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BARTER, MONEY AND COINAGE IN THE ANCIENT MEDITERRANEAN
(10TH-1ST CENTURIES BC)



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PROTOMONEDA Y TESAURIZACIÓN EN LA FACHADA TIRRÉNICA DE ITALIA CENTRAL (S. XI-VI A.C.)

PROTO-COINAGE AND HOARDING IN THE TYRRHENIAN FAÇADE OF CENTRAL ITALY (11th TO 6th CENTURIES B.C.)

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PALABRAS CLAVE: Etruria, castro litoral de La Castellana del Marangone, lingotes y objetos fragmentados en bronce, *aes rude*, taller metalúrgico.

KEYWORDS: Etruria, the coastal hill of La Castellana del Marangone, ingots and fragmented bronze objects, *aes rude*, metallurgy workshop.

Si comparamos la producción monetaria del mundo greco-romano y la etrusca observamos que ésta ha sido más ocasional y que no tuvo un gran desarrollo como aquella. Al contemplar el auge de las primeras series monetarias de las ciudades implantadas en la Magna Grecia y Sicilia, se comprueba que en Etruria, región histórica donde a finales del siglo séptimo una sólida estructura urbana estaba ya constituida, se atestigua una situación bien diferente en cuanto a la adopción del uso de la moneda acuñada. El contraste entre los «siglos de oro» de Etruria (VII-VI a. C.) y el mundo griego arcaico y clásico en cuanto a la moneda es pues paradigmático, habida cuenta del amplio y paralelo auge en ambas civilizaciones que no se limitó al urbanismo y la arquitectura monumental, la estatuaria y la cerámica ilustrada de escenas mitológicas, sino también la escritura y la pintura parietal.

De modo que, aunque hay excepciones, la presencia de monedas se puede considerar mínima en Etruria y en el contexto de sus exportaciones, tanto terrestres al norte del Po,¹ como marítimas, con

hallazgos puntuales en Aleria (antigua Alalia, en Córcega) y en localidades próximas a la desembocadura del Rodano (Sainte-Maxime de Gignac-la-Narthe y Arles)² o del Ebro (El Panedés, Tarragona)³ (Fig. 1).

Entre los descubrimientos monetarios del período arcaico en Etruria sobresalen los de las ciudades de Volterra⁴ y Populonia.⁵ El de Volterra es excepcional por incluir, junto con monedas de plata de producción local, otras del tipo «Auriol», imitaciones de acuñaciones foceas, bien conocidas en el sector provenzal y por consiguiente nos remiten a las actividades etruscas que se desplegaron con intensidad en los siglos VI y V en el Mediterráneo noroccidental.⁶ A la par, la colonia focense de Massalia inicia una amonedación propia a comienzos del siglo V. Algunos

² Sobre las monedas de Sainte-Maxime: Chabot 1978; *Atti Firenze* 1981, tav. XCVII. 5-6; Cristofani 1983, fig. 59; Jehasse 1986; Id. 1989; Martos 2000, 67-71, fig. 9; *Catalogue Latte* 2003, 400-401. Para el contexto general confróntese Py 2006.

³ La pieza argéntea con cabeza de *Gorgona* del Panedés, troceada a mitad, pertenece a una colección privada y fue publicada por Asensi 1990, 175-79. Hace referencia a ella también, Gran-Aymerich 2006, 278, fig. 12.

⁴ El hallazgo de Volterra ha sido estudiado, entre otros, por Gamurrini 1874 y Cristofani Martelli 1976, que reúne la bibliografía precedente. Véase igualmente su tratamiento en el *Catalogo Firenze* 1985, 239, n.º 8.13, fig. 239 y 235, y sobre todo Catalli 1998, 33-35. Entre estos divisores de procedencia populonense que aparecieron en los muros de Volterra, hay 24 con la figura del *Hyppalektryon* (peso medio de 1,01 g) y 15 con la cabeza de *Gorgona* (peso medio de 0,53 g), correspondiendo a un patrón minorasiático de 5,8 g.

⁵ Para el hallazgo de Populonia consúltese, Scamuzzi 1941; Petrillo 1976; Id. 1976-77; Id. 1981; *Catalogo Firenze* 1985, 338-340.

⁶ *Catalogo Firenze* 1985, 240; Catalli 2007.

¹ Consúltese en *Atti Mantova* 1989; *Catalogo Mantova* 1986; sobre el descubrimiento de un didracma de Populonia con la imagen del *Gorgoneion* en Prestino, alrededores del lago Como, véase De Marinis 1982, 506-509, lám. 71b; Id. 1986c, 25-38. Cristofani 1981, 17, lám. III; *Catalogo Firenze* 1985, 238, n.º 8.11.4.



Fig. 1. Lugares señalados en el texto, de Etruria y del Mediterráneo occidental. En detalle los depósitos y talleres relacionados con el taller orientalizante de La Castellina.

autores vinculan el tesoro de Volterra y los óbolos argénteos hallados en Provenza, en el territorio de los Salienos, el hinterland de Marsella (un óbolo en un tesorillo en Arles, y ocho del mismo tipo en Sainte-Maxime), reivindicando así el posible origen etrusco común de varias de esas acuñaciones de plata.⁷ De las monedas de este *oppidum* destacan seis con la figura del *Hyppalektryon* con jinete, con reverso de cuadrado incuso, al igual que las del tesoro de Volterra. Sobre su explicación, los investigadores Chabot y Richard, retoman la opinión de Furtwängler, también estudioso del tesoro de Auriol, y apuntan que estaríamos ante producciones locales que imitan las griegas, hechas por las poblaciones indígenas del Sur de la Galia y las datan en el siglo quinto por analogía iconográfica y estilística, más que por aproximación estratigráfica. Dado el número tan limitado de este tipo de divisores que se conoce, no se descarta la idea de que pueda tratarse de piezas etruscas que llegan a esta región algo más tarde en virtud de las relaciones de intercambio con Etruria, las cuales están bien documentadas a través de otros materiales. Más precisa es la presencia de una moneda populonense en el entorno colonial de Aleria y muy sugestivo el hallazgo de Tarragona, ambas del tipo con *Gorgoneion*. Populonia, era una ciudad de gran auge en relación con la extracción de mineral y la actividad

siderúrgica, aparte de que tenía contactos directos con Focea y Marsella desde época arcaica, y desde mediados del siglo V hasta más o menos mitad del siglo III emite didracmas y sus divisores con el nombre etrusco de la ciudad.

FASES EN LA EXPERIENCIA MONETAL DEL TERRITORIO ETRUSCO

En las últimas acuñaciones etruscas del siglo III, las emisiones de bronce acompañan las series romanas, el *aes grave* y uncias, contemporáneas de la reducción del sistema sextantal, es el caso de las de Volterra, con escritura retrograda *Velathri*, y Vetulonia, con leyenda *Vatl*.⁸ Pero la difusión de la moneda de plata, tetradacmas, estáteros o fracciones, y de bronce se realiza sobre todo en la segunda mitad del IV y a lo largo del siglo III, tanto las series bronceas citadas de Vetulonia, como las de Populonia con la leyenda *Pupluna*.⁹ El impulso dado a estas emisiones monetarias podría vincularse con la paga de tropas enroladas, tanto con ocasión de las guerras contra Roma como durante las alianzas con este estado durante la primera y segunda guerra púnica. A este

⁸ Camilli 1976, 181.

⁹ Camporeale 2004, fig. 283a-b y 123a-b, monedas del siglo III, en el Museo de Florencia. Camilli 1976, 181-196, Castellani 1931, 587-603.

⁷ Chabot 1978; Cristofani 1983, fig. 60-61; *Catalogue Latès* 2003; Py 2006.

papel del mercenariado se atribuye también la primera difusión monetaria de envergadura en la Galia.¹⁰

En cuanto a las primeras acuñaciones de plata, se identifican en los inicios del siglo v atribuyéndose a las ciudades de Vulci y Populonia con su mayor auge en los siglos siguientes junto con el bronce.¹¹ La iconografía más frecuente es la que presenta la *Gorgona* y las primeras inscripciones, que se atribuyen a Vulci, portan la leyenda *Thezi* o *Thezie* (*Thezle*).¹² Aparte de varias piezas con epígrafes que dificultan su atribución, están los estáteros con la cabeza masculina, en anverso, y dos tentáculos y leyenda Curt, en reverso, que se asignan, con dudas, a *Cortona*, al igual que los estáteros con el ánfora de la que salen tentáculos que en algún caso se ha identificado con la actual *Pisa*.

Acuñados en el siglo v, se conoce una treintena de áureos caracterizados por la cabeza del león en anverso y el reverso siempre liso, en tres fracciones, de 50/25/12.50, con muy poco desgaste.¹³ Fueron hallados en la región toscana de la Maremma, asociados a un tesoro, y rápidamente pasaron al circuito coleccionista. La iconografía del león es lo que posibilita su datación: son piezas próximas a otras de Jonia, y estilísticamente cercanas a la pintura de vasos etruscos del tercer cuarto del siglo vi. Es una iconografía también conectada con el trabajo artesanal de los orífices de ascendencia jónica que trabajaban en Etruria en este período. Los modelos de estas acuñaciones serían monedas calcídicas y focenses coloniales, en particular de la colonia de Massalia.¹⁴ Estas primeras emisiones áureas, con cabeza leonina,¹⁵ se interpretan como una producción realizada en Populonia, en ambiente privado, en relación con funciones de alto rango y no con transacciones comerciales en su sentido moderno.¹⁶

¹⁰ Nash 1987a y 1987b. Para el papel de la moneda etrusca en relación con la paga de mercenarios a partir del último cuarto del siglo IV: *Catalogo Firenze* 1985, 371-373, n° 15.4, «I mercenari».

¹¹ *Catalogo Firenze* 1985, 240-241, n° 8.14; Camporeale 2004, fig. 115, del siglo iv. Un amplio estado de la cuestión en: Melillo 2004.

¹² Los primeros estáteros de plata fueron conocidos en ambiente de anticuarios, aunque más tarde aparecieron en contexto funerario en Vulci.

¹³ Gamurrini 1874.

¹⁴ Cristofani 1981, 208.

¹⁵ Breglia 1976, 75-85.

¹⁶ Cristofani 1983, 17, lám. II, le otorga una cronología amplia, entre fines del vi o siglo v. Para el ejemplar del British Museum, quizás de Populonia, que se data de final del siglo vi o inicios del v: Haynes 2000, 165, fig. 147; no obstante la pieza del Museo Arqueológico de Florencia se ha fechado en la segunda mitad del siglo v: Camporeale 2004, fig. 114.

PROTOMONEDA EN ITALIA CENTRAL: LA TRADICIÓN PROTOHISTÓRICA

Frente a la ingente presencia en todo Etruria de diferentes tipos de lingotes fragmentados, considerados dentro del capítulo genérico de *aes rude*,¹⁷ los hallazgos de barras, placas o tiras de plata son mucho más excepcionales, como las halladas en el impresionante conjunto de Volterra, un kilogramo de barras de plata sin marcas que fueron fundidas poco después de su hallazgo.¹⁸ Antes de la introducción de la moneda acuñada que hemos señalado en el apartado anterior, los lingotes fragmentados, *smistamento*, de peso variable que se conocen desde el Bronce reciente y final,¹⁹ pudieron tener un valor ponderal y de prestigio, destinados a operaciones de intercambio, a la vez que otros objetos metálicos generalmente amortizados. En tal supuesto, se imponía la constante utilización de la balanza y algunos de sus elementos aparecen asociados en determinados casos.²⁰ La primera difusión de lingotes de cobre en el Mediterráneo occidental, a finales del segundo milenio, son los de tipo «piel de toro» que ahora se conocen por piezas completas y su fraccionamiento en divisores tanto en hallazgos insulares como en Europa continental.²¹

Entre los siglos VIII y VII lingotes, fragmentados o no, y objetos metálicos servirían como intermediarios privilegiados de intercambio, y hacia el final de esta última centuria, sin perder aquellos la vigencia, irán apareciendo otros de forma más regular, los *aes signati* con el *ramo secco*, cuyos hallazgos testimonian una amplia difusión por la península italiana (Friuli, Veneto, Lombardía, Emilia-Romagna, Toscana, Campania, Sicilia), permaneciendo presentes en

¹⁷ Lo Schiavo 2006, fig. 5 y 6.1-2.

¹⁸ Esto es lo que nos trasmite su primer editor: Gamurrini 1874. Ver también Martelli 1976; *Catalogo Firenze* 1985, 239, n° 8.13: «un numero imprecisato di verghe dello stesso metallo», o sea de plata. Sobre la fragmentación de lingotes y joyas de plata y su uso en las transacciones en el mundo próximo-oriental y griego: Balmuth 2001; Kroll 2008, 12ss. En tumbas del período etrusco orientalizante aparecen elementos como filamentos de oro o de plata enrollados que podrían constituir una suerte de objetos con esta misma función.

