, William Harrold (who may have started his career at Soho - at least there was an individual by that name employed there in the 1790s), approached Mint Director Robert Patterson with an offer to supply cent and half-cent blanks at very favourable rates. Since Patterson had just been refused planchets from Boulton, Watt until payment had been rendered for those shipped back in 1815 and 1812, the Mint Director was naturally receptive to Mr. Harrold's offer of assistance. An agreement for an initial five tons of planchets was signed on 1 February, the day after Patterson had been approached by William Harrold. And for the next seventeen years, the Philadelphia Mint would be receiving copper planchets from this second British concern.

Patterson and his successor Samuel Moore seem to have had fewer difficulties with the new supplier than the old, and after a disappointing Soho shipment received in mid-1821 (the *Kensington* had been carrying a cargo of salt as well as a cargo of copper, and the presence of sea water had yielded predictable results), the United States Mint informally cut its connection with Boulton, Watt – at least in the matter of copper planchets. The link was not resumed until the spring of 1826, and, while Belles & Harrold was gradually phased out of the trade in the early 1830s, the position of Soho would never again be as secure there as it had been prior to the War of 1812.

Of course, that firm's connections with the United States were never solely dependent on the sale of a single commodity. The Americans had originally come to Matthew Boulton for expertise in *coining*, not coin blanks, and they continued to do so in bad times as well as good. Thus, even during the lean years of the middle 1820s, we see a Mint Director asking for advice from Soho on 'the process by which the covering or finish called bronzing, or browning, is prepared and applied to Medals'.<sup>13</sup> The Philadelphia Mint wished to try its hand at special presentation pieces, including proof cents, and the Boulton establishment had a world reputation for expertise in preparing proof coins and medals with glossy brown surfaces. Samuel Moore's predecessor Elias Boudinot had asked for help in more substantive areas, requesting Matthew Boulton's assistance in procuring good steel for dies and, especially, advice on how to employ that steel to best advantage once it reached Philadelphia. The United States Mint's lack of success in die hardening gave it particular difficulty during the institution's early years and for many years thereafter. Out of these modest requests for commodities and advice on their employment would emerge more important

requests for assistance, more substantive offers of help. The years of the planchet trade were studded with the potentials at least for a far greater, far more intimate connection between the Boultons and the United States Mint. But the diffidence, miscommunication, and distrust mentioned earlier – plus most generous helpings of ill fortune and bad timing – ensured that offers once made were misinterpreted, ignored, and lost.<sup>14</sup>

Yet such overtures distinguished Soho's American experience from the beginning until very nearly its end. In the early 1790s, the United States Government had set up a mint of its own, an establishment which owed nothing to the earlier discoveries and improvements made by Matthew Boulton and the members of his circle. The new federal mint was small, composed of cast-off and jury-rigged machinery, and was staffed by rank amateurs, who learned (or made up) their professions as they went along. Understandably, it achieved less than spectacular results: thus far, we have been focusing on its problems with copper, but it encountered similar difficulties with *all* metals. It was in fact producing little in the way of coinage: this was perhaps just as well, for what it was making would have proved a tempting target for the forger had it been struck in sufficient quantity to become better-known.

Even the most patriotic of mint employees and Members of Congress were aware that the United States Mint needed help. And there was, at bottom, only one place where that assistance could be obtained. If the new coiner were to achieve the goal of Alexander Hamilton and the other hard-money men who dominated the new national government, the provision of abundant and safe specie for business transactions large and small (thus weaning the misguided American public away from the allure of paper money) — then Boulton, Watt & Company would have to be let into the United States Mint's affairs.

Mint Director Boudinot was given official blessing, and he made an approach to Matthew Boulton in April 1799:

I have had it in Contemplation to request you to let me have an Estimate of the Expencc of a Mint compleat in all its parts, but on a small Scale, to be executed by you, & sent out here with full Directions for putting it up, including the Engine &c. &c. If you could favour me with such an Estimate, accompanying it with such Explanations as would enable me to induce Congress to agree to it, I should be much obliged, as it might render the Business more expeditious & easy in future.<sup>15</sup>

Matthew Boulton would have been well-advised to grasp this opportunity with both hands, and yet he did not. He sent a tepid reply to the harried Mint Director (whose presses were regularly breaking down, who could not get the copper planchets he needed, and who was again about to vacate his establishment prior to Philadelphia's annual visitation of yellow fever). Boulton merely said that he would take Boudinot's request under advisement. When the latter had still heard nothing substantive

by mid-autumn (that is, nearly half a year after he had made his request), he repeated it, this time in even more unmistakable language:

I am preparing to lay before Congress, an entire new Plan of a Mint, as I am dissatisfied with our present Establishment— To enable me to do this with Precision, will you be so good as to let me know what you will charge for a compleat Apparatus of a Mint on your own best approved plan, with a Steam-Engine equal to the Force of 8 Horses constantly at work— the whole shipped on board a Vessel bound for this Port, so that Congress may have a View of the entire Expence by adding the Freight & Insurance.<sup>16</sup>

Amazingly, Boulton allowed this second approach to go unanswered, and negotiations ceased at that point.

