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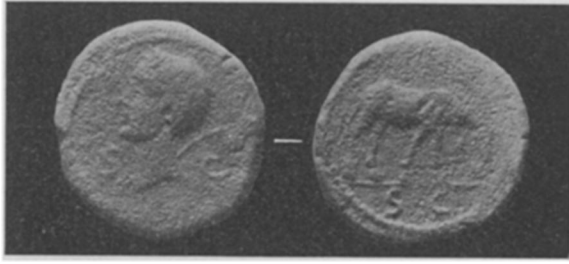
COINS FROM THE NEIGHBOURHOOD OF A ROMAN MINE IN
SOUTHERN SPAIN.

(Plate XIV.)

By G. F. HILL, M.A. and H. W. SANDARS, F.S.A.

In the heart of the Sierra Morena, and at some twelve kilometres as the crow flies to the north-west of the modern town of La Carolina, in the province of Jaen, a silver-lead mine is at present being successfully worked by an English company. But the English company would not be working it to-day, nor would they be doing so successfully, were it not for the fact that the Romans had been there before them and that the Roman miners had left indications on the surface that pointed to extensive workings below, and had not exhausted the riches which kindly Nature had stored in the vein which they exploited. That the Romans must have worked the mine which is known in our times as "el Centenillo" during a long period is principally evidenced by the extent of their underground operations, which attained the astonishing depth of 210 metres (690 feet) from surface, while in length they exceeded a thousand metres (3,280 feet) and gradually narrowed down in depth until, for some reason that will never be known and which it would be imprudent to guess at, the "old men" abandoned the mine. They worked on the best part of the lode which, in all probability, resembled other lodes in the district in being richer in silver near the surface. The Romans must, however, have been principally working the mine for lead when they determined to leave it, as their lowest workings were in a highly mineralised zone which was very good for galena but relatively poor in silver; although, as a matter of fact, the mineral, even at the depth of 325 metres (1,066 feet) which has been attained to-day, carries more silver than the other silver-lead mines of the district. (The galena contains about 82 per cent. of lead and yields about 20 ounces of silver to the ton.)

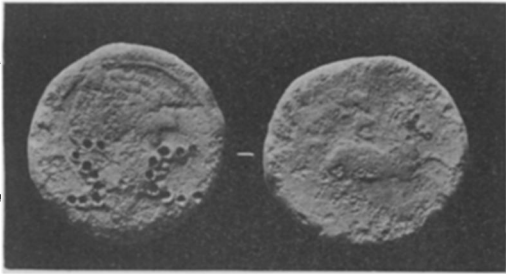
A most interesting discovery was made in the lower Roman workings about three years ago, when a set of pumps was laid bare, which had evidently served as the principal means of unwatering the mine. They consisted of a series of "Archimedean" screws superimposed in single sets, each set being provided with a tank or cistern into which the water flowed from the lower sets and from which it was lifted by the "screw" to the cistern above. These pumps were connected, in all probability, with a gallery or adit, which led the water away from the mine by gravity. Several of the pumps, which Polybius, who is quoted by Strabo (in book iii, 9), mentions as being employed for unwatering mines in Spain in his day, were found in an



NO. 1.



NO. 2.



NO. 3.



NO. 4.



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NO. 5.

OBJECTS FROM THE NEIGHBOURHOOD OF A ROMAN MINE IN SOUTHERN SPAIN (p. 101).

excellent state of preservation. They had been very carefully made and consisted of a wooden cylindrical core around which the copper vane or "thread" was wound. The vane, in its turn, served to support the neatly fitted longitudinal laths which formed the outer covering of the pump-barrel. The construction of these pumps presupposes a knowledge of the laws of physics and a mastery of mathematical calculations of the highest order.

We naturally cannot expect to find any historical record of the working of these mines during Roman times and we must consequently turn to the coins discovered at them, or in their neighbourhood, for some indication as to the period of their activity.

A considerable number of "loose" coins have been found on the surface, but none within the mine itself. Indeed, the discovery of coins within an ancient mine is so extremely rare an occurrence that any report of such a find should be accepted with caution if not with positive disbelief. The coins range from autonomous, or Celtiberian examples, to those of the Constantines, and comprise republican denarii and the bronze issues of several of the Caesars. Silver coins, except in the finds to which reference is made below, are comparatively rare. There is not a sufficient number of coins of any particular period to point to its having been the time of greatest activity in the mine, but, on the other hand, it should not be inferred that because coins covering a wide range of time have been discovered mining operations were carried on during the entire period. The probabilities are that the mine was in full exploitation during the first century B.C. and that operations were continued during the following two, or perhaps three centuries. There are but few rare examples among the coins found, but there happens to be one which is unique and which has not hitherto been published.