¹⁹ Lo Schiavo 2005, 399-414, fig. 2-3. Lingotes de esta cronología los hay incluso en Oberwilflingen, Bâde-Wurtemberg: Primas 2005, 385-89, fig. 4, 6.

²⁰ Antiguos testimonios de pequeñas balanzas, platillos y pesos se han identificado en los conjuntos palaciales de Cancho Roano (García-Bellido 2003), la residencia próxima a la tumba de Hochdorf (Bader 1995, 189, fig. 20.2, *die Bronze Feinwage*) y en el castro de La Castellina (Domínguez-Arranz 2011b).

²¹ Katalog Bochum 2005; Lo Schiavo 2005; Id. 2006. Los primeros *aes rude* se identifican en Sicilia ya en el siglo XIII: Albanesi Procelli 1993.



Fig. 2. Depósito de Le Boccelle-Marangone o *tesoretto* de Santa Marinella, Museo Nazionale Romano, Roma (a); *Aes rude*, junto a otros objetos, procedente del santuario de Pyrgi (Caere), Antiquarium de Pyrgi, Santa Severa. (Domínguez-Arranz 2011a, lám. 295) (b).

la circulación hasta el siglo III, contemporáneamente a la verdadera moneda, y así lo documentan tesoros descubiertos en varios centros.²² Para Panvini, se trataría de comercio de bienes usados para conseguir otros o bien atesorarlos más que de una verdadera circulación monetaria.²³ La exploración de los lingotes fragmentados ha estado bastante minimizada, su presencia y producción en ciudades y poblados poco valorada, siendo uno de los casos mejor documentados en Etruria el de Marzabotto²⁴ y ahora en el castro de La Castellina del Marangone, al sur de Civitavecchia, equidistante entre Tarquinia y Cerveteri, la antigua Caere.

Llegados a los siglos VI a IV, se detecta en Italia central y septentrional un flujo de mercancías y objetos de lujo como medio de pago y medida de evaluar los servicios y los bienes, de fijar la cuantía de las multas y censos en cabezas de ganado.²⁵ Las fuentes explican también pagos de tributos y tasas con lingotes y barras, lo que confirma que la monetización de este territorio fue anterior a la aparición de la verdadera moneda. En Forcello (Etruria padana) figuran, junto a mercancías, lingotes de bronce fragmentados intencionadamente, uno a mitad con el *ramo secco* impreso (810,5 g, 9,4 × 7,7 cm),²⁶ que

probablemente llegaría a través del intercambio con los centros etruscos. Otro similar (2.240 g) procede de la región de Mantova.²⁷ En el litoral de Civitavecchia, al pie del castro de La Castellina, es excepcional el llamado *tesoretto* de Santa Marinella, aunque el hallazgo se produjo en 1927 en la margen derecha del curso inferior del río Marangone y dentro del espacio urbano de Civitavecchia. Este depósito, no sólo integra una fracción de *aes signatum* con *ramo secco*, sino también *aes rude*, un ejemplar de una serie inédita de *aes grave* y otras piezas (Fig. 2a).²⁸ El *ramo secco* pudo ejercer el papel de marca sancionadora del peso y la aleación, al igual que más tarde las imágenes y leyendas en las monedas acuñadas, alcanzando éstas además la función de medida y depósito de valor.²⁹

PRODUCCIÓN-DIFUSIÓN DE *AES RUDE*: EL CASO DE LA CASTELLINA DEL MARANGONE

La denominación de *aes rude*³⁰ viene de los escritores latinos y es utilizada en arqueología para referirse a diferentes piezas de cobre o bronce que aparecen en los distintos contextos arqueológicos: poblados, tumbas y santuarios. En general la mención se refiere a fracciones de lingote o barras pero tam-

²² Castelfranco Emilia: Panvini 1971, 15-26; La Bruna: Milani 1891, 27ss. Vulci, Ariccia, y en general: Ercolani 1975.

²³ Panvini 1971, 24.

²⁴ Briquel; Massa-Pairault 1979, 131-137; Locatelli 2005.

²⁵ De Marinis 1986a, 197-200; Parise 1987, 92.

²⁶ Cattani 1986, 210, n° 263; De Marinis 1986b, 201-203, fig. 101; Breglia 1965-1967, 274; apunta la primera mitad del siglo VI como inicio de la producción de estos lingotes; Bergonzi 1985, 79, la lleva a los primeros años de esta centuria.

²⁷ En el Museo Nacional Romano, Panvini 1971, 20, n. 8; De Marinis 1986b, 203, fig. 102.

²⁸ Catalli 1980, 34-44.

²⁹ Parise 2003, 89.

³⁰ Varrón, Festo Avieno, Tito Livio, Cicerón, Plinio, Suetonio. En la bibliografía apareció por primera vez en trabajos de Cesano de fines del siglo XIX e inicios del siglo XX. Ver sobre ello, Bergonzi; Piana 1987, 161-223.

bién se utiliza para goterones o pequeñas fundiciones y finalmente para fragmentos informes. Con frecuencia se minimiza su presencia en las publicaciones, se omite ilustrar el hallazgo, documentar su peso y más aún realizar su análisis metalográfico.

Sin embargo, el significado de moneda, a nivel simbólico, parece plausible desde el momento en que los *aes rude* son depositados en tumbas protoetruscas, período villanoviano, y que el ritual continúa en época etrusca y romana cuando se coloca moneda acuñada.³¹ Muy significativa es la presencia de este tipo de lingotes en tumbas de la Edad del Hierro tanto en Etruria meridional y central (Tarquinia, Vetulonia, Orvieto) como en Italia septentrional (Certosa, Arnoaldo, Spina, Savignano sul Panaro, Fraore, Padova).³² Fragmentos de lingotes han sido señalados igualmente en varias de las tumbas próximas a la colina de La Castellina del Marangone.³³

También se documenta el valor simbólico y de atesoramiento de los *aes rude* por su presencia en santuarios, como es el caso de Pyrgi, puerto de Caere (Fig. 2b), Gravisca, puerto de Tarquinia, y Punta della Vipera, próximo al puerto de La Castellina.³⁴ De igual modo están presentes los *aes rude* en depósitos aislados o tesorillos, aquí el significado de valor y función monetaria es relevante no solo por la asociación con objetos amortizados en los hallazgos más antiguos sino también, para los más recientes, la presencia de *aes rude* juntamente con moneda propia, como el depósito de Santa Marinella al pie de La Castellina. En este último hallazgo, asociado a piezas de *aes signatum* y diversos valores de emisiones librales del primer cuarto del siglo III, lo que muestra que los tres sistemas monetarios coincidieron en el mismo momento cronológico de su circulación.

Así pues, la producción y difusión del uso del *aes rude* encuentra su plena confirmación a través de estos descubrimientos tanto en las principales ciudades como en centros menores del tipo de Marzabotto, Forcello o la misma Castellina del Marangone.

Uno de los hallazgos de mayor relevancia en las excavaciones que hemos realizado en la cumbre del castro de La Castellina consiste en el emplazamiento de un taller metalúrgico del siglo VII (Fig. 3, a-g). Se reconoce un yunque de piedra, con numerosas tra-

zas de martilleado y recorte de metal, este bloque apareció encastrado en el pavimento de arcilla apisonada de la parte «fría» del taller. Del área «caliente», relacionada con las tareas de fusión y combustión, proceden una tobera de fuelle, fondos de vasos aprovechados para crisoles y fragmentos cerámicos que presentan indicios de vitrificación, escorias y glóbulos metálicos atrapados en su superficie³⁵ (Fig. 3, n-o). Aparecieron en esta excavación goterones de metal, residuos de fundición, recortes de piezas metálicas y diferentes *aes rude*. También se recogieron objetos de bronce fragmentados, como son fíbulas y un cincel de desecho y de idéntica tipología a los descubiertos en el *ripostiglio* protohistórico de Fontanille delle Vignacce, a poca distancia del hábitat, con un conjunto de fíbulas, armas y útiles troceados (Fig. 3, h-m).

A juzgar por los datos recopilados, el estudio de los materiales y los análisis metalográficos realizados por especialistas de Roma, París, Toulouse y Madrid, la hipótesis más plausible es que nos encontramos ante un taller de fusión de objetos amortizados de bronce para producir lingotes, fragmentos amorfos de pequeñas dimensiones y *aes rude* de diversa tipología.

A pesar de que en Etruria se reconoce una relevante actividad minera y metalúrgica, son excepcionales los talleres metalúrgicos que se han excavado y más aún para la época arcaica,³⁶ siendo el taller de La Castellina uno de los más antiguos documentados estratigráficamente en un hábitat. Se sitúa cerca del punto culminante del yacimiento, en la terraza orientada al sur-este. Su periodo de actividad en este emplazamiento se interrumpe a finales del siglo VII, ya que a inicios del VI este poblado es objeto de una importante estructuración de tipo urbano. Se construyen dos murallas (en la cumbre y en la ladera), vías de tránsito empedradas, canalizaciones enlosadas, y edificios que incluyen elementos arquitectónicos de piedra tallada y terracotas policromas con escenas estampadas en relieve.

En lo tocante a la fundición de bronce, fragmentación de lingotes y producción de *aes rude* es importante señalar que el taller del período orientalizante de La Castellina se desplaza en época arcaica hacia las laderas de la colina, con instalaciones que parecen perdurar hasta el siglo IV. En áreas extramuros se han recogido más de dos centenares de lingotes y

³¹ Como ha señalado Bergonzi; Piana 1987, 161ss.

³² Cattani 1986, 208.

³³ Catalli 1986, 298. Id. 1989.

³⁴ Hay que señalar aquí los estudios de Luciana Drago, del Departamento de Etruscología y Arqueología de la Universidad de La Sapienza, que junto con Paola Baglione, se ocupa de analizar las ofrendas descubiertas en el santuario y más en concreto los aspectos ponderales y económicos de los lingotes de bronce y plomo presentes en ellas (Drago e.p.).

³⁵ Rovira 2011b.

³⁶ Similares testimonios de talleres para el trabajo de bronce en Marzabotto: escorias bajo la forma de grumos, óxidos y ferruginosos donde a veces quedaba adherida alguna gota de bronce, interpretados como fragmentos informes de *aes rude* o sobrantes de las operaciones de fundición, ver Massapairault 1997, 105.