I am unable to explain why this most enterprising of early industrialists should have let such an opportunity escape him. True, the proposed American mint would have been on a modest scale, certainly smaller than the Russian venture, possibly even smaller than the Danish one. And true, Boudinot's second plea would have arrived on Boulton's doorstep just as the latter had finally got regal permission to undertake a new copper coinage (and now had major concerns about how and where he was going to get the metal he needed to carry out his hard-won coining privilege). And yet ... had he shown more of his accustomed enterprise, shown himself willing to go just a bit further, the history of his firm, and of American coinage, would have been very different.

Rebuffed by the elder Boulton, the United States Mint does not appear to have made any further, official calls for help during his lifetime.<sup>17</sup> The next move came from Britain, and from Matthew Boulton's son and business successor, Matthew Robinson Boulton.

I have elsewhere observed that the relations between father and son were frequently strained, the younger man apparently resenting his position in the shadow of the older. After Matthew Boulton's death in 1809, Matthew Robinson Boulton redoubled his efforts to emerge from the shadow. One of the most telling ways in which he tried to do so involved the Soho Mint. I suspect that he wished to sell this facility for a very obvious, if unacknowledged, reason: that mint had been at the centre of Matthew Boulton's concern over the last twenty years of his life. If it were gone from the premises, the memory of the father would go with it, and the son would emerge in his own right.

And so several attempts were made to sell the facility. Two of them are related elsewhere, the unsuccessful approach to Holland in 1818 and the successful one to the East India Company in 1824. But there was a third, and it was made to America.

It predated later attempts by several years, and it was in fact made almost exactly a year after Matthew Boulton's death. His son's thinking at this point was still somewhat imprecise: while recognizing the profit-

making potentials of Soho Mint, he nonetheless resented it. And so, while offering to strike the Americans' planchets into coins in England, adorning them with the regular designs 'or any other device' they might choose, he also stood ready to sell them 'my coining apparatus'.<sup>18</sup> The United States Mint was caught by surprise, and no reply appears to have been made. And the outbreak of war would have soon rendered the scheme impracticable in any case.

In 1815, Soho's American connection was resumed, but it was restricted to planchets, and even that trade soon saw a curtailment. But it was revived in the mid-1820s, and it would soon provide more possibilities for greater things.

By the middle of the decade, Boulton, Watt & Company had supplied mints to a host of overseas destinations — to Russia, Denmark, Brazil, Haiti, and India. It had also prepared mints for Mexico — but had not shipped them, owing to circumstances beyond its control. Mint machinery prepared for Barclay, Herring, Richardson & Company had not gone out to Mexico City due to the bankruptcy of that firm. And coining apparatus prepared for the Anglo Mexican Mint Association had not gone out to Guanajuato when principals in that firm came to the belated recognition that it was unwise to ship a steam-powered mint to an area where water was in short supply. In 1827, both sets of machinery were sitting forlornly in a warehouse at Soho, their owners (through the good offices of their builder, Matthew Robinson Boulton) looking for new buyers.

And by 1827, a purchaser for at least one of the mints seemed within reach. The United States Mint, which may have been barely adequate to the nation's coining requirements in the 1790s, was definitely inadequate by the 1820s. Talk of change was in the air, talk of a sumptuous new building and powerful new machinery to effect the country's coining business. While Congressional permission to expand the United States Mint would not be granted until 2 March 1829, it had been confidently expected for many months. In the summer of 1827, Matthew Robinson Boulton was let in on the project, told that he might have a role to play.

On 31 August, Mint Director Samuel Moore wrote to Soho, requesting information on the number of presses and amount of horsepower likely to be required for a mechanized American coinage. It seems apparent that Moore was thinking about an establishment of a size comparable to the new Soho Mint, with four presses, and that he was primarily interested in improving the striking of the most common American precious-metal coin, the half-dollar. If such an apparatus were to be constructed at Soho for the United States, how much was it likely to cost? Boulton took his time in replying, and his letter of 10 November 1827 has not survived. But we can partly reconstruct its contents, especially its heart: the United States could have its new mint for around £7,000, delivered at Philadelphia.