Its description is as follows :

Obv. Head of Augustus to left, bare, with lituus (?) behind shoulder ; on l. **S**, on r. **C**. Border of dots.

Rev. Mare, with bell suspended round neck, standing r. browsing off a plant ; in exergue, **S. C.** Border of dots.

AE, diam. 29 mm, wt. 158·4 grains (10·26 grammes). Plate XIV, no. 1.

Owing to corrosion of the surface, the details of the obverse appear but faintly in the reproduction. The fabric of the coin is Spanish. The repetition on both sides of the letters s. c. is curious. They can hardly represent anything but the usual formula *Senatus consulto*, and it must be merely a coincidence that they are also the initials of the company which worked the mine. These initials have been found stamped on a copper bucket (plate XIV, no. 5) which was discovered in the Roman workings, and which was used for baling

water, S C.¹ By a curious coincidence the initials of the name of the present owners of the mine when rendered into Spanish are again the same, s. c. (Sociedad [el] Centenillo). The same initials appear, again, on Roman lead seals (plate xiv, no. 2) of which large numbers have been found in recent times, and which were mostly collected on or near the site, where remains of substantial buildings have been discovered. This was apparently the residence of the managers and overseers, and the site of a factory in Roman times. It is quite possible that the lead was cupelled here, as traces of furnaces have been found, and that the lead seals were used in connexion with the packing and the forwarding of the bullion, just as lead-seals are employed, at the present time, for closing the sacks in which the mineral is sent from the mines to the smelt mills of the district, and especially when it is valuable by reason of its high tenure in silver. Plate xiv, no. 3 represents three of the seals in question. The "blank" consisted, in the case of the seal on the right of the illustration, of a round bar of lead 15 millimetres in diameter which had been used for sealing soft material of considerable thickness. The other two seals had been employed for fastening together harder and thinner material.

But the lead-seals do not exhaust the series of objects found on the mine which bear the initials s. c., as several coins have been discovered which are countermarked with those letters punctured on the obverse (plate xiv, nos. 3, 4).²

It is a remarkable fact that all these coins (6 have been found at the Centenillo mine) bear the Celtiberian legend Cose (=Tarraco), and that they belong to the later period according to Delgado's arrangement³, which would bring them, in all probability, down to the first century B.C. The question arises: do the initials s. c. thus countermarked on the bronze "Cose" coins, and the same initials found on the copper bucket and the leaden seals described above, mean the same thing? One would not hesitate to say that they do, but for two reasons. The first is that another "Cose" coin, similarly countermarked, was found two years ago near another Roman mine in the neighbourhood of Posadas,⁴ to the south of Cordoba, and that four others with the same countermark are said to have been found near Granada. But coins can be and are transported with greater ease than almost any other objects; and, after all, coins which had in the first instance come from Tarraco to Centenillo might easily wander a little farther afield. It is

¹ *Archaeologia*, lix, 311-332, fig. 14.

² On the casts from which fig. 4 has been made the letters s.c. have been strengthened with ink.

³ Delgado, *Nuevo Metodo*, iii, 398.

⁴ The British Museum also possesses a specimen thus counter-marked, acquired in 1844 at the sale of the collection of William Mark, who was British

Consul at Malaga. Its exact provenance is not known. In the workings of yet another Roman mine in the same district of Posadas, not many kilometres away, was found a copper bucket with the letters s-c-c punched on it in the same pointillé method. This seems to represent the name of some other company.

a more serious objection that all the known coins with this counter-mark were originally struck at the same mint. One would expect the owners of the mine, if our hypothesis is correct, to countermark any local coin that came their way. But they may have had reason for using one particular class of coin for their purpose; and, in any case, these are amongst the commonest Spanish coins of their time. Failing other explanations, we may therefore accept for the present the hypothesis that we have in these countermarked pieces the token-currency authorised by the owners of the mine.