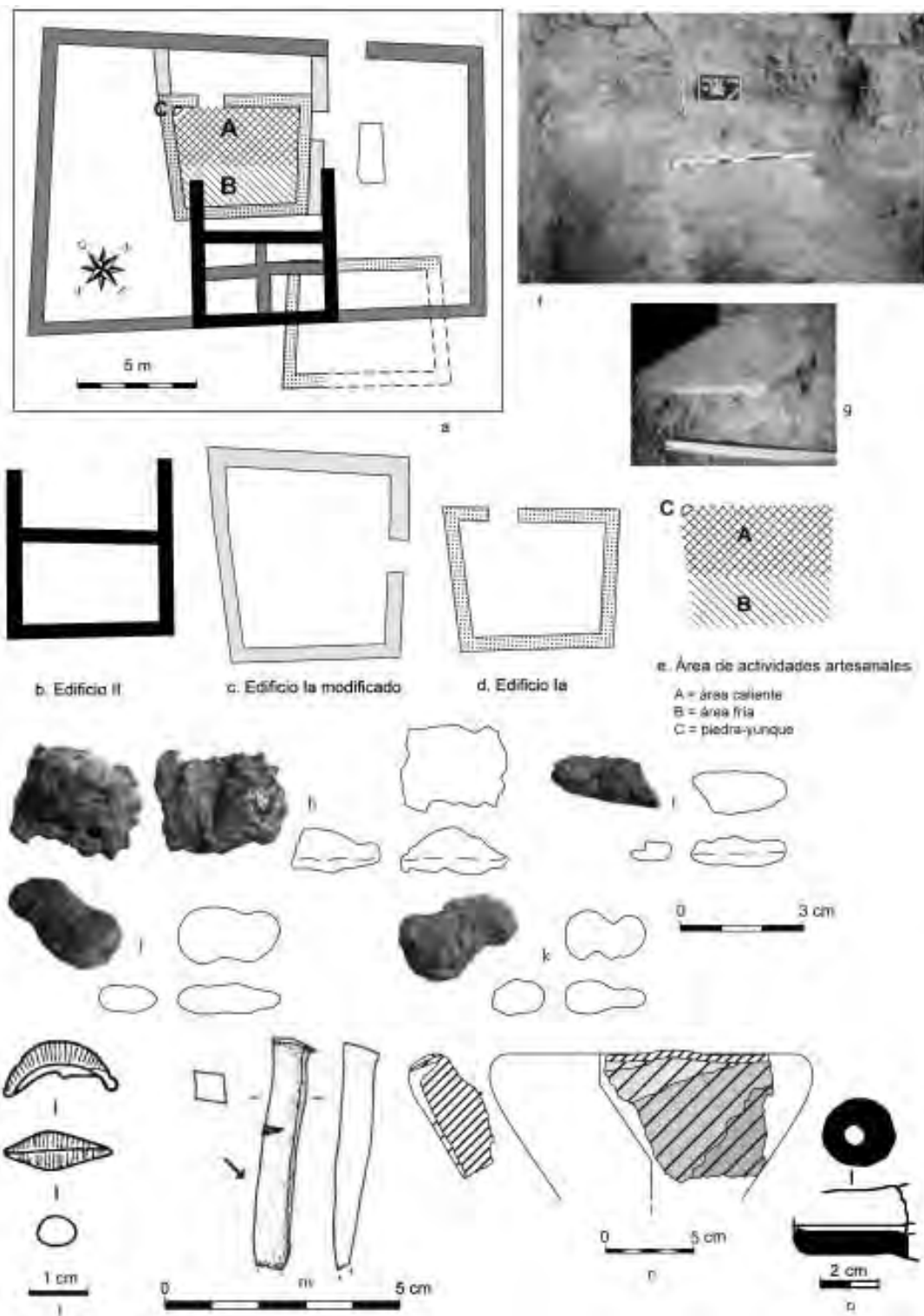


Fig. 3. La Castellina. Taller metalúrgico: área caliente de fusión y de recorte de lingotes (a-e); Pavimento y piedra-yunque del taller (f-g); Lingotes y *aes rude* (h-k); Objetos de bronce amortizados, (l-m); Crisol y tobera de fuelle (n-o) (Gran-Aymerich; Domínguez-Arranz 2011, lám. 301-307).

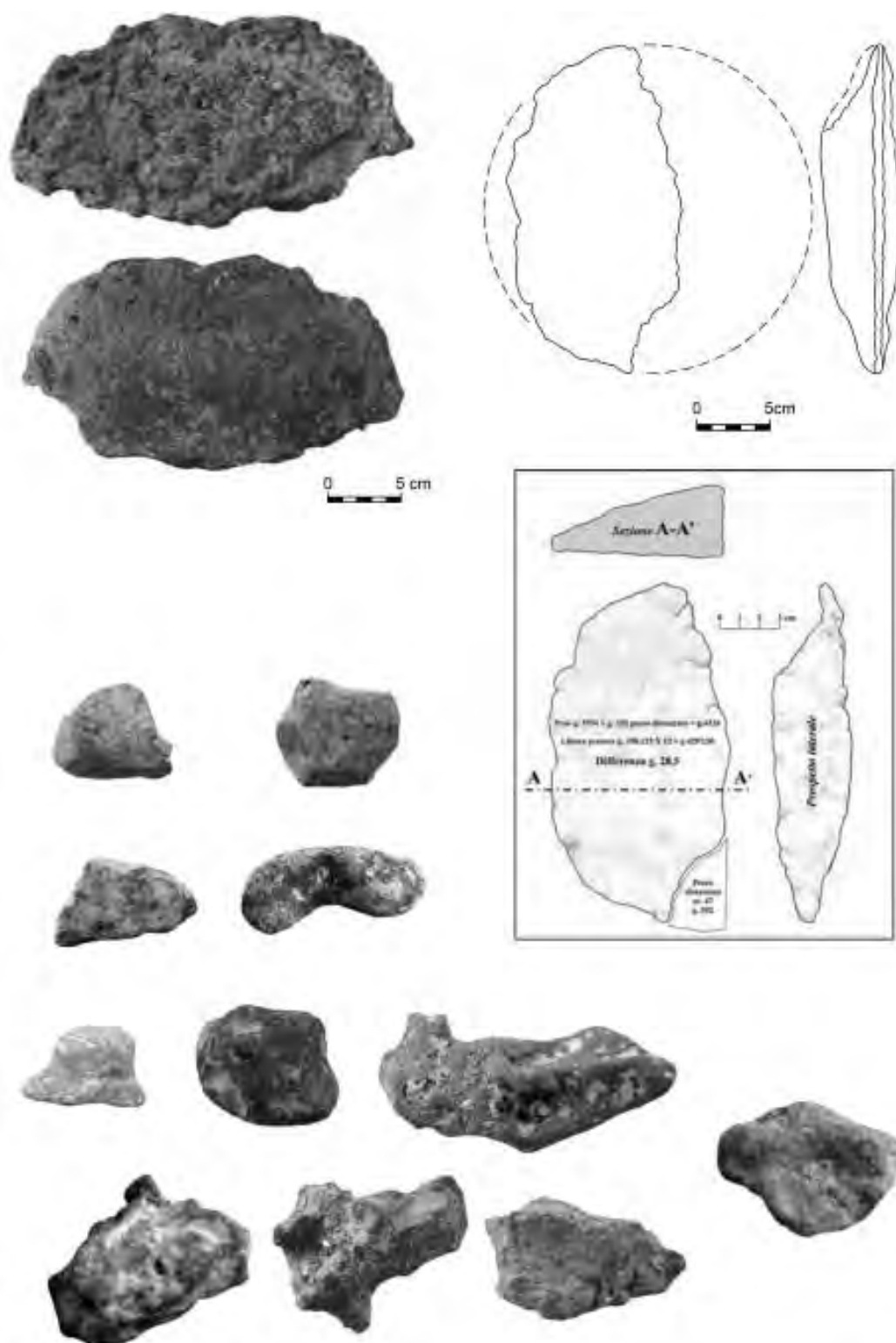


Fig. 4. *Pane di rame* y selección de algunos de los *aes rude* recogidos en los alrededores del castro de La Castellina. (Dominguez-Arranz 2011a, lám. 296 y 300).

aes rude, entre estos hallazgos figura medio lingoteo, *pane di rame* de sección plano-convexa (3976 g), con indicios evidentes de su fragmentación (Fig. 4), sus análisis parecen excluir que en este caso se trate de aprovechamiento de chatarra de bronce.³⁷ Estamos en esta localidad ante un testimonio premonetal complejo basado en la presencia de lingotes y fracciones de bronce en contextos diversos. Los vemos en depósitos como los de Fontanile delle Vignacce (el más antiguo) y de Santa Marinella (el más reciente), en el santuario extramuros de Punta della Vípera, en ajuares de tumbas y también en el hábitat y sus inmediaciones.

Hemos examinado la hipótesis de la amortización de bronce en este taller del siglo VII dentro de la continuidad del yacimiento, que se remonta al Bronce medio avanzado, se manifiesta ampliamente en el Bronce reciente y se prolonga en el Bronce final y la edad del Hierro, no solo con respecto a los hallazgos metálicos del hábitat y de su entorno inmediato, como se puede comprobar en el mapa de los *ripostigli* más próximos (Fontanile delle Vignacce), sino también en su rico contexto regional interno.

El sector litoral de Civitavecchia, en donde se sitúa La Castellina, constituye la fachada marítima de los montes metalíferos de la Tolfa, una de las mayores concentraciones de hallazgos protohistóricos al norte de Roma. De hecho se trata de la cuna de la protohistoria italiana, como se puso de manifiesto ya en el siglo XIX junto con los estudios realizados en el Norte de Italia. En los montes de la Tolfa, la ubicación de los yacimientos de la edad del Bronce y del Hierro antiguo coincide con la presencia de yacimientos ricos en metales. La cuenca minera de estos montes se extiende sobre dos vertientes que en época etrusca fueron territorio al norte de Tarquinia y al sur de Caere. Aunque de menor envergadura que la *grande Etruria mineraria*, territorio de Vetulonia, Populonia y Volterra, los montes de la Tolfa contribuyeron al auge de las dos principales metrópolis de Etruria meridional.

La íntima relación que hemos establecido en el sector marítimo de los montes de la Tolfa, entre objetos amortizados de bronce y lingotes troceados, recopilando los hallazgos próximos del castro de La Castellina y ahora su taller metalúrgico bien identificado, completa lo expuesto en otros hallazgos de Etruria y áreas colindantes de la vertiente tirrénica peninsular: especialmente por los abundantes depósitos metálicos que se conocen desde la época del

Bronce final al período orientalizante.³⁸ Entre los hallazgos más característicos figura el depósito de Rimessone,³⁹ al sur del Tíber (Fig. 5a), en donde, además de objetos de bronce troceados (fíbulas, armas, útiles), se advierte la presencia de fragmentos de lingote, *pane di rame*, de características idénticas a los hallazgos de La Castellina. Los *ripostigli* de Gabbro, al sur del curso inferior del Arno (Fig. 5b), y de Piana di Tallone⁴⁰, en el curso medio del Fiora (Fig. 5c), se fechan entre finales del segundo milenio y principios del siguiente, y ambos muestran la misma relación íntima entre objetos de bronce fragmentados y lingotes troceados bajo la forma de *aes rude* de tipología variada.

CONCLUSIÓN

Recapituladas las características de la aparición de la moneda en Etruria, consideramos el interés suscitado por los estudios que se desarrollan últimamente en el ámbito etrusco-itálico sobre el valor premonetal y monetal de objetos amortizados, lingotes troceados y la amplia variedad de piezas conocidas como *aes rude*. Una aportación concreta a este respecto es el descubrimiento durante nuestras excavaciones en La Castellina de un taller metalúrgico.

Dicha actividad metalúrgica en este castro se realizó en dos áreas sucesivamente, primero en el sector oriental de la cumbre y después en la periferia del recinto amurallado. El emplazamiento más antiguo corresponde al taller del período orientalizante, descubierto bajo las estructuras arquitectónicas, calles y canalizaciones de inicios del siglo VI. El segundo sector de estas actividades metalúrgicas se sitúa extramuros a partir de dicho siglo VI y su producción perduraría hasta los siglos IV-III. A la luz del estudio de los hallazgos proponemos la identificación en La Castellina de un centro de elaboración, atesoramiento y distribución de *aes rude*,⁴¹ que se puede reconocer también, fuera de las grandes metrópolis, en localidades como Murlo, Acquarossa, Roselle o Marzabotto.⁴²

Volviendo a La Castellina, una vez abandonado y nivelado el taller metalúrgico del siglo VII se constru-

³⁸ Lehöerff 2007, fig. 52, con cartografía de los principales sitios.

³⁹ Fugazzola; Fugazzola Delpino 1979, 122, fig. 47.

⁴⁰ Para Piana di Talone: Peroni 1961, 118, fig. 43. p. 118, fig. 43. Peroni 1969, 134-60. Para Gabbro: Delpino 1997, 36, fig. 18.

⁴¹ Una primera aproximación en: Domínguez-Arranz, A.; Gran-Aymerich, J. e.p.

⁴² El *aes rude* aquí, como en La Castellina, aparece distribuido por el hábitat, en estancias significativas, Massa-Pairault 1997, 131-37. Para Murlo: Warden 1985.

³⁷ Giardino 2011 y Rovira 2011. Sobre el hallazgo de este lingote y otros descubrimientos metálicos en la falda y los alrededores de La Castellina: Nastasi; Maffei 2011.