The Americans debated the matter through the remainder of 1827 and the year following. But their attention was now turned in a new direction, as they learned of the existence of the redundant mint for Guanajuato. This machinery offered two advantages. It was already in being, essentially ready for shipment on short notice. And it would cost about half the price Boulton had quoted for a new mint, £3,824 instead of £7,000.

Moore would have learned of the purchase possibility at the end of 1828. The person informing him of the unwanted mint's existence was probably the American representative of the Anglo Mexican Mint Association, Major W. G. Buckner. Buckner was based in New York City, and Moore seems at first to have thought that the machinery was there as well — which obviously would have represented a huge savings in transportation costs to Philadelphia. He learned of the true site of the machinery by early 1829, but the additional costs of transportation by no means discouraged him: soon he was asking Major Buckner to get detailed plans of the apparatus from Boulton, Watt & Company.

The Major did his best, without success. Soho was perfectly willing to act as midwife to the sale of someone else's mint (while doubtless regretting that Philadelphia had learned of its existence, knowledge which had cost the firm several thousand pounds); but it was disinclined to let the Americans look at the plans and likely copy them without benefit of payment. The plans would remain at Soho, and Major Buckner would come away empty-handed.

And this latest round of negotiations for Soho machinery would soon collapse. The company chosen to ship the Guanajuato machinery refused any sort of personal guarantee, arguing that the name of Boulton, Watt & Company should be bond enough. And when the United States learned that it would have to make payment *prior* to shipment from England (something Soho had never asked it to make for copper planchets), it quickly lost interest in the unwanted machinery of the Mexican mint. The apparatus would languish in Soho's warehouse for another decade, parts of it, apparently, finally going to another Mexican mint with British connections, Chihuahua.

By the beginning of the 1830s, the United States was erecting the outer shell of a new mint at Philadelphia. The nature of its inner heart was still unclear. As it happened, the machinery to strike its coins would be finally made in America; but as the decade opened, there was one last chance that it could be made in England, by Boulton, Watt & Company.

On 19 August 1830, Samuel Moore made a final attempt to open negotiations for British coining machinery. But this time the Mint Director had no intention of skimping on expenses: observing that the new United States Mint would have a floor plan large enough to accommodate the best and most powerful machinery, Moore asked Matthew Robinson Boulton to come up with an estimate for a

new, modern facility which would serve the Republic well for decades to come. His sincerity was evidenced by the length of his letter (eight closely-written pages, including a floor plan), its inclusion of the mint's requirements in great detail, the fact that Moore was fully prepared to change the current proposed layout if Boulton deemed it necessary. But an early reply was essential. Boulton's reply was hardly swift; by mid-October, he was still mulling over the finer points of Moore's request. But he had come up with a cost for the mint apparatus by the fifteenth (£6,997), and he communicated it to Moore two days later. The latter received it on 9 January 1831, and after five weeks of discussion, rejected it. No specific reason was given, but a logical guess is that the Mint Director had encountered patriotic opposition in Congress (or from the White House: Andrew Jackson had built his reputation on an anti-British stance) to his plan to equip an American mint with British machinery. Holding out the prospect of limited possibilities in the future, Moore nonetheless dashed any hopes for business in the present.

The new mint opened its doors, *sans* Soho machinery, in January 1833. So long as the production of cents and half-cents continued, so long as Soho planchets were used to produce them, Matthew Robinson Boulton could console himself that another opportunity on the larger scale might still emerge. He was strengthened in his consolation by the fact that the Philadelphia coiners might very well be in a new edifice but were still using the inadequate machinery they had employed in the old: it had been carried to its new site, set up, and once again forced into service until agreement could be reached on what kind of machinery, and from whom, would succeed it. Remembering the proverb about old wine in new bottles, Soho looked forward to better times. What it found was otherwise: far from extending its contacts into additional profitable lines, the firm would soon see the last of them taken from it.

In the early and middle 1830s, several events occurred in quick succession. They buttressed each other, and, taken as a whole, they would soon spell an end to Boulton, Watt's forty-year career as planchet supplier to the United States of America. We have noted one such event, the wreck of the *Delaware* late in 1833. That set minds to thinking on the American side: perhaps the United States had been extraordinarily fortunate thus far in not losing more vessels and more planchets to the whims of the sea. Perhaps it would do well to find another, domestic supplier.

