

DACIA

REVUE D'ARCHÉOLOGIE  
ET D'HISTOIRE ANCIENNE

NOUVELLE SÉRIE

LX

2016

EN SOUVENIR D'ALEXANDRU VULPE



ACADÉMIE ROUMAINE  
INSTITUT D'ARCHÉOLOGIE « VASILE PÂRVAN »

# D A C I A

REVUE D'ARCHÉOLOGIE  
ET D'HISTOIRE ANCIENNE

NOUVELLE SÉRIE

LX

2016



EDITURA ACADEMIEI ROMÂNE

## RÉDACTION

*Rédacteur en chef :*

EUGEN NICOLAE

*Rédacteur en chef adjoint :*

CRISTINA-GEORGETA ALEXANDRESCU

*Collège de rédaction :*

MARIA ALEXANDRESCU VIANU (Bucarest), ALEXANDRU AVRAM (Le Mans), DOUGLASS W. BAILEY (San Francisco), MIHAI BĂRBULESCU (Cluj-Napoca), PIERRE DUPONT (Lyon), SVEND HANSEN (Berlin), ANTHONY HARDING (Exeter), RADU HARHOIU (Bucarest), ATTILA LÁSZLÓ (Iași), SILVIA MARINESCU-BÎLCU (Bucarest), MONICA MĂRGINEANU-CÂRSTOIU (Bucarest), VIRGIL MIHAILESCU-BÎRLIBA (Iași), JEAN-PAUL MOREL (Aix-en-Provence), CONSTANTIN C. PETOLESCU (Bucarest) IOAN PISO (Cluj-Napoca), CLAUDE RAPIN (Aix-en-Provence), WOLFRAM SCHIER (Berlin), VICTOR SPINEI (Iași)

*Comité de rédaction :*

IRINA ACHIM, IULIAN BÎRZESCU, ADINA BORONEANȚ, ANDREI MĂGUREANU, ALEXANDRU NICULESCU, LIANA OȚA, ADRIANA PANAITTE, ANCA DIANA POPESCU, DANIEL SPÂNU, AUREL VÎLCU

*Secrétaire de rédaction :* RALUCA KOGĂLNICEANU

*Rédaction éditoriale :* OLGA DUMITRU, ANA BOROȘ

*Informatique éditoriale :* OFELIA COȘMAN

Toute commande sera adressée à :

**EDITURA ACADEMIEI ROMÂNE**, Calea 13 Septembrie nr. 13, sector 5, 050711, București, România ;  
Tél. 4021-318 8146, 4021-318 8106, Fax 4021-318 2444, E-mail : [edacad@ear.ro](mailto:edacad@ear.ro)

**ORION PRESS IMPEX 2000 S.R.L.**, P. O. Box 77-19, sector 3, București, România ; Tél./Fax : 4021-610 6765,  
4021-210 6787, Tél. 0311 044 668, E-mail : [office@orionpress.ro](mailto:office@orionpress.ro)

**S.C. MANPRESS DISTRIBUTION S.R.L.**, Piața Presei Libere, nr. 1, Corp B, Etaj 3, Cam. 301-302, sector 1,  
București, Tel.: 4021 314 63 39, fax: 4021 314 63 39, E-mail: [abonamente@manpress.ro](mailto:abonamente@manpress.ro), [office@manpress.ro](mailto:office@manpress.ro),  
[www.manpress.ro](http://www.manpress.ro)

**SORIRORI SOLUTIONS**, Tel.: 0040765262077, 0040765166433; Internet: <http://www.sorirori.ro>; E-mail:  
[sorin.costreie@sorirori.ro](mailto:sorin.costreie@sorirori.ro), [rosana.guta@sorirori.ro](mailto:rosana.guta@sorirori.ro)

Les manuscrits et les périodiques proposés en échange, ainsi que toute correspondance seront adressés à la Rédaction : Institut d'Archéologie « Vasile Pârvan », 11, rue H. Coandă, 010667 Bucarest, Roumanie, Tél./Fax 4021 212 88 62, E-mail : [iab.redactie@gmail.com](mailto:iab.redactie@gmail.com)



© 2 0 1 7, E D I T U R A A C A D E M I E I R O M Â N E

[www.ear.ro](http://www.ear.ro)

ACADÉMIE ROUMAINE  
INSTITUT D'ARCHÉOLOGIE «VASILE PÂRVAN»