But how the abbreviation *s. c.* is to be resolved is another question. The first letter probably stands for *Societas*. It is well known¹ that the state-mines were sometimes worked by an association of the *conductores*, known as *societas*. We also know² that the lead and silver mines of Iberia were, in Polybius' and, later, in Strabo's time, private property; but it does not follow that the same method of working by syndicates did not prevail there also. Indeed, that it did, is proved by the inscriptions on two pigs of lead, one of which was found at Coto Fortuna (near Mazarron, in the province of Murcia), the other in the Tiber at Rome. These bear the name of the *Societas Montis Argentarii* of Ilucro.³ The *Mons Argentarius*, according to Hübner,⁴ is a general designation for the silver-bearing ranges in which the rivers Baetis and Anas rise, and cannot be identified with any particular mountain or group of mountains. The existence, however, of a syndicate calling itself after this *Mons Argentarius* is not wholly favourable to this view, and seems to indicate a more restricted application of the name.

For the *c.* of *s. c.* we prefer to offer no explanation, since Castulo was probably too far (some thirty miles) away to give its name to this particular mine, and we do not know whether the modern "el Centenillo" represents an ancient name.

The geographical position of this mine in Roman times brought it within the influence of the historical events which have left their mark on the records of the great nation which conquered and held Hispania for more than six centuries. It was situated on the confines of Baetica and Tarraconensis; it was not far removed from the *Saltus Castulonensis*, through which a main road passed leading from the rich province of the south to the district where the world-renowned mercury mine of Sisapo even then was being worked, and thence to Emerita Augusta; while it was undoubtedly within the district of Castulo, the prosperous and important capital on the bank of the river Guadalimar, which played so important a part in the struggle for supremacy between Iberians, Carthaginians,

¹ Plin. *N.H.* xxxiii, 18.

² Polyb. xxxiv, fr. 9; quoted by Strabo, ii, 2, 10.

³ *Revue Archéol.* 1907, i, 58-68. The first is inscribed SOCIET MON · ARGEN · ILVCRO; the second

SOCIET · ARGEN · FOD · MON · ILVCR · GALENA; in each case the inscription is divided into three compartments.

⁴ In Pauly-Wissowa, ii, 712.

Romans, Goths and Moors. Indeed, this part of Andalucia has, from time immemorial, been the scene of strife between races and factions, and few portions of Spain, rich as it is in memorials of the past, have been more prolific in the discovery of hoards of Roman coins than the north-western division of the province of Jaen within which the Centenillo mine is situated. There have been two finds almost within the precincts of the mine itself, so to say; one, of 181 Roman denarii in 1896, and the other of 57 Roman and two Celtiberian denarii in May, 1911. The former were discovered in an earthenware jar buried in the débris at the entrance of a Roman adit or gallery. Unfortunately it has not been possible to collect the whole of the find for identification. Of such coins as have been seen, however, the latest seem to belong to Caesar's Spanish issues of about 45 B.C.¹ The other hoard was found at a spot about two kilometres from the actual entrance; but it is reasonable to suppose that its depositor was some person connected with the mine. It is true that we cannot be certain of having recovered the complete hoard, since the coins were casually discovered strewn loosely on the ground, having probably been scattered by persons uprooting the brushwood with which the mountains are covered. There can be little doubt, however, that they also were originally contained in an envelope of some kind, which must have been disturbed and broken when the brushwood was uprooted. A description follows of the fifty-nine specimens²:

No.	Approximate date B.C.	Struck in	Class.	Reference.	Number in hoard.
A. ROMAN DENARII.					
1	172-151	Rome	L. Cup(iennius)	i, 113, 850	1
2	150-125	"	C. (Minucius) Aug(urinus)	i, 135, 952	1
3	150-125	Italy	C. (Porcius) Cato	ii, 249, 461	1
4	150-125	"	Q. Minu(cius) Ruf(us)	ii, 250, 464	1
5	150-125	"	M. Fan(nius) C.f.	ii, 251, 468	2
6	91	Rome	C. (Claudius) Pulcher	i, 198, 1288	1
7	91	Italy	C. Font(eius)	ii, 293, 610	1
8	90	"	Q. (Minucius) Thermus	ii, 302, 653	1
9	89	"	A. (Postumius) Albinus, etc.	ii, 310 724	1
10	88	Rome	Dec. (Junius) Silanus L.f. (xviii on rev.)	i, 246 1811, f	1
11	88	"	L. (Calpurnius) Piso Frugi (serpent under chin on obv, cvi on rev.)	i, 260, 1941, f.	1

¹ Rev. Trophy with seated captives, i.e. Grueber, B.M.C. *Roman Republican Coins*, ii, p. 368, 86, or 369, 89.