Here was the second event: a plausible source of planchets was now emerging at home. This was Crocker, Brothers & Company, of Taunton, Massachusetts. The firm had shipped its wares to Philadelphia on an experimental basis late in 1833; at the beginning of the following year, the remittances became regular. Crocker, Brothers offered two distinct advantages over Boulton, Watt:

first, this was an American firm, on American soil. Any wares it sent would reach Philadelphia in far less time, and such products would be virtually immune to the hazards of weather or war. And second, the Taunton firm agreed to take payment for its planchets *in the form of copper cents struck from them*; obviously, Soho would not do so. To be sure, the Crocker, Brothers products were slightly inferior to those of Boulton, Watt, their weights varying greatly. But all things considered, they would do.

The fact that the United States Mint was now able to find its planchets at home suggests two larger developments. First, more native copper had been found than had been available before the turn of the nineteenth century, when Cornwall was king. And second, the fact that the copper could now be transported hundreds of miles from mine to factory, could be rolled and blanked there, and then swiftly sent to Philadelphia to be processed into coinage suggested that the United States was now becoming an industrial nation, was approaching the point where it would no longer need other people's technology, could in fact create its own. And Soho would be under a misapprehension if it thought otherwise ...

The ability to industrialize was soon extended to something more important than planchets. In the summer of 1836, Robert Maskell Patterson (who had succeeded his brother-in-law Samuel Moore as Mint Director in May 1835; Moore was a son-in-law of the earlier Director, Robert Patterson) wrote a generally prosaic letter to Matthew Robinson Boulton, which contained a sting in the form of a postscript:

It may not be uninteresting to you to mention that we are coining your copper, very successfully, with a Lever press, moved by a Steam Engine. The press is a modification of one made in Paris by Tonnelier. It is striking, with great ease, and without noise or jar, 80 pieces per minute, and we think of increasing its speed to 100. The motion is communicated from a drum shaft, by a strap and pulley. We are preparing similar presses for all our coining.<sup>19</sup>

The person responsible for the press was the gifted inventor Benjamin Franklin Peale, who had left for Europe in mid-1833 on a fact-finding tour for the United States Mint. He visited the Royal Mint, where he had seen the Boulton presses at work. He may have visited Soho. He definitely visited Karlsruhe and Paris, where he saw a press of a new type in operation. Featuring a toggle action invented by Uhlhorn around 1815 and subsequently improved by Thonnelier, this apparatus represented a great improvement over the mechanism invented and popularized by the Boultons. It was smaller, was marginally faster, broke down less frequently, and was much gentler on dies, because it progressively squeezed its designs onto planchets rather than relying on a single, traumatic blow to impart them. Peale had taken some notes on the new press, but he had consigned much more to memory. When he

returned to the United States in 1835, he was able to recreate the machine he had seen in Europe in America, with improvements. He was hired by the United States Mint as Melter-Refiner in March 1836, graduating to the post of Chief Coiner in 1839.

The ingenious Mr. Peale put paid to the hopes of Mr. Boulton. Henceforth, the United States Mint would never need Soho's help in coining machinery. And it was about to discover that it could dispense with Soho's services for planchets as well.

Most of the pieces were in place which would lead to that discovery. The Philadelphia coiners now had a domestic source for their copper planchets; at the same time, they were finding Soho's planchets accompanied by unaccustomed risk and accustomed frictions. They no longer needed that firm's advice on anything relating to coining or coining machinery. And then, larger events intervened, and the final elements made their appearance.

In the spring of 1837, an economic panic and depression spread across the United States, a fiscal implosion resulting in part from the unbridled speculation and shoddy banking practices of the later years of the Jackson administration, in part from business failures elsewhere — including Great Britain. The transatlantic planchet trade, which had been difficult in good times, now became impossible in bad. The Philadelphia Mint soon found itself unable to pay for Soho's planchets in the usual way, by sterling bills of exchange, for economic uncertainty had driven this form of money from commerce. And hard times created economic nationalism as well: in times of crisis, charity began at home, and one's own businessmen took a natural precedence over those of other countries, however fine their wares might be.

And so a decision was reached in Philadelphia and announced to Soho. Citing the miserable state of 'pecuniary relations' between Britain and America, Mint director Patterson advised Soho that, until they improved, 'I cannot feel myself justified in giving you any additional order for planchets'.<sup>20</sup> The long connection had been severed at last.