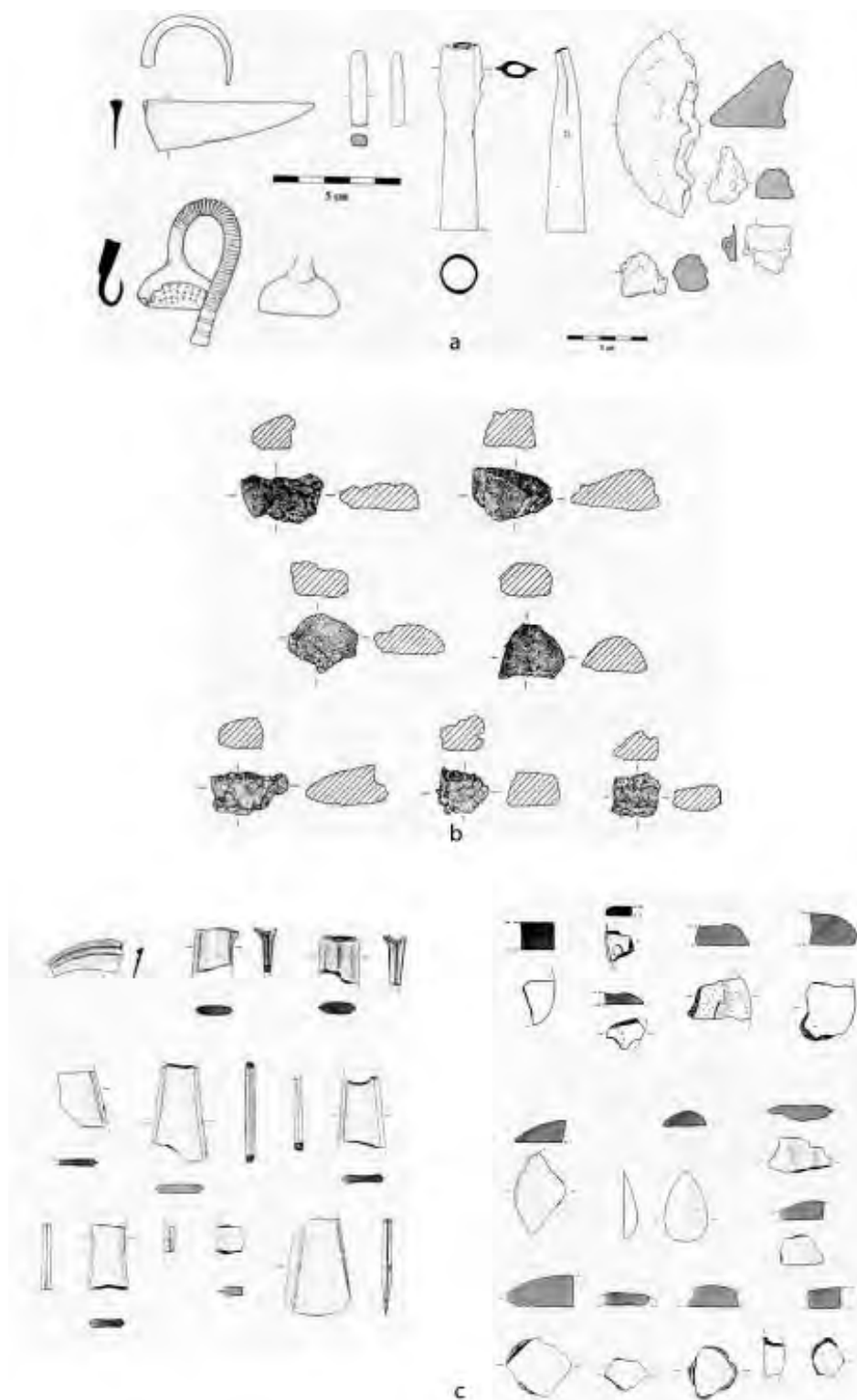


Fig. 5. Lingotes recortados, objetos amortizados y *aes rude*; Depósito de Gabbro (Delpino 1997) (a); Depósito de Piana di Tallone (Peroni 1961) (b); Depósito de Rimesone (Delpino; Fugazzola-Delpino 1979) (c).

yó, a principios del siglo VI, sobrepuesto en el mismo solar y con idéntica orientación, un pequeño edificio abierto también al tramo superior de la calle principal del hábitat. Por sus características y emplazamiento lo interpretamos a modo de capilla o tesoro, destinado al almacenamiento de valores tales como podrían ser los *aes rude* que se producirían a partir de este período sobre las laderas del cerro. Se observa una última fase de este uso de supuesto carácter sacro-institucional y es la construcción en época helenística de un segundo edificio superpuesto al anterior y cuyo análisis exponemos en otro lugar.⁴³

Reconociéndose este hábitat en tanto que centro menor productor de *aes rude*, podemos reconsiderar toda una serie de diferentes hallazgos tanto en el yacimiento mismo como en las tumbas que lo circundan y también en uno de los dos santuarios extramuros que se han identificado al pie del castro, el de Punta della Vipera. El *aes rude* aparece documentado en otros santuarios próximos como son Gravisca y Pyrgi.⁴⁴ Recientemente se ha observado la escasa valoración prestada a la presencia de tales *aes rude* en los santuarios y la necesidad de su revaluación.⁴⁵

En conclusión, un aspecto esencial de este hallazgo en La Castellina del Marangone y la reinterpretación de una larga serie de descubrimientos anteriores reside no solo en la comparación de la presencia de *aes rude* en un hábitat, en sus necrópolis y en un santuario próximo, sino especialmente en el hecho de considerar los hallazgos del hábitat no únicamente como área de difusión sino también como área de producción. Además, esta producción que pensamos haber evidenciado en el siglo VII, nos parece poder rastrearla en etapas anteriores, en la Edad del Hierro e incluso en el período del Bronce final, no solo en este yacimiento y su entorno sino en una región rica en hallazgos protohistóricos como es la que toma el nombre de los montes cercanos de la Tolfa.

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⁴³ Gran-Aymerich; Domínguez-Arranz 2011.

⁴⁴ Baglione 2000, 352; Id. 2004: junto a huesos y dos olpes volcados, este *aes rude* se utilizó como ofrenda de expiación previa al levantamiento de la estructura sacra.

⁴⁵ Gorini 1994; Drago e.p.

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SUMMARIES*

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AUX ORIGINES DU MONNAYAGE NUMIDE / THE ORIGINS OF NUMIDIAN COINAGE, p. 111.

It is often said that Numidia and Mauretania «entered history late», emphasising the fact that it was not until the Second Punic War and the war of Jugurtha respectively that writings of any note concerning them first appear. These earliest external sources coincide with the appearance of the first significant and continuous internal sources, of which coinages are among the most important. Although it is still very difficult to link all these sources together, currency issues provide a means of tracking the rapid growth of royal power and that of local religious cults, the integration of the regions concerned in the broader monetary context, and the cultural and religious developments of the time. In this way we can gain a picture of the general development prompting and accompanying the appearance of coinage.

It is also possible to cross-reference certain questions more closely related to the actual coinages: the nature of the first issues and the development of monetarisation, the identity of the issuing authorities, the means at their disposal, the monetary context in which they put their first coins into circulation, the models that they followed and the outcomes of these.

It is obviously much more difficult in the absence of sources to exactly gauge the impact that these coinages produced as a factor of socio-economic and political transformation. The best tool that we have is the internal analysis of the coinage issues: the spread of monetary instruments, their quantitative development, metrological and iconographic changes and instances of recourse to external coinages, all help to give an idea of the expectations of the various components of that society and the extent to which coinage satisfied these expectations. For a long time the development of Numidian coinage seems to

have lagged behind developments in the surrounding world: it was slow to develop beyond bronze monometallism, there was no genuinely varied divisionary scale, parallel mints proliferated, and external issues in precious metals were resorted to. We find the same features in the earliest Mauritanian coinages, which only succeeded in overcoming these difficulties at a later stage immediately preceding full integration in the Mediterranean world under Roman annexation. In short, the coinage is a good reflection of the general history of these kingdoms: a losing race between their consolidation as political powers and the advance of Roman imperialism.

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DINERO Y MONEDA EN GADIR. ¿DE LA SAL A LAS PRIMERAS ACUÑACIONES? / MONEY AND COINAGE IN GADIR. FROM SALT TO THE FIRST MINTINGS?, p. 227.

The fundamental aim of this paper is to reflect upon the important issue of the forms of money used in Gadir before its first coins were minted. However, given the scarce literary and archaeological information available, we believe that for the time being we can only pose certain proposals in the form of questions. To do so we shall analyse two important aspects that until now have received only minor attention from the scientific community. On the one hand we shall analyse the role played by salt, since it was among the products whose economic and strategic interest gave rise to important small and large scale commerce throughout the ages. Thus, and for the area of study, we start from the reference from Strabo (III, 5, 11), who gives us important information when he says that «the Phoenicians of Gadir exchanged skins, pottery, bronze containers and salt for lead and tin from the Cassiterides». Moreover, in relation to this issue we pose a possible intervention of the priestly class of the sanctuary of Melquart, the main deity involved in caring for the business of the city —salting— in the

* In alphabetic order with the number of page in this volume.

management of the resources and means of production related to the salt mines. This proposal again takes up the theses regarding the involvement of the temples in the management of the resources and means of production related to the conservation industry. This is a hypothesis that could be linked to the proposal that Gadir would have minted its first anepigraphical series possibly propelled by the Melqart sanctuary. It has even been suggested that these mintings could be the result of the sanctuary's financial collaboration with the commercial network of which it formed a part and which it protected.

In second place, we shall deal with the craftsmanship in precious metals in Gadir. Its study and characterization have allowed us to propose the existence of a workshop in precious metals dated in the 4th century BC. This workshop seems to be characterized by unique and unrepeatable pieces, leading to the proposal that it was a matter of production based on extra-economic factors and addressed to specific social sectors. It has likewise been defended that over time a reorganization of the power relations took place in which the market was acquiring hitherto unknown importance, which would be a leap to a market-based economy, in turn considered a prelude to the use of coinage.

For this second aspect we believe it is necessary to reflect, given the archaeological information available, on the behaviour of these metal objects from Gadir, and to compare this scenario with that proposed for pre-coinage money in other areas of the Iberian Peninsula, specifically with those in which some types of jewellery were considered as metallic money, as well as with the panorama drawn for the north-eastern quadrant and the peninsular Levant after the findings of hoards with unminted silver fragments which were used as raw silver, at the same time that they served to pose the formalization of the use of silver by weight. These comparisons will perhaps allow us to begin to outline what tradition existed in Gadir in the morphology of pre-coinage currency, and what the steps were that led to the first mintings.

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MÉTAL, OBJETS PRÉCIEUX ET MONNAIE DANS LES ÉCHANGES EN GAULE MÉRIDIONALE PROTOHISTORIQUE (VI^E-II^E S. A.C.) / METAL, PRECIOUS OBJECTS AND COINAGE IN THE EXCHANGE IN PROTO-HISTORICAL SOUTHERN GAUL (6TH-2ND CENTURIES BC), p. 97.

It was with the foundation of Massalia, whose original function was to serve as an emporium, that

southern Gaul took its place in Mediterranean maritime traffic. In the decades that followed, and especially in the 5th century BC, we find a contrasting situation between the maritime front and the hinterland, between sophisticated trading practices on the one hand and forms of barter (gift and counter-gift) on the other; between the circulation of coins and the use of monetary objects. From the start of Massalian coin minting, the problem arises of the meaning of hoards in an indigenous context, which meaning would evolve in the course of time. The 3rd century BC marked a sharp break in the use of coinage in the context of exchanges in which Massalia held a quasi-monopoly.

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SOCIÉTÉS ET PRATIQUES MONÉTAIRES DANS L'ESPACE PYRÉNÉEN OCCIDENTAL AU SECOND ÂGE DU FER / SOCIETIES AND MONETARY PRACTICES IN THE WESTERN PYRENEES DURING THE SECOND IRON AGE, p. 315.

The approach envisaged here focuses on the societies of the western end of the Pyrenees, their political organisation, their dominion of the territory and their social development, in an attempt to understand what need these peoples had to mint coins in the late 2nd or early 3th century BC.

Although we know that their internal evolution was similar, contrary to what one might expect the initial monetary practices on the two faces of the Pyrenean area were quite different, in either case seemingly linked to historical events connected with territorial conquests and the needs of the local system of exchange. Thus, having set out the arguments provided by historical anthropology to account for the emergence of money as a medium in this area, we then go on to look at: 1/ the question of the context, essentially military, and the chronology, which we set in the late 3rd century BC, of the first Aquitanian issues (coinages attributed to the Elusates, Sotiates and Tarusates), which we have associated with hoards discovered in the Iberian Peninsula containing *Hacksilber*, in relation with the currency of the peoples living south of the Pyrenees; 2/ the question of the prototypes that inspired the iconography of the mints in south-western Gaul. The current trend among historians is to look southwards, particularly to the Greek colonies in north-eastern Iberia. In our view, based on the first issue of the Sotiates, the influences are more complex and diverse; 3/ the question of one-way monetary circulation in the western Pyrenean area,

and the place there of Gaulish or Aquitanian imitations of Iberian bronzes.

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DALLA PREMONETA ALLA MONETA TRA SCELTE POLITICHE ED ECONOMIA IN SICILIA E IN TERRITORIO ITALICO / FROM PRE-COINAGE TO COINAGE. BETWEEN POLITICAL AND ECONOMIC OPTIONS IN SICILY AND IN THE ITALIC TERRITORY, p. 65.