**DACIA LX, 2016**

REVUE D'ARCHÉOLOGIE ET D'HISTOIRE ANCIENNE  
JOURNAL OF ARCHAEOLOGY AND ANCIENT HISTORY  
ZEITSCHRIFT FÜR ARCHÄOLOGIE UND GESCHICHTE DES ALTERTUMS  
ЖУРНАЛ АРХЕОЛОГИИ И ДРЕВНЕЙ ИСТОРИИ

SOMMAIRE  
CONTENTS  
I N H A L T

En souvenir d'Alexandru Vulpe (16 juin 1931 - 9 février 2016).....	7
<i>ÉTUDES</i>	
SVEND HANSEN, Kupferzeitliche Marmorobjekte aus Măgura Gorgana bei Pietrele an der Unteren Donau .....	17
CRISTIAN EDUARD ȘTEFAN, Playing with clay: anthropomorphic figurines from Șoimuș – <i>La Avicola (Ferma 2)</i> , Hunedoara County.....	31
GABRIEL BĂLAN, COLIN P. QUINN, GREGORY HODGINS, The Wietenberg culture: periodization and chronology.....	67
OLIVER DIETRICH, Tekirdağ und Troja. Zur Verbreitungsgrenze südosteuropäischer Tüllenbeile in der Türkei .....	93
ZOE PETRE, <i>Thucydides Mythistoricus</i> .....	103
JULIAN GALLEGO, La politique, une invention humaine ou divine ? La pensée de Protagoras et le regard platonicien.....	111
AUREL VÎLCU, EUGEN NICOLAE, Aspects de la diffusion des monnaies d'argent istriennes au nord du Danube à la lumière du trésor découvert à Ivancea.....	121
IULIAN BÎRZESCU, Das Perirrhanterion aus dem Tempel M von Histria .....	129
FLORINA PANAIT BÎRZESCU, The sons of Istros and the classical silver coins of Histria.....	137
STELUȚA MARIN, VIRGIL IONIȚĂ, Pseudo-autonomous coins minted at Callatis .....	147
ALEXANDRU AVRAM, OCTAVIAN MITROI, Un fragment de cadran solaire d'époque impériale découvert à Tomis .....	173
MIHAI BĂRBULESCU, Le mobilier et la vaisselle représentés sur les monuments funéraires de Dacie.....	183
ADRIANA PANAIT, CARMEN MIU (BEM), Roman roads identified on aerial and satellite images within the territory of the city of Tropaeum Traiani (Moesia Inferior).....	201
LUCREȚIU MIHAILESCU-BÎRLIBA, Le témoignage épigraphique des <i>villae</i> en Mésie Inférieure : remarques sur les propriétaires et sur le personnel administratif.....	221
DANIEL SPÂNU, MIHAI DIMA, ALIN FRÎNCULEASA, The Mălăieștii de Jos (Prahova County) silver craftsman's hoard from the end of the 3rd century AD.....	237
STEFFEN KRAUS, ERNST PERNICKA, Chemical analyses on Roman coins and silver objects from the Mălăieștii de Jos hoard, Romania .....	275
<i>NOTES ET DISCUSSIONS</i>	
ATTILA LÁSZLÓ, Cui bono? Thoughts about a "reconsideration" of the Tărtăria tablets.....	281
JEREMY M. HUTTON, NATHANIEL E. GREENE, A note on the Aramaic text of the bilingual Guras inscription (PAT 0251 = CIL III 3.7999 = CIS 3906).....	293

CONSTANTIN C. PETOLESCU, MIHAI POPESCU, Une contribution à PIR <sup>2</sup> , P 926 : <i>C. Prastina Messalinus</i> .....	301
GHEORGHE ALEXANDRU NICULESCU, On Florin Curta's attack.....	307
VIRGIL MIHAILESCU-BÎRLIBA, Numismatics and other sciences.....	329

*COMPTE RENDUS*

<i>Inscriptions de Scythie Mineure</i> , volume IV, Tropaeum - Durostorum - <i>Axiopolis</i> , recueillies, traduites et accompagnées de commentaires et d'index par Emilian Popescu, Editura Academiei Române, București - Editura Basilica, București - Diffusion de Boccard, Paris 2015, 412 pages, 17 planches avec photos des inscriptions. ( <i>Lucrețiu Mihailescu-Bîrliba</i> ).....	335
--	-----

*IN MEMORIAM*

Ion-Șerban Motzoi-Chicideanu (9. Dezember 1943 - 8. Oktober 2016) ( <i>Nikolaus Boroffka</i> ) .....	341
--	-----

<i>ABRÉVIATIONS</i> .....	349
---------------------------	-----

# NUMISMATICS AND OTHER SCIENCES

VIRGIL MIHAILESCU-BÎRLIBA\*

**Keywords:** numismatics, different sciences

**Abstract:** Numismatics is closely connected with different sciences (general history, archaeology, linguistic, epigraphy, history of religions, history of art, history of architecture etc., as well as mathematics, statistics, physics, chemistry, mechanics, geology, mineralogy, geography and so on). As a consequence, the numismatic proves to depend on many other sciences, but at the same time it stimulates the research of other numerous fields through the results it aims.