² The references are to Grueber's catalogue of

the British Museum Collection (which has been followed for the chronology), to Delgado's *Nuevo Metodo* and to Hübner's *Monumenta Linguae Ibericae*.

No.	Approximate date B.C.	Struck in	Class.	Reference.	Number in hoard.
A. ROMAN DENARII— <i>continued.</i>					
12	87	Rome	Q Titi(us)	i, 286, 2220	I
13	87	"	L. Titur(ius) Sabin(us)	i, 297, 2322	I
14	87	"	L. Titur(ius) Sabin(us) (MIII on rev.)	i, 299, 2348. f.	I
15	84	"	Gar(gilius), etc.	i, 335, 2622	2
16	82	"	A. Post(umius) Albin(us)	i, 352, 2839	I
17	82-81	The East	L. Manli(us), L. (Cornelius) Sulla	ii, 462, 8	I
18	82-80	Spain	C. Anni(us), L. Fabi(us) (symbol on obv. uncertain)	ii, 352, 1, f	I
19	82-80	"	C. Annius, L. Fabi(us) (L on rev.)	ii, 355, 31, var.	I
20	81	Rome	C. Nae(vius) Balb(us) (one with xxxv ? one with LXXII)	i, 367, 2926, f.	2
21	80	"	L. Papi(us) (corn-ear on obv. locust on rev.)	i, 370, 2977, f.	I
22	80	"	Ti. Claud(ius) (A·III)	i, 384, 3129	I
23	78	"	L. Procili(us)	i, 386, 3147	I
24	76	"	L. Lucreti(us) Trio	i, 396, 3245	I
25	76-72	Spain	Cn. Len(tulus)	ii, 358, 52	I
26	71	Rome	Paullus (Aemilius) Lepidus	i, 418, 3373	I
27	71	"	(L. Scribonius) Libo	i, 419, 3377	I
28	71	"	Paullus (Aemilius) Lepidus ; (L.) Scribon(ius) Libo	i, 420, 3383	I
29	64	"	C. (Calpurnius) Piso L. f. Frugi (r on obv.)	i, 464, 3774, var.	I
30	56	"	Q. Pompei(us) Rufus	i, 485, 3885	I
31	54	"	Faustus (Sulla)	i, 489, 3909	I
32	50	"	M' Acilius	i, 496, 3943	I
33	50-49	Gaul	Caesar	ii, 390, 27	7
34	48	The East	Caesar	ii, 469, 31	2
35	47	Rome	L. Plautius Plancus	i, 516 4004	I
36	46-44	Spain	M. Poblici(us) ; Cn. (Pompeius) Magnus	ii, 364, 72	2
37	45	Rome	T. Carisius	i, 529, 4060	I
38	45	Spain	Caesar	ii, 368, 86	3
39	45	"	Caesar	ii, 369, 89	6
B. CELTIBERIAN DENARII.					
40		Turiaso	Bearded head and horseman	Delgado, 405, 2 ; Hübner, no. 60.	I
41		Segobriga	Beardless head and horseman	Delgado, 405, 2 (obv) 1 (rev.) ; Hübner, no. 89.	I
					59

The little hoard was evidently deposited in or just after the year 45 B.C. since the latest coins it contains are those of Julius Caesar struck in the country and apparently commemorating the victory of Munda (14th March, 45 B.C.).¹ The later coins are in excellent condition.

A third, almost contemporary hoard, deposited about 44 B.C. is that of Liria (province of Valencia).² The disturbed state of the country, when Sextus Pompeius had begun to operate again, after his recovery from the defeat of Munda, is sufficient to explain the burial of these hoards at this time.

¹ In this respect it exactly coincides with the earlier find, from the same place, so far as evidence thereof is forthcoming. The attribution to Spain, and the date of 45 B.C. assigned to these coins, are due to Count de Salis (see Grueber, *op. cit.* ii, 369, note). It must be confessed that the evidence for this later date and attribution, as opposed to the date of 50 B.C. (Babelon, *Monn. de la Rép. rom.* ii, 12) is not entirely conclusive. However this

may be, the date of the deposit is not materially affected, since the coins of M. Publicius and of T. Carisius date from about the year 45.

² On this and other Spanish hoards, see Mommsen in *Annali dell' Inst.* 1863, 69, f. The hoard of Santa Elena, in the province of Jaen, not far from the mine with which we are concerned, is published in *Rev. Num.* 1905, 398, ff. but the latest denarii contained in it date from about 89 B.C.