The names adopted by coinage give us an ‘inside’ idea of the diverse mentalities that are reflected in the origin of coinage in Sicily and the importance that the traditions already present on the island had in the choices made by the Greek colonists. The Sicilians used the abstract noun *nomos* (which can be compared to *nomos*/law owing above all to the legal and fiduciary nature of coinage), for the nominal coin that in Greece or in the Greek cities of Asia Minor was called *stater*, with reference to the ‘determined weight’ of metal it contained. The term *stater*, in turn, still preserved the original meaning of ‘debtor’ (i.e., the weigher of the actual debt, Epicharmos fr. 116 Kaibel) in Sicily in the 5th century BC, and the phrase *stater dekalitros* indicated the Greek *didrachma*. The local unit of measurement – of indigenous tradition – was actually the *litra*. In Sicily, the pre-monetary stages seem to be documented in the circulation of bronze in ingots. On the other hand, the first coins, all made in *poleis* colonized by the Greeks and located on the coast, are silver. In the beginning their issues differed either by the weight system (Chalcidian, Euboic-Attic, Corinthian?) or by the choice of values: *didrachmas* and *tetradrachmas* in the cities of the southernmost part of Sicily or *drachmas* and fractions in the Chalcidian colonies of Himera, Zancle and Naxos. Beginning in 460 BC the issues in bronze appear together with nominal coins in silver or else supplant them: coins of heavy bronze especially in western Sicily and of light and fiduciary bronze in eastern Sicily. The heavy bronze coins likely used in a monometallic regime (attested to with certainty in Lipara) appear above all on the boundaries of the citizen *chora* and are characterized as «frontier» coinage; the fiduciary bronze coin, which had its collateral in contemporary mintings in precious metals, circulated predominantly inside the *polis*. In Magna Grecia, as from the start of *incuse* mintings, coins did not seem to be destined for local use. Both sporadic finds and hoards document the presence of *staters* (rarely issued together with *drachmas* or *hemidrach-*

mas, the smallest fractions being absent, however) far from the city in which they were issued. They become more densely present in the Salento peninsula and later also in Lucania, as if these areas had been the privileged receivers of the coinage from the beginning. As in Sicily, also in Tarentum – according to the testimony of Aristotle – the silver *stater* was called *nomos* (and from there the Latin *nummus* and the Greek *nommos*), but at the end of the 3rd century BC – in the same Apulian area – the term *nummus* was used for the bronzes of Teate and Venusia issued according to the reduced sextantal system of the Roman *aes grave*. From silver *staters* of c. 8 g, the *nomos/nummus* therefore underwent a strong devaluation and reduction in weight that had transformed it into a bronze unit of only 36 g. The same phenomenon of a reduction in weight, or an even more pronounced one, had also affected the Sicilian unit of computation, the *litra*. Polux explains the meaning of a *dikelan pentastateron* (a hoe that weighed five *staters*) attested in the fragment of Sositrates (CAF III, 391, 1 Kock) author of the first half of the 2nd century BC with the terms *pentamnoun* and *pentalitron*, making the weight of the *litra* coincide with that of the Attican *mina*, that is, with a much heavier weight than the 109 g. attested for the bronze *litra* issued in Sicily, by Lipara, towards the middle of the 5th century BC. Some linguists maintain that that the Roman *libra* derived – both in name and in weight – from the Sicilian *litra*. If this is true the different *libras* (heavier or lighter than the ‘canonic’ 327 g. of the Roman *libra*), considered the template of the bronze issues of the Italic cities that were colonies or allies of Rome, could reflect the progressive devaluation of the same and only *libra*, in accordance with the costs derived from the territorial expansion of Rome and with the rigid control of the conquered territories.

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MERCADO, DINERO Y MONEDA EN EL NORDESTE DE IBERIA (SS. V-III A.C) / MARKET, MONEY AND COINAGE IN NORTH-EASTERN IBERIA (5TH TO 3RD CENTURIES BC), p. 189.

Knowledge of coinage reached the northeast of the Iberian Peninsula thanks to the business connections established between the native population and the Greek and Punic merchants, the foundation of Emporion in the territory of Indigetes and the opening of a mint in this Greek colony. Towards 300 BC Rhode also opened a mint, but what meant a deci-

sive change in the introduction of the struck metal was the Second Punic War and the first indigenous uprisings. In this context the Iberians made silver issues, at the same time that important quantities of silver and bronze coins arrived with the Roman and Carthaginian armies. The Iberians also used another type of money in metal, it's silver by weight, although there are few data to determine the impact of its usage.

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Universidade de Santiago de Compostela

LA SINGULARIDAD DE UNA PIEZA DE LA CAETRA CON CONTRAMARCA DD / THE SINGULARITY OF A 'CAETRA' COIN WITH DD COUNTERMARK, p. 377.

The aim of this paper is to contribute to the study of the group of pieces commonly known in Spanish as «caetra coins», because of the small, circular shield represented on them. The numerous studies on this issue are well known, but there are still many questions surrounding this enigmatic coin. A review of the bibliography shows that one of the least broached topics is their countermarking, owing to the fact that the phenomenon of countermarking is quantitatively scarce because we only know fourteen counter-marked specimens and the one presented today.

Within this context, a specimen that recently appeared in the auction of the Classical Numismatic Group, Inc. is highly relevant. An as, of the Villaronga type 3, has the countermark DD (Guadan XXII) on the neck. This singularity poses a series of questions regarding both the countermark itself and the circulation of «la caetra» coins.

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DA REPÚBLICA AO IMPÉRIO: REFLEXÕES SOBRE A MONETIZAÇÃO NO OCIDENTE DA HISPÂNIA / FROM THE REPUBLIC TO THE EMPIRE: REFLECTIONS ON MONETIZATION IN WESTERN HISPANIA, p. 355.

Based on the study of hoards of coins and other silver or gold objects recorded in western Hispania, and on other archaeological records, it is the aim of this paper to demonstrate that monetization was a gradual process which accompanied the progression of Roman dominion in this territory. To this end, an overview of the current state of research into Roman

military camps in this area until the beginning of the Empire will be presented.

There is every indication that alongside the normal use of coins restricted to the Roman army and to highly Romanised areas, there was almost certainly a period of transition in this process, possibly between the 2nd century BC and the beginnings of the Empire, during which most of the local inhabitants used a currency in the form of small metal ingots which could be broken up into different values for exchange operations. The chronology of the different hoards that have been inventoried – the older ones being found in the southern regions and the more recent ones in the north – also suggests that this process of monetization of the western strip of Hispania followed the gradual conquest of the territory by the Roman army.

The existence of hoards made up of a) broken up coins + objects or b) of intact coins + broken up objects would seem to indicate that the process of monetization went through two stages, possibly with different chronologies – which would reflect a pre-monetary period in which the deposits were entirely made up of objects and ingots (whole or broken up) of silver and/or gold. This situation is well documented in the northwest of the peninsula by many finds traditionally interpreted as jewellers' deposits, including fragments of ancient jewels which were hidden at a much later date, perhaps during the 1st century BC.

This study also maintains that the use of metal objects as a means of exchange was not limited to silver or gold since archaeological studies have shown that small ingots of bronze were also used (e.g. in Citânia de Sanfins, in the district of Porto) following the Roman metrological system with marks for their division into smaller parts – in exchange operations at least in the north-western area, until the beginning of the Empire. Indeed, with regard to the persistent use during this period of silver weighed out as money, the Cortinhas (Vila Real) hoard, which included a fragment of a silver Torque and a Tiberius Denarius, could also point to this practice.

In brief, with the progressive advance of territorial conquests by Rome, a continuous mutation occurred in traditional exchange practices used by the native populations. From an initial phase, in which the coin was considered as a small metal ingot, just like any other metal object, a second phase appeared in which coins were seen as such, but pre-monetary practices also continued, to a final stage of full use of coins during the 1st century, which, however, did not lead to the total disappearance of pre-monetary

practices. Finally, it was made clear that this long process naturally did not happen simultaneously in the whole territory, as it happened gradually, following the rhythm of Roman military operations towards the north, between the 2nd century BC and the dawning of the Empire.

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RUTH PLIEGO VÁZQUEZ, Instituto Andaluz del Patrimonio Histórico

TRUEQUE, DINERO Y MONEDA EN LA ORETANIA: NUEVOS DOCUMENTOS / BARTER, MONEY AND COINAGE IN ORETANIA: NEW DOCUMENTS, p. 243.

We present a treasure trove of coins and segments of silver which originally was in a private collection and is now under the custody of the Junta de Andalucía. The written information that accompanied this find clearly indicated that it belonged to the Hoard of Villarrubia de los Ojos (Ciudad Real), of which one part, composed of 151 elements, was published in the early 90's. The section we are studying is composed of 205 pieces which when added to the other group gives us a complete treasure trove of 356 coins. The majority of them are fractional denomination coins, among which of special relevance are the Iberian imitations of fractional emporitanian coins. It also includes Hispanic-Carthaginians, some Roman specimens in addition to other pieces of the mints of *Massalia*, *Arse*, *Gadir*, and the important fractional coins with typology of Apolo which, to date, have only been known through this hoard. So in effect, the Villarrubia hoard has now become the largest known hoard for the turbulent period of the Second Punic War.

JEAN-ALBERT CHEVILLON, membre de la Société Française de Numismatique

EMPORION : UN GROUPE INÉDIT À LA TÊTE DE DIONYSOS / EMPORION: AN UNPUBLISHED GROUP WITH THE HEAD OF DIONYSOS, p. 185.

It was during the last quarter of 6th century BC that two cities of Greek Extreme-Occident, Massalia and Emporion, emitted their first archaic issues. Particularly influenced by their metropolis, *Phôkaia*, these strikings immortalize techniques, iconography and metrology appropriate for the Ionian area. The first quarter of the 5th century maintained this tradition but

by giving up the use of the relatively heavy nominal for reduced diameters and better adapted to the necessities of trade with the surrounding entities.

Circa 480/475 a change took place in both workshops, which turn henceforth mainly to *Magna Graecia* and Sicily. Our group with the head of Dionysos, the type of which is taken from the Sicilian city of Naxos, is representative of this pivotal period which ends after the beginning of the second quarter of 5th century and which we can consider as post-archaic.

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PROTOMONEDA Y TESAURIZACIÓN EN LA FACHADA TIRRÉNICA DE ITALIA CENTRAL (S. XI-VI A.C.) / PROTO-COINAGE AND HOARDING IN THE TYRRHENIAN FAÇADE OF CENTRAL ITALY (11th TO 6th CENTURIES BC), p. 85.

Monetary production in Etruria was sporadic and not as widespread as it was in the Greek and Roman world. A comparison of the use of coinage in Etruria and Magna Grecia shows that there was a delay in the adoption of coinage. In contrast to the strong presence in all of Etruria of different types of fragmented ingots, considered within the generic group of *aes rude*, the findings of silver bars, plates or strips are more exceptional. Before the introduction of minted money, these fragmented ingots, *smistamento*, of varying shape that are known to have existed since the Late Bronze Age may have had value as weights of prestige, destined for trade operations, the same as other metallic objects such as hatchets and fibulae. *Aes rude* have been found in tombs and above all in proto-Etruscan deposits and are frequently found in funerary and sanctuary contexts and in Etruscan cities in which centres of production and redistribution would have existed.

The latest excavations in the coastal hill of La Castellina, south of Civitavecchia, halfway between Tarquinia and Caere, have confirmed the presence of a metallurgy workshop from the 7th century, with bronze casting. We propose to relate these metallurgy activities with the presence on the site and in the area surrounding the *castrum* of ingots and fragmented bronze objects that have been dated between the Iron Age and the Archaic Age. The hypothesis is put forth that a centre for the production and possible storage of *aes rude* and other bronze ingots has been identified.

ADOLFO J. DOMÍNGUEZ MONEDERO, Universidad Autónoma de Madrid

CIRCULACIÓN DE DINERO Y MONEDA EN LA GRECIA ARCAICA: EL EJEMPLO DE LOS SANTUARIOS / THE CIRCULATION OF MONEY AND COINS IN ARCHAIC GREECE: THE EXAMPLE OF SANCTUARIES, p. 43.

It is a well-known fact that before coins were minted in Greece, the use of metals (especially silver) as money was already quite widespread throughout the Greek world and that an important part of these metals were deposited in sanctuaries in honour of divinities. These included not only the most valuable metals (gold or silver), but of course those most in use, such as bronze or iron, which sometimes took on a specific form of money such as spits (obeloi). Likewise, and also before the appearance of coinage, stable systems of weights and measures had been developed in the Greek world which had given rise to diverse attempts of convertibility, as shown by the references to personages such as Pheidon of Argos and Solon of Athens, and, for some of them, as occurs with Pheidon, the relationship between his (presumed) invention of the coin and the sanctuaries is underscored, at least in the interesting piece of information preserved in the *Etymologicum Magnum* (613, 12-15).

All of this allows us to pose a series of reflections concerning the role that sanctuaries may have played from several points of view. In the first place, as depositories of important amounts of metals, at first non-minted and later also minted. In this respect we must not overlook the fact that it is in the sanctuary of Artemis Ephesia where examples of the oldest Lydian mintings known, as well as pieces of metal in the form of money but not minted, appeared deposited, which may be marking the transition between cut metal fragments (Hacksilber or Hackgold) that follow a regular and stable pattern and authentic coins.