Not yet aware of the new, domestic supplier, Matthew Robinson Boulton was taken by surprise, but gamely drew up his final account as his American correspondent had requested. And when Patterson paid the remainder of the bill, Boulton learned the remainder of the truth — about Crocker, Brothers & Company and about the advantageous arrangement which the mint enjoyed with that firm. Boulton's reply, the final document in the long correspondence, has an elegiac quality, summing up the entire story of Soho's American connection:

It is with much regret I observe ... that the Commands of that Establishment with which I have been honored for a long series of years, are directed into another Channel; the interruption of a commission of nearly 40 years

duration & one always esteemed as a valued mark of Confidence & Distinction cannot be otherwise than deeply felt, altho' it is no inconsiderable mitigation to know that the event has not proceeded from any cause within my control. Beside [?] this impression I need merely add [?] that should circumstances hereafter allow of the renewal of it, you may rely on every disposition existing on my part to avail myself of the opportunity— For your obliging exposition of the sentiments accompanying the communication of your intentions I beg you to accept my best acknowledgements, as also the assurance that a lively sense & recollection of the attentions uniformly experienced with the Directors of the [United States Mint] Establishment, along with great respect & esteem will not cease to be entertained by

Sir

Yours very faithfully M Robn Boulton<sup>21</sup>

In the Matthew Boulton Papers, in a box containing materials on Brazil, Haiti, Argentina, the United States, and El Salvador, there is a ledger with rough computations of planchet shipments to the United States over the years. The entries stop with the year 1837 — but spaces have been provided for the record of transactions through 1842. It is evident that Soho chose to believe that the commerce might yet be resumed, that its severance was not yet absolute. But an era had ended nonetheless, and those spaces remained unfilled.

Soon Soho itself would pass from the scene, the contribution of the Midlands firm to American numismatic and technological history was forgotten by those few who had ever known about it, and the hybrid natures of the copper cent and half-cent were forgotten as well. Had Matthew Boulton, or Matthew Robinson Boulton, been chosen to make America's money; had father or son succeeded in building a new United States Mint (and the fact that they did not strikes me as rather more surprising than the alternative); their places in the history of American numismatics, American technology, and American economics would have been assured. The commonplace nature of those wares which they *did* succeed in exporting told against them. Their American legacy may have been important, and it was certainly voluminous; but like Matthew Boulton's new concept of coinage itself, those who first saw it tended to accept it quickly if gratefully, while those who see it now have forgotten what it meant. And those of us who know the meaning then and now must regret that more was not done, that the contact was not as deep as the underlying community of shared British and American identity suggests that it might and should have been. But there are times when more can be accomplished between very different peoples than among members of a single family.

## SOURCES

The material for this chapter largely comes from two places. Most of the correspondence between Soho and the United States Mint, as well as sizes, costs, and shipping information concerning planchets will be found in the Matthew Boulton Papers in the Birmingham Reference Library. But materials in the National Archives, Washington, D.C. are also of the highest importance. They will be found under Bureau of the Mint, RG104, and they frequently provide a priceless American explanation for events otherwise difficult to interpret.

In Birmingham, Elias Boudinot, Benjamin Rush, Samuel Moore, and the Pattersons all left traces in the incoming letter boxes (MBP222, 252, 245, and 248). So did earlier correspondents Charles Borel (MBP222), James and Benjamin Jarvis (MBP240), Ralph Mather, and John H. Mitchell (both MBP244). If not located in the appropriate letter boxes, Matthew Boulton's replies to these earlier correspondents will sometimes be found in MBP148 and 150 (private letter books covering the years 1783-8 and 1789-92, respectively), while Matthew Robinson Boulton's letters to a succession of Mint Directors will ordinarily be found in the appropriate letter boxes in Birmingham or in RG104 in Washington.

MBP405 (Brazil, Haiti, Argentine, USA and San Salvador mints) has some useful material for the closing days of the planchet trade. But for detailed notations on the actual sizes and times of shipments, the reader is advised to consult the succession of Mint Books – MBP34, 38, 43, 46, 50, 60, 64, 68, and 81 –which cover Soho's production of American planchets from beginning to end.

For background on and later adventures of Benjamin Franklin Peale, the reader may wish to consult my article in *America's Gold Coinage* (1989), "'An onerous and delicate task": Franklin Peale's Mission South, 1837'. For the trials of the early United States Mint, the best non-archival source is still Don Taxay's *The U. S. Mint and Coinage*.