**Cuvinte-cheie:** numismatica, diferite științe

**Rezumat:** Numismatica are legături strânse cu diferite științe (istoria generală, arheologia, lingvistica, epigrafia, istoria religiilor, arta, arhitectura etc., ca și matematica, statistica, fizica, chimia, mecanica, geologia, mineralogia, geografia ș.a.m.d. În consecință, numismatica depinde de multe alte științe și, în același timp, stimulează cercetările din multe alte domenii prin rezultatele urmărite.

The relationships between numismatics and other sciences, of any nature they might be, are hard to define. Firstly, it must be noted that these links are mutual, meaning that not only numismatics is affected by such relationships, since it is apparent that in other sciences too there is an obvious sway exerted onto them by the discipline dealing with money.

It is difficult to list all the disciplines that come into direct or indirect contact with numismatics, and this not only due to their multitude, and also to the continued attraction of new ones in the respective process, but particularly on account of the disappearance of the rigid borders between the sciences defined along traditional lines, on the backdrop of an increasingly vigorous crystallisation of transitional ones. For this reason, I will try to highlight foremost the relations between numismatics and other natural sciences, namely mathematics, physics, chemistry, biology, geology-geography, etc., since the relations of the former with other social sciences have already been examined (for instance with **linguistics, epigraphy, history of religion, history of art, history of architecture**, etc.)<sup>1</sup>.

It would be interesting and instructive to examine the moment when the first attempts to solve the problems of numismatics by resorting to **mathematics** took place. It would seem that such attempts were of an empirical nature and developed gradually, while numismatics acquired its own status as a science. Currently, mathematical computations in the field of statistics, of which the most employed being that of probabilities, have become commonplace in the specialized research, such as in studies on the structure of treasures, the volume of the issues, the rates of loss or wear, etc. In fact, at this moment, by using techniques and programs of electronic computation, mathematics predominates in all investigations of the quantitative type. And numismatics represents a field that is ideally suited to this type of research, since the coins, from the onset, are the result of a serial production. At the same time, the study through mathematical methods of the various numismatic aspects has lead, as evident from the research carried out so far, to innovation also in the sphere of mathematics, by adapting certain methods or creating new calculation tools, demanded by the concrete requirements of research<sup>2</sup>.

---

\* Institute of Archaeology, Iași; vmbinst@yahoo.com.

<sup>1</sup> Dahmen 2009, p. 200-208; Zäch 2009, p. 710-713.

<sup>2</sup> Allen 1958, p. 2612-2620; Metcalf 1958, p. 187-196; Brunetti 1963; Brunetti 1965, p. 53-61; Carter 1981, p. 204-213; Depeyrot 1981, p. 399-405; Carcassonne 1987; Esty 1997, p. 817-823; AIIN 44, 1997 (*Metodi statistici e analisi quantitative della produzione di monete nel mondo antico. Tendenze e prospettive della ricerca*).

**Physical and chemical sciences** are used on a wide scale for establishing the production techniques of the minted metal and the dies, but also of the coins themselves. By means of non-destructive (nuclear or spectrographic) methods, which as of late have increasingly replaced the quantitative and qualitative chemical analyses, it was possible to establish the composition of the various alloys employed in the minting process, both for coins and the tools used for this purpose (foremost the dies)<sup>3</sup>. For interpreting the results obtained from such analyses, **siderurgy**, **metallurgy**, **metallography** and **mechanics** were called into play. Their use made it possible to understand to a large extent the manipulations and depreciations, and facilitated the separation of the items made by casting from those made by striking, as well as the various accidents, such as the marginal fissures and friability; at the same time, only by understanding the laws of mechanics it was possible to understand the differentiated wear and tear of the two dies used. In point of fact, even the number and qualification of the personnel involved in the coin production process were and are conditioned by the materials, tools and techniques used, so that, by knowing them, rather large advancements were made also with respect to solving the issues related to the organization, as well as of the minting costs.