In second place, the sanctuary as a depository of metal withdrawn from circulation (because it was hoarded within it) became the strategic reserve of the polis, which always had the last word regarding its return to circulation and under the conditions it determined. As opposed to a long held trend according to which archaic coins were not widely circulated owing to their high denominations, recent findings of large amounts of fractional coins in silver show a much more nuanced panorama from which it can be gathered that there was a much more widespread use of coins in daily transactions. This poses much more clearly than the large denomination coins the issue

of the availability of abundant metal on the part of the polis that could be minted in large amounts. The possibility that at least part of this metal could have come from the sanctuary deposits should not be rejected and it would be worthwhile to consider this from the point of view of the necessary management by the polis of metal flows as a means to regulate its circulation.

Therefore, we propose a reflection on the role that sanctuaries may have played in the archaic polis, successively as receivers, repositories and disseminators of metal able to be minted; the analysis of literary information (some of which we have already mentioned) as well as of coins and other metals deposited in the sanctuaries can allow us also to introduce sanctuaries in the debate regarding the use of coinage during the archaic period in Greece, in contrast to the scarce attention that their possible role has received in contemporary research into the topic.

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BARTER, MONEY AND PAYMENT IN ARCHAIC GREEK LEXICON, p. 33.

It is only in certain texts of poets from the 7th-6th century BC where we find words in Greek which would mean «money», much less «coinage». In Homer, we find clusters of terms, proceeding from an archaic, even Mycenaean world, and from different semantic fields, which due to material changes, social trends and linguistic dynamics, generally came to mean «barter» and «money». There are excellent studies that attempt to define an inventory of the several ways of expressing «acquisition» or «exchange» in Homer. But let us take into consideration a kernel one, «buying», expressed in several ways from which we select *πρίατο* «he bought», whose only object is either women or children, attested with the same sense and specification («women and subdivided children») since Mycenaean times (*qi-ri-ja-to*). Laertes (*Od.*1.430-1) *πρίατο κτεάτεσσιν έοϊσιν* bought (Eurycleia when she was in her first youth) with his own possessions *έεικοσάβουα δ' έδωκεν* and gave for her the value of twenty cattle. We have here a superposition of «standards for barter»: bovine cattle and the more general term *κτεάτεσσιν*.

This last word appears in Homer only as an (instrumental) dative and may accompany the act of acquisition with no other specification, not only expressed by *δñwáoi*. The form, together with others, which mean different forms of «possession» (*κτῆσις*,

κτήματα, κτέρεα), proceeds from a root only attested in Greek and Indo-Iranian.

There are in Homer many lists of items used for exchange and payment. The games in honour of dead Patroclus afford an extraordinary inventory (*Il.* 23.259 ff.) of valuables offered (almost as in an auction) to the heroes, who do not contend only for prestige but also (v. 709) for κέρδεα. The contests are carefully ranked, the most prestigious being chariot races (contest I), and the trophies are equivalent to this ranking. Other details are added to many of them: measures and weights; equivalence in bovine heads of cattle; their origin, mostly from plundering, and even their history. The situation of gold in this text is quite surprising, appearing only in low positions: the weight of two talents of gold are offered for the fourth place in contest I, and half a talent for the third place in contest III (palaestra). In the lower part of this «table», iron is offered: for contest VI (shot put of discus throwing) a rare piece of iron is exhibited: it belongs to Achilles's κέαττεσι (cauldron, tripods, horses, mules, cows, women, iron) kept securely off shore in boats and disembarked just for the Games. For contest VII (arch) the trophy consists of iron axes: (v. 850) ten πελέκεας and ten ἡμιπέλεκκα. As in Homer ὀβελοί are still only spits used for roasting, the twenty axes and their proportional relation suggest a pre-monetal use.

The cluster of words of root κτ-, alternates with that formed by βίος, βιοτή, βίωτος and ζωή, related in Homer not to “life” but mostly to “means of life” based on agrarian and cattle supplies. The most important and universal is βίωτος, frequently joined to κτήματα. Βίωτος may be the minimal sustenance for all people, poor and rich; it is attached to house or palace; it is what Phoenician merchants get in exchange for their goods and take in their boats (*Od.* 15.446, 456). It may alternate with ὄνον when meaning “gain”, “earning” (ὄμῶν μυρίον ὄνον ἄλφοι *Od.* 15.452, μοι βίωτον πολὺν ἄλφοι *Od.* 17.250).

But both βίωτος καὶ κτήματα in *Od.* 2.123, or sometimes Odysseus' possessions might be substituted (v. 205) by an almost isolated newcomer, attested only in the *Odyssey*: it is χρήματα, used also to name the presents embarked for Odysseus by the Phaeacians on his journey home, comprising the usual tripods, cauldrons, gold, but now including also clothes. It may not be enough for using a different word, but its future as barter was to displace almost completely what we have seen until now.

The extraordinary diversity of goods in Homer is substantially cut down in Hesiod: gold and silver are

not in the hands of men, but in those of the gods; on the other hand there is plenty of iron, with no need to import it: Hesiod knows its mining well and its favourable and also terrible effects. The great herds of cattle and horses of the Homeric heroes are no more or exist only in myth. Just an ox and a horse are needed for the cultivation of a Hesiodic plot in a subsistence economy. Consequently the κτ- system is disappearing: κτήματα appears only once in each of the great poems *Theogonia* and *Opera*, always with the adjective ἀλλότριος “alien”. Βίωτος and βίος seem to maintain an almost pre-Homeric meaning of food supplies, especially cereal kept in granaries, practically the only riches kept jealously by the Hesiodic peasant. The poet advises how to keep βίος, the minimal unit of possession and survival (*Op.* 601) inside the house, and to prevent robbers (*Od.* 320.605) from stealing them, also called χρήματα, a word that also means the implements for cultivation (*Op.* 407).

Hesiod is an inland man; he does not like the sea or sailing. But thanks to the – disastrous – sailing and commercial experience of his father and through the knowledge provided by oral epics, he feels confident in advising about the sailing seasons or how to handle the exported βίος in the merchant boat (the bigger the boat, the better for κέρδος). In spite of the apparent meekness of Hesiodic life, he is conscious that he is at the end of the Dark Ages and at the start of an enrichment trend which is expressed in the identification of χρήματα with the lexicon of “life”: χρήματα γὰρ ψυχὴ πέλεται δειλοῦσι βροτοῦσι (*Op.* 686). Χρήματα has advanced enormously to displace the βίος and κτεάττεσι systems to become an almost “universal” word. Moreover, we find in Hesiod the singular χρῆμα, one of its meanings being “thing”, a word non-existent in Homer. More or less the same landscape as in Hesiod may be found in the earliest lyric poets, where also the plural χρήματα meaning «things» is found (Archilochus 206a.1, 220, 7th century BC).

The change arrives in authors and inscriptions of 7th-6th century BC, when the phenomenon of coinage starts to be reflected in the lexicon. Alcaeus from Lesbos, an island with great dependence on Lydia (*Fr.* 69, cf. 63.7) says that as a sort of political donation Λύδοι... δισχελίους στά[τηρας] / ἀμμί ἔδωκαν. It would be the oldest mention of “stater” (but there is myc. ta-te-re). Also, in his *Fr.* 382.2, for the first time the word νόμισμα is written. It has been understood in many ways, as “norm, custom, order, legality”, etc. but we think that it means “coined money”, understanding the two verses as an irony addressed to a prostitute, who is able “to gather an

army"... ἐπιπνέουσα νόμισμα "looking at" or "considering money"; Alcaeus is also the first who uses the word δόκιμος, even when referring to a ἀνὴρ. It is interesting that Hipponax Ephesius (7th century BC), also from the Asiatic colonies, "demands sixty stateras". The earliest absolute mention of δραχμή (but surely a "handful of ὀβελοί" is meant) would be in an inscription of 7th-6th century BC. in Perachora (not far from Corinth). But authors of the 6th and 6th-5th centuries BC, such as Hipponax, mostly live in a world in which coined money is currently attested (as a Lydian invention in Xenophanes B4, very frequently in Epicharmus), even when ἀργύριον στάσιμον subsists in Solon's Law 68, for instance. Moreover, χρήματα is used with higher frequency: connected with πλοῦτος, installed in the official life of πόλεις and temples, it possibly already means "riches" + "money", or only "money" (χρήματα δόκιμα SEG 41.725.3 (Eretria, 6th century BC).

MARÍA PAZ GARCÍA-BELLIDO, CCHS-CSIC, Madrid

PAYING IN GOLD AND SILVER. IBERIA FROM THE 7TH TO 1ST CENTURIES BC, p. 121.

A general view is presented on the transformation from payment with money to payment with coinage in the Iberian Peninsula, relying on the scarce amount of literary and epigraphic texts available and the small quantity of finds, most of them outside the archaeological context.

It is difficult to specify the social and economic conditions in which valuable objects functioned as money. In many cases these were pieces of jewellery that marked social status, such as torques and crowns, which were valued by weight and cut into pieces for payment, and also axes, textiles and many other objects. The typology of pre-coinage money and its uses provides precise characteristics for detecting different cultures and profiling their regional boundaries. Another step besides the use of objects as money was the use of metal by weight -argentum infectum- sometimes cut up into small pieces which we call Hackgold and Hacksilber.

Naturally, all these transformation processes took place at very different speeds, depending on their proximity or distance from already monetized economies and also on the historical circumstances of each zone, different in horizons of peace and war. In Hispania it was the experience of important wars and the payment of troops in coinage which unleashed the initial process of monetization during the Second

Punic War, in the transition from the 3rd to the 2nd century BC. This caused a rapid monetization of the eastern and southern areas of Iberia. Two centuries later it was again a war that triggered monetization in the peninsular northwest with the Cantabrian Wars waged by Augustus to finalize his conquest of Hispania in 27 BC. It was not until the 1st century AD that we can say that Hispania was completely monetized, and this only if we take into account the reference of value, but possibly not payment or capitalization. Each situation and each people provide a different context that must be studied separately: Cantabri, Astures, Gallaeci. Lusitani, Turdetani, Levantine Iberi, 'Iberi' from north of the Ebro River, Celtiberi and Celts. In the Mediterranean area only Italy had more peoples –more ethnic groups, with different languages and material cultures– than Hispania, and each of these peoples had different forms of prizing, payment, and capitalizing.

A principal theme is the study of the metrology to which all these kinds of money and the first coins pertain. Identifying the system by which the jewellery, the axes, etc. were made or the pattern by which the ingots and the sheet metal were cut provides us with a huge amount of information for learning from where the first economic/commercial impulses came.

For Hispania we have been able to determine different systems of weights that coincide roughly with the legal systems in the colonized cultures. This metrology has left an important trace in the first coins minted in Iberia, undoubtedly in accordance with these imported systems of weights. The first one detectable, I believe, is the Syrian/Tyrian that came in through Gades and penetrated the peninsula in the west to Gallaecia and the Central Plain, its existence having been verified in Cancho Roano (Badajoz) at the end of the 5th century. Another is the Greek one (Phocean?) which came from the colonies. Yet another system, whose origin we do not know although perhaps it is autochthonous, is the Edetan and Contestan Iberian one, and another is the Gallic one which can only be verified in the north in certain coinage. I also believe that different systems were used at the same time in important commercial centres such as Greek, Phoenician and Carthaginian emporia, depending on the nature of the exchange. These systems are not the oldest traces that the interference of exogenous and internal cultures has left us but are the most extensive, since the hoards cover the peninsular territory and their absences are also data to be taken into account.

The objective of the work is thus the determination of different peoples and cultures through their pre-monetary and monetary uses.

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GABRIELA MÄRTENS, Museo Arqueológico Regional de la Comunidad de Madrid

MIGUEL CONTRERAS, Museo Arqueológico Regional de la Comunidad de Madrid

GONZALO RUIZ-ZAPATERO, Universidad Complutense de Madrid

ENRIQUE BAQUEDANO, Museo Arqueológico Regional de la Comunidad de Madrid

DINERO EN LA CARPETANIA: HALLAZGOS MONETARIOS EN EL LLANO DE LA HORCA (SANTORCAZ, MADRID) / MONEY IN CARPETANIA: MONETARY FINDS IN EL LLANO DE LA HORCA (SANTORCAZ, MADRID), p. 335.