I am indebted to two American numismatists, Raymond Williamson and Eric P. Newman, for their help in fleshing out the story of Charles Borel. Incidentally, the ordinance which Borel secured will be found on pp. 743-4 of the fourth volume of *Statutes at Large of South Carolina* (Columbia, 1838).

## NOTES

- 1 The petition was delivered on 26 January 1775, and it was reprinted in *Swinney's Birmingham and Stafford Chronicle*, vol. 9, no. 3 (2 February 1775), p. 3.
- 2 MBP150, [Private] Letter Book Q: Matthew Boulton to John H. Mitchell, 25 November 1789.
- 3 MBP360, Box Walker, Z., jr.: Zacchaeus Walker, Jr. to Zacchaeus Walker, Sr., 19 February 1793.
- 4 MBP240, Letter Box J: James Jarvis to Matthew Boulton, 24 February 1788.
- 5 MBP240, 'M. Boulton's estimate of costs for Jarvis proposal' (undated but late February -early March 1788).
- 6 MBP240, James Jarvis to Matthew Boulton, 8 March 1788.
- 7 MBP325, Matthews, Mrs. C., Box 1: William Matthews to Matthew Boulton, 9 April 1788.
- 8 MBP150, [Private] Letter Book Q: Matthew Boulton to Samuel Broome, 3 November 1789.
- 9 I am obliged to Raymond Williamson of Lynchburg, Virginia for bringing Ralph Mather to my attention.
- 10 Those interested in an extended discussion of the Soho-Philadelphia planchet trade may wish to consult my 'Early United States Copper Coinage: The English Connection', *British Numismatic Journal* 57 (1987), pp. 54-76. Of the 73,830,369 cents coined between 1797 (the year of Boulton, Watt's first planchet shipment) and 1837 (the year of the firm's final shipment), Soho's planchets (assuming that all were used for copper coinage — a reasonable assumption, considering the United States Mint's inability to supply its own blanks) would have accounted for 49,219,935 coins. And for half-cent production during the same period, some 7,054,862 pieces, Soho was responsible for *all* of the planchets used for that denomination.
- 11 William J. Coltman, one of the directors of the Company of Copper Miners, persisted in his attempts to turn the tide until late 1798, using his father-in-law Thomas Clifford as intermediary with Elias Boudinot. But Boudinot had made his choice and remained wedded to it — even though Soho's slow delivery came close to driving him to distraction in 1798 and 1799.
- 12 MBP222, Letter Box B4: Elias Boudinot to Matthew Boulton, 3 July 1799. Considering the note of desperation found in the Mint Director's immediately preceding correspondence, this observation strikes me as somewhat churlish. But Boudinot had had to go to the trouble of laboriously cleaning the damaged planchets prior to using them, and this aggravation, along with Boulton's dilatoriness in sending him planchets in the first place, explains his ingratitude.
- 13 MBP245, Letter Box M2: Samuel Moore to Matthew Robinson Boulton, 16 February 1825.

14 As an example of bad timing, consider the fate of a possible coining opportunity which presented itself at the end of 1797. One of the Foxes, Boulton's Quaker correspondents in the copper trade, had presented one of Soho's new proof pennies to 'my Friend the Secretary of State at Philadelphia', who promised to show it to the President and other high officials. The enterprising correspondent offered to sell the Americans copper for a new, high-quality coinage, &c I believed thee would be pleased to Manufacture it into Money'. All were eagerly awaiting Boulton's agreement to do so — which would not be forthcoming, probably because of the strain the current British copper coinage was putting on Soho Mint (MBP233, Letter Box F2: Robert W. Fox to Matthew Boulton, 11 December 1797).

15 MBP222, Elias Boudinot to Matthew Boulton, 22 April 1799.

16 MBP222, Elias Boudinot to Matthew Boulton, 6 November 1799.

17 The visit of Joshua Gilpin to Soho Mint and his discussions there with Matthew Boulton in August 1799 appear to have been unofficial and in any case led to no concrete results. Gilpin's valuable description of the second Soho Mint will be found in the appropriate chapter.

18 MBP252, Letter Box R2: Matthew Robinson Boulton to Benjamin Rush, Treasurer of the Mint, 24 August 1810.

19 MBP248, Letter Box P1: Robert Maskell Patterson to Matthew Robinson Boulton, 25 August 1836.

20 MBP405, Brazil, Haiti, Argentine, USA and San Salvador mints: Robert Maskell Patterson to Matthew Robinson Boulton, 30 September 1837.

21 MBP165, Copies of Letters Soho, 1836-1840: Matthew Robinson Boulton to Robert Maskell Patterson, 29 January 1838.