El Llano de la Horca is a Carpetanian site located in Santorcaz, Madrid. Since 2001 programmed excavations has been carrying out there and have brought to light a Carpetanian occupation, established between the 3rd and 1st centuries BC associated with abundant archaeological material. The 47 coins recovered up until 2008 constitute an exceptionally important set for establishing the characteristics of monetary circulation in Carpetanian territory. It includes a large number of coins, with a significant presence of denarii and bronzes from Kese, Bolskan, Sekaisa, Arekorata, Ekualakos and Titiakos, in a territory that is located on the boundaries of their usual area of circulation. Compared to these local productions, the presence of Roman coins is anecdotal. As regards the denominations, the relative abundance of denarii as well as the scarcity of identifiable small values is noteworthy. Although some exemplars show significant, and occasionally very striking, wear (Untikesken, Castulo), the bilingual and Latin series are absent, confirming that the occupation of the site did not surpass the Sertorian conflict or the years immediately following it.

JOHN H. KROLL, University of Texas at Austin and Oxford University

MONEY OF THE GREEKS AND THEIR NEAR EASTERN NEIGHBORS BEFORE THE ADVENT OF COINAGE, AND AFTER, p. 15.

At a conference focusing on monetization and coinage in the Western Mediterranean, this paper aims to provide some background by surveying the older monetary practices of Mesopotamia and the Eastern Mediterranean, where currency and then currency in the form of coinage originated. The survey begins with a sampling of the copious archaeological and written evidence for the monetary use of weighed silver in the

ancient Near East, beginning in late 3rd millennium Mesopotamia and expanding into the Levant, Anatolia, Iran, and Egypt during the Early Iron Age (1200-700 BCE) and later. The great cuneiform archives excavated from Mesopotamian cities detail the many aspects of public and private life – taxation, law, banking, and all manner of internal and long-distance commerce that depended on an abundance of silver currency. As documented in more than fifty Hacksilber hoards, it took the form of whole and cut pieces of silver that had to be weighed out in every transaction or, for large quantities, transacted in sealed and labeled bags of pre-weighed silver. In the Aegean area, even as late as the Early Iron Age, goods were exchanged without the use of an exchange medium. Such direct commodity exchange or barter was facilitated by reference to a conventionally accepted standard of value, which in passages in Homeric epic was (the value of) an ox, or in archaic inscribed laws of Crete (the value of) a bronze cauldron, or on the Greek mainland (the value of) an iron spit (obolos) or handful of six spits (drachma). Such items of metal «utensil money» were dedicated in sanctuaries and could of course have been employed physically as a means of payment on occasions when circumstances allowed; but it does not follow that they were routinely used in this way. When, in the Orientalizing 8th and 7th centuries, precious metals became abundant enough to replace wealth measured in base metals, the value-units of obol and drachma were transferred to denote small weight-units of gold and silver. That silver had become the dominant monetary medium of Greece by the early 6th century is implied by references to drachmas of silver in some of the earliest Athenian laws in the collection of legislation attributed to Solon. One of these laws refers to silver that was lent at interest as «weighed-out silver». This is not the only instance in Greek where lending, paying, and receiving money was expressed in terms of «weighing», the indispensable step in any transaction involving metal currency before the advent of coinage. Although coinage eventually did away with the cumbersome practice of weighing, that was not why it was devised, for at the outset it had nothing at all to do with the exchange of silver or pure gold. The earliest coins and for a period perhaps as long as half a century the only coins were made of electrum, the variable gold-silver alloy that in 7th and 6th century Lydia was being extracted from the Pactolus River and other sources in legendary quantities, making it probably the most abundant precious metal in Western Asia Minor. Being an alloy whose proportions of silver and gold could vary as much as 30 percent, its value was too erratic for

simple monetary exchange, until it was recognized that it could be employed as currency in the form of small pre-weighed ingots that were officially stamped to guarantee their value, effectively transferring their valuation from the metal to the issuing authority. Subsequent developments involved the replacement of electrum coins by coinages of pure gold and silver around the middle of the 6th century during the reign of Croesus and, finally, the gradual adoption and production of silver coins by most wealthy cities and rulers throughout and adjacent to the Greek world. The paper concludes with a comparison of coinage, a currency officially produced and legally guaranteed by the state, with the preceding anonymous currency of privately procured weighed bullion.

URBANO LÓPEZ RUIZ, Universidad de Sevilla
ANA MARÍA RUIZ TINOCO, Universidad de Sevilla

ADOPCIÓN Y USO DE LA MONEDA EN EL SUROESTE PENINSULAR A TRAVÉS DE LA CIRCULACIÓN MONETARIA / ADOPTION AND USE OF COINAGE IN THE SOUTH OF THE IBERIAN PENINSULA THROUGH THE CIRCULATION OF MONEY, p. 267.

The objective of this study is to offer a general view of the beginnings of the use of money in the southern part of the Iberian Peninsula, with monetary circulation as a means to approach this topic, as an indicator of the type of coinage, its origin and its geographical dispersion. We focus on the first coins to arrive in this area of the peninsula beginning in the 5th century BC, originating in the Eastern and Central Mediterranean, and we analyse the political, social, religious and economic causes and processes that explain why they were found in a specific spatial location. Attention will also be paid to the initial moments of the minting of coinage in the extreme south of the peninsula, the consequence of certain political and military needs that entailed an increase in the use of coinage in this geographical area, both by the autochthonous population and especially by foreigners, marking the beginnings of its definitive adoption throughout the period of the Roman Republic, within a more or less homogeneous monetary system.

EUGENIO R. LUJÁN, Universidad Complutense de Madrid

PAYMENT AND TRADE TERMINOLOGY ON LINEAR B TABLETS, p. 25.

Linear B documents are bureaucratic and economic in character. Most of them are related to the de-

livery of goods to and from the palace or the administration of the labour force. In this paper, we are concerned with the analysis of the payment and trade terminology attested on them.

a-pu-so-si and related words usually refer to the delivery or payment of different goods to the palace. The word *do-so-mo* δοςμος also occurs, but, as opposed to *a-pu-do-si*, it does not imply that the commodity had actually been delivered. Mycenaean palatial administration established production and/or delivery targets and certain individuals failed to meet them. The word *o-pe-ro* ὀφελος ‘deficit, debt’ and various verbal forms of the same stem are used for this in Mycenaean records.

Individuals working for the palace were provided with standard rations of food, which varied depending on sex and age. However, the word μισθός ‘salary, wages’ is attested in Mycenaean through the compound *e-mi-to* (Gen. pl. ἐμμισθων).

Gift exchange played an important role among elites in archaic Greece, as the *Iliad* and the *Odyssey* show. This must also have been the case in Mycenaean times. E.g., *ke-se-nu-wi-ja* clothes must have been intended for use in external exchanges.

A verb meaning ‘buying’ is attested on the Linear B tablets, specifically in the context of slave trade. The verb *qi-ri-ja-to* ‘he bought’ occurs on some tablets in the Ai and B-series from Knossos. On a Pylian tablet we might have the information that some female slave had been bought for gold, but this is not assured. We have no further indication from the Linear B tablets of the use of gold or silver as a means of facilitating the exchange of goods. The rest of the occurrences of the words for gold or the logogram AUR are related to the description of the decoration and ornaments of various pieces of furniture and vases.

On the Linear B tablets we find certain words related to nouns that would later come to be used as names of coins. A sign clearly representing a weight with two plates is the Linear B logogram for the unit of weight that, according to scholarly convention, is rendered as L. This must be the weight of the ‘talent’. In fact, the word ‘talent’ (τάλαντον) must have existed in Mycenaean – it is not attested as such, but the derivative *ta-ra-si-ja* τάλανσιᾶ occurs frequently. Another interesting word is σπατήρ, widely employed in first millennium Greek to refer to various types of coins, either of gold, silver or electrum. The word is attested as the name of a standardized measure and this must have been the starting point for its later use as the name of a specific coin. In Mycenaean it occurs on line 1 of PY An 209, where we find the

expression *ko-ri-si-jo ta-te-re* Κορινθιοι στατῆρες. It might be related to the word *ta-to-mo* σταθμός, which could refer to a standardized measure of weight, too.

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ARTURO PERÉZ, NURIA RABEL, Universidad de Lleida

SOBRE LA PROCEDENCIA DE LOS METALES DE LAS PRIMERAS MONEDAS DEL NE IBÉRICO. APLICACIÓN DE ANÁLISIS DE ISÓTOPOS DE PLOMO / ABOUT THE PROVENANCE OF METALS IN THE FIRST COINS FROM THE NORTH-EAST OF SPAIN. LEAD ISOTOPE ANALYSIS USE, p. 203.

The aim of this work is to look into the origins of the metals used in the minting of coins in the north-eastern part of the Iberian Peninsula. Based on a study carried out regarding silver coins minted in Ampurias in which silver from the south-eastern part of the peninsula (mainly from mines in Murcia) and from the south of France was detected, our current objective is an attempt to learn whether the coinage made in indigenous mints used the same or different sources of supply. In this case, 3 silver coins from the mint of *bolškan*, 1 from *iltiršašalirustin*, 2 from *iltiršašalirban* and 1 from *kese* were studied. Also studied was 1 bronze each from the mints of *bolškan*, *iltirkesken*, *iltirša*, *ilerda*, *kese* and *kelse* in order to observe their relationship with the minting of silver and the homogeneity or heterogeneity of the metal used in the mintings.

The study is based on lead isotope analysis, which allows us to identify the possible origin of the metal used in these archaeological specimens based on comparison with the geological reference information. The results show a high level of mixed silver and the mines from the South-East as the origin of the main supply of silver and lead.

BARTOLOMÉ MORA SERRANO, Universidad de Málaga

PONDERALES, MONEDA Y MERCADO EN LA MÁLAGA TARDOPÚNICA: LA PRIMERA MONETIZACIÓN DE MÁLAGA Y SU TERRITORIO / WEIGHTS, COINAGE AND MARKETS IN LATE PUNIC MÁLAGA: THE FIRST MONETIZATION OF MÁLAGA AND ITS TERRITORY, p. 169.

In the area of metrological and numismatic studies, a striking aspect of archaeology in Malaga is the

finding of three sets of weights whose chronological context coincides with those periods of the ancient history of the city about which recent archaeological studies have contributed the richest and most novel information: Late Antiquity and the Byzantine, Late Punic and Archaic Phoenician periods. Logically leaving to one side the well-known Byzantine set of weights from the Alcazaba of Malaga, our comments on aspects related to commerce and coinage in the city of Malaga in Late Punic times will focus on the presentation and study of a set of five bronze weights in the form of cubes that were recovered from excavations in the current Picasso Museum in Malaga carried out between 1998 and 2001. At the time of writing, the weights in question are being restored as a prior step to their close examination, which, together with their metal composition, will emphasize their metrological study. These weights, which in themselves merit monographic study, provide interesting information to the same extent that it is (unfortunately) uncommon to find them in such a rich archaeological context that contributes precise data as to their context of use and function. They were discovered inside the walled sector that extends from the western side of the hill of the Alcazaba to the arx of the old city and the Cathedral of Malaga. More precisely, it is a street space with several superimposed pavements that date back to the 6th century BC and continue in use until the Late Punic period. The immediate finding of habitation structures and above all, deposits of ceramic and numismatic material associated with them, allow us to qualify this sector of the city, near one of its main anchorages, as a «market place» (as its excavators correctly proposed). Although distant from it in time, the closest parallel for these findings can be found in the commercial neighbourhood of the nearby Phoenician site of el Cerro del Villar where, and this is an important fact, the set of weights studied by García-Bellido come from. Besides their complex metrology, the main difference between these two groups of weights is that the one found in the Picasso Museum can be classed within a «monetary context» defined not only by the existence of Phoenician-Punic coining in the region – Gadir since the beginning of the 3rd century BC – but also by the arrival of foreign money to these southern Hispanic coastal territories. To this must be added the important association of these weights with the coinage of Malaga pertaining to the very beginnings of the mint, together with Hispano-Carthaginian bronzes and bronzes from Ebusus. As regards the ceramic materials we can highlight the presence of late Kuass-type

ceramics productions and type A-4 fish-sauce amphorae, also developed. All of this fits in well with a chronological context of the 3rd century BC, which, furthermore, also appears very well defined in the nearby excavations carried out in a landscaped area located between the Museum mentioned above and the Roman theatre of Malaca. An analysis of all these materials will allow us to delve deeper into the role played by local and foreign money in a city that, thanks to its active port connected to the *vía del Guadalhorce*, was one of the major commercial enclaves of the Hispanic south-east. Nevertheless, documented monetary evidence is still very scarce in Malaca territory before the end of the 3rd century BC and, for now, there is no evidence of the monetary use of precious metals such as those documented early on for the Hispanic northwest. This gap in the information may perhaps be explained by the non-central location of these territories with respect to the influences coming from the central Mediterranean and the Hispanic Levant, and that, with reservations, point to particular monetary characteristics and rhythms for the Phoenician-Punic south.

PERE PAU RIPOLLES, Universitat de València

CUANDO LA PLATA SE CONVIERTE EN MONEDA: IBERIA ORIENTAL / WHEN SILVER WAS TURNED INTO COINAGE: EASTERN IBERIA, p. 213.

Knowledge of the beginnings of the use of silver in Eastern Iberia, minted or not, is complex owing to the scarce information available.

Findings of coins from Greek mints, made at the end of the 6th century BC, have been documented, suggesting that at the beginning of the 5th century BC they could have circulated through this territory, a moment when they became more numerous. Findings of hoards from the 4th century BC prove that silver was already in circulation and was a metal that could be used to make payments. Their contents was varied and indicates that the form the metal took was not important, since next to coins were also found many different objects made of silver, such as jewellery, jewellery fragments, silver ingots and unshaped cuts of silver, which by far surpass the economic importance of the coins.

During the second half of the 4th century BC, and in a context in which the appreciation and use of silver existed, traded mainly as a raw material and by weight, the Iberian city of Arse began to mint silver coins, gradually standardizing the use of silver in its area of control. The minting of coins and the findings

suggest that at the beginning of the 2nd century the most usual way of trading silver was in the form of coins.

But not all of the territory of Eastern Iberia behaved in a similar manner as regards the use of silver, since the frequency and the greater or lesser amounts of coins available differed according to proximity to the coast and the most important settlements. The same phenomenon of valuing silver took place inland as well, but more than a century later. Towards the middle of the 2nd century BC or a little later, the silver being traded inland took the form of coins.

ISABEL RODRÍGUEZ CASANOVA, Dr^a. en numismática

ALBERTO J. CANTO GARCÍA, Universidad Autónoma de Madrid

ALTERACIONES EN MONEDA HISPÁNICA: ALGUNAS REFLEXIONES SOBRE LA MONEDA CIZALLADA / ALTERATIONS IN HISPANIC COINAGE: SOME REFLECTIONS ABOUT CLIPPING COIN, p. 247.

The physical alterations of coinage – fragmentation, perforation, clipping – appear to be a usual phenomenon on the Iberian Peninsula in the initial moments of the process of the monetization of a territory. Although traditionally studied together, a detailed analysis points to the possibility that each of these manipulations may reflect different behaviours in relation to coins that do not necessarily imply a previous process of acceptance of the money in circulation.

Based on the study of certain unpublished material and the review of other material already published, from contexts possibly related to the Second Punic War, we broach the possibility that the fragmentation of coinage does not always indicate its use in weight. In the same sense, other alterations such as perforation or clipping would not necessarily imply a demonetization phenomenon.

On the contrary, certain indications lead us to suggest the relation of some of these practices to those we know of in peoples contemporary with them with an already deeply rooted monetary economy at that time and which should be related to the arrival on the Peninsula of foreign money, a fact that is becoming more and more documented.

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EL PROCESO DE MONETIZACIÓN DEL NOROESTE DE LA PENÍNSULA IBÉRICA: LAS CALZADAS ROMANAS / THE

MONETIZATION PROCESS IN THE NORTH-WEST OF THE IBERIAN PENINSULA: ROMAN ROADS, p. 369.

A large amount of money entered the north-western part of the Iberian Peninsula during the Roman military occupation, the army being the true agent of the first monetization of the economy of this territory. To study this monetization, we use a large collection of material following two of the terrestrial routes that traversed this territory in Roman times, roads XIX and XX of the Antonine Itinerary. There was already a large amount of money circulating in the middle of the 1st century BC, although the use of coinage in this area only began with the structuring of the territory with Augustus. What remains to be discovered is the speed with which money was introduced and whether bartering continued after mental monetization.

RAQUEL VILAÇA, Universidade de Coimbra

PONDERAIS DO BRONZE FINAL-FERRO INICIAL DO OCIDENTE PENINSULAR: NOVOS DADOS E QUESTÕES EM ABERTO / LATE BRONZE AGE AND EARLY IRON AGE WEIGHTS FROM THE WESTERN PENINSULA: NEW DATA AND UNANSWERED QUESTIONS, p. 139.

The text presents and analyses various metal objects thought to be weights from a number of sites from the Western Peninsula from the Late Bronze Age and Early Iron Age.

During excavations undertaken by the author in settlements in the Beira Interior (centre of Portugal), namely Moreireirinho and Monte de Trigo (Idanha-Nova, Castelo Branco) occupied in the transition period between the 2nd and the 1st millennium BC, small bronze objects came to light that were taken to be weights. The search for comparable objects and the importance of this subject led to a preliminary analysis of the set, presented in 2003, a study which it is now our intention to expand and complete.

The objects of study are twenty-six items from different sites in Portugal, all of them south of the River Douro. Some of them are of minor interest as they were isolated finds, but others, such as those from Monte de Trigo and Pragança (Cadaval, Estremadura) are notable for their number and internal consistency, making up sets of true weights.

The aim of this paper is to explain the point we have reached in our study, including new contributions, among others an important set of weights from Baleizão (Beja, Alentejo) which is being studied by

the author, and by Alicia Perea and Barbara Ambruster. We also discuss some weights of the Phoenician type from Orientalising Iron Age contexts from the Atlantic coast, which are only given brief mention in books on the subject, which makes it impossible to go any further into the potential inherent issues.

This paper makes a comparative study of a number of factors including raw materials, shape, weight, scales, the goods or produce weighed, chronology, sites and cultural origin. A number of questions are left open – many of them due to lack of empirical evidence – both with regard to these and other subjects, including the possible representation of ponderals on stelae in the South west and their significance, an idea defended by Celestino Pérez. In the attempt to identify a ponderal system for the weights from the local Bronze Age sites, the most coherent value would seem to be from 9,3-9,4 g corresponding to the Syrian cycle in use in the Eastern Mediterranean before 1200 BC.

The adoption by the western indigenous populations, that is by proto-mercantile societies, of this type of «international trade» is discussed in the broader context of the exchanges and contacts between the East and West at the end of the 2nd and the beginning of the 1st millennium BC. And it is also discussed in the specific context of the way communities functioned in the Bronze Age in the Western Peninsula, who are believed to have had cultural and socio-economic values which were not just different but indeed quite the opposite of those of the Eastern World.

During the late Bronze Age in the Western Peninsula there were no markets, there were no palaces, no temples. There is nothing to indicate that there was any form of stable, established central power or control. But it is clear that there existed small individualised centres of power which were certainly fluid and unstable controlling multi-centric territorial units, involved in various types of exchanges carried out at different levels and in different areas of interaction. It is clear that in the context of social interaction goods circulated whose value lay in their «use-value» and their «biography» but others were also in circulation based on their exchange value – in other words quantifiable, either through counting or through weight. For the latter, particularly gold, there were systems of control and evaluation. The weights presented in this paper help us to understand the complex exchange mechanisms in operation at the time, which, according to radiocarbon dating, may date back to the end of the 2nd millennium BC.

DAVID WIGG-WOLF, Römisch-Germanische Kommission, Frankfurt am Main

THE FUNCTION OF CELTIC COINAGES IN NORTHERN GAUL, p. 301.

North Gaul and neighbouring areas comprised a landscape of widely varying coinages and coin use during the late pre-Roman Iron Age. As such the region offers an ideal opportunity to study the various ways in which an area on the periphery of the advanced cultures of the Mediterranean world reacted to contact with coin – using societies and adopted the new medium into its own exchange systems.

It is generally assumed that the first close experience of the use of coinage by the «Celts» was as mercenaries in the armies of Hellenistic and other Mediterranean powers. On their return home they would have taken coins with them, soon striking imitations of them themselves. This is something that seems to have occurred at an early date throughout Gaul, and is not a phenomenon that spread slowly from the centre to the periphery. From these close imitations of Mediterranean prototypes, individual regional coinages gradually developed.

Until the mid-second century BC most of Central and North Gaul had exclusively gold coinages, staters and their fractions. Subsequently gold came to be supplemented by smaller denominations in silver and bronze, both cast potin (a truly Celtic innovation) and struck bronze pieces. The need for small units was met in southern Germany by tiny silver pieces weighing as little as 0.25 g. In some areas the result was a genuinely tri-metallic coinage. But there were regional variations. On the periphery, in the West and the North, completely different coinages evolved, based on single units which were gradually debased from good gold to billon or bronze.

But what is the significance of this variety of different coinages for our understanding of how the use of coin in Gaul developed within or from existing systems of exchange? Anthropological models, as well as the evidence of the coinage itself, indicate that the earliest coins cannot have served as money as we understand it today. It would have been employed exclusively in the field of elite exchange and used primarily as a means of storing wealth or securing the loyalty of followers and allies, for diplomatic exchange, as dowries or other gifts. The production of coinages was also linked to individuals, rather than tribal groupings (and with few exceptions probably remained so throughout the period). The important role of ritual in this period is evidenced by numerous hoards of coins, often combined with torques.

Yet it is clear that by the end of the first century BC in many oppida, apparently in contrast to the situation in the countryside, some kind of monetised economy must have existed in some segments of society. This does not seem to have been the case in the peripheral regions such as the Rhineland, where the coinage was never sufficiently complex, nor the coins themselves ever sufficiently numerous for even the most elementary monetisation to have existed. Here the use of coinage seems to have remained more or less restricted to the realm of elite exchange.

Another significant aspect that must be considered is the effect of the fact that, in contrast to earlier mediums of exchange, coins could carry complex imagery. Here again there are enormous differences between different regions and periods. In some areas imagery was conservative, hardly changing over a century or longer, but elsewhere complex programmes were developed, particular under Roman influence in the post-conquest period, suggesting that here coinage also assumed a new, ideological function which it had not enjoyed before.

BERNWARD ZIEGAUS, Archäologische Staatssammlung München

CELTIC WORKMANSHIP AND DIE PRODUCTION IN THE WEST AND THE EAST, p. 289.

Our knowledge of minting technique in the East and the West of the Celtic world is still limited because of the dearth of information about mint organization and coin manufacture. In the last two decades, some interesting chance finds have given us a better idea of the tools Celtic craftsmen used. Many of these discoveries are isolated finds without any archaeological context and they only tell us half of the story about the tools of coin production, their use, abrasion, rework and losing. A close examination of the finds may help us better understand the manufacture of the tools, for coin production and the additional kit (anvil, hammers, files, chisels, semi-finished products) and where they were found. Obverse and reverse dies of Celtic coins have long been known, but the debate about the use of other instruments like hubs, piece punches and die holders for bronze inserts remains conflictive, because of the different minting techniques in the East and the West. Such objects are rare and often difficult to identify.

A list of ancient coin dies was first published by C. C. Vermeule in 1957 and updated in 2007 by William Malkmus, who also included a series of Celtic dies. That list shows that Celtic craftsmen used

mainly two kinds of material for their dies: casted dies made of bronze, with a high content of tin, which were fixed in die holders, and iron dies with wooden or iron holders.

About 80 Celtic dies from different regions are known today and most of them are made of bronze. In France, nearly all dies are made of bronze they usually have a conical shape and it is not clear how they were fixed in the anvil. One from Saint-Symphorien-d'Ancelles in Burgundy may provide a clue to how it was made. It shows a mixture of two metals since the dies was made of bronze and the die holder of iron. This combination is also well attested in Southern Bavaria and Bohemia, where there is a long tradition for die forging. We can also observe this phenomenon of using two different basic materials in Hungary in the Celtic mint of Szalscska, discovered and excavated in 1906. Here we find both types of dies. On the one hand, there are obverse dies made of bronze infused in a cavity and fastened in a flat iron holder, on the other hand there is a reverse die made of bronze, but the (wooden?) holder is lost.

Iron holders are sometimes found without a die, which makes it difficult to determine whether they are indeed die holders or a simple cavity for setting

raw material in order to mould it. Another type of die found in the West and the East is made of bronze, fastened to cylindrical iron holders in a way they could be replaced easily and quickly. There are examples from the Upper Rhine, but also from the Geto-Dacians in Rumania.

The bronze dies were cast and probably reworked with engraving tools, whereas the designs on the iron dies were executed exclusively with hubs or piece punches. Today some examples of hubs from France and Germany are known, but none from the East. A hub shows the complete design in positive, which we later find on the coin and which was sunk into the die. They were all made of a hard tin bronze. The hypothesis that hubs were forgers' tools is not convincing for the Celtic period. Punches with pellets, curves and lines such as those found in a workshop in Swabia (South Bavaria) in combination with iron dies demonstrate how the latter were produced. There is also evidence, that bronze hubs as well were used to manufacture iron dies. Especially in the late Latène in Bavaria (mid 2nd-1st centuries BC), we can observe, that the Celts used their favorite material, iron, in contrast to the West or the East, where craftsmen were specialized in casting.

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