On this occasion, I underline the fact that many of the techniques used in the minting activity had been known way before the first coins appeared, which in fact wouldn't have been possible without such accomplishments. For instance, we recall that soldering/forge welding or cementing were mastered as early as the 3<sup>rd</sup> millennium BC<sup>4</sup>.

Immediately after the first coins were produced, it became obvious to the ancient craftsmen that the round shape is the most suitable for such objects. This realization corresponds to the demands of the laws of physics, since the circulation wear of rectangular pieces, for instance, would have been swift and accordingly uneconomical; nor would a spherical shape have been more advantageous, since it would have lacked the planes necessary for imprinting the marks of authority and identification. Other shapes taken by coins throughout history (scyphate, bracteates, etc.) are similarly explained by these laws<sup>5</sup>.

Of a great interest to numismatics is another branch of physics, **metrology**. In its turn, it tends to become an autonomous discipline, covering in its scope the units of measurement and the methods for physical measurement, accompanied by all the necessary implements (scales, weights, etalons/standards, etc.). The monetary systems, denominations, reforms, depreciations and appreciations, etc. can all be better known by examining the ponderal structures. The sources are numerous and diverse. Even though written mentions take lead, the discovery and investigation of paranumismatic objects (weights, weighting implements and devices, etc.) have often contributed essentially to understanding the ponderal systems used for producing the coins. Nevertheless, for meeting the set goal, they too were considered insufficient, which led to innovations and laborious and complex methodological experimentations. Thus, by weighting a large number of items and through complicated mathematical calculations – in which random factors were taken into account – it was possible to establish the average weights of some issues and, accordingly, their belonging to a certain weight system. Any deviation from the results obtained in this way signal interventions and, therefore, changes occurring in the evolution of the monetary systems in time<sup>6</sup>.

But for knowing as fully as possible the characteristics of a coin and of its production process, similarly important are also the data provided by the geological-geographical sciences, particularly by

<sup>3</sup> Another good example is the issue of how brass was produced, from which some coins were made during Antiquity. It is rather doubtful that it was possible during that time to obtain the zinc necessary for producing brass. More likely is that another technique was used, more accessible and well known even in earlier times, in which copper was melted alongside calamine ore (*cf.* Forbes 1964, p. 264-265 and 275; Caley 1964; Moesta, Franke 1995, p. 30-36, 49-56 and 148-155). Also see: Allin, Wallace 1954, p. 35-67; Hall 1959, p. 22-34; Craig 1963, p. 1085-1086; Yao, Stross 1965, p. 154-156; Wyttenbach, Hermann 1966, p. 139-147; Hackens 1968, p. 9-14; Hall, Metcalf 1972; McKerrel, Stevenson 1972; Barrandon, Guerra 1997, p. 825-827; Blet-Lemarquand, Ponting 1997, p. 714-719 (analyses XRF, PIXE, FNA, PAA, LA-ICP-MS); Blet-Lemarquand, Nieto-Pelletier 2015, p. 743-750 (analyses SEM-EDX, PIXE, XRF).

<sup>4</sup> Cooper 1988; Moesta, Franke 1995, p. 37-43, 77-91; Archibald, Cowell 1993.

<sup>5</sup> Naster 1975b, p. 17-21; Schmutz, Jäggy 1997; Dahmen 2009, p. 200-208.

<sup>6</sup> Hultsch 1882; Sutz 1909, p. 353-403; Dieudonné 1925; West 1941; Caley 1965; Schilbach 1970; Lafaurie 1970, p. 491-493; Stoicescu 1971; Carcassonne *et alii* 1974, p. 616-621; Naster 1975a, p. 65-74; Withers, Withers 1993; Martin, Campagnolo 1994; Parise 1997, p. 5-9.



**mineralogy.** Investigations of this type, which, in their turn, entail other disciplines, have managed to solve – albeit sometimes surprisingly – many of the puzzles of the science about coins. From among them I mention the sources of raw materials, and the technical procedures employed for producing the numismatic and paranumismatic objects<sup>7</sup>.

It is known that gold of Asia Minor provenance is characterized, among others, by the presence of platinum, an element absent in European gold. This is why the identification of gold with traces of platinum in Alexander the Great's staters or in the coins of the Celtic Boii point to a Persian treasure as the initial origin of the precious metal. Or, since the silver from the Potosi mines (Bolivia) contained indium, it was possible to identify this metal in the alloy of the French coins, starting with 1575. A complex assemblage of explanations and consequences (economic, political, military) took shape after this identification: the South-American source of this silver, its procurement often by violent means (wars, piracy, raiding), the increase in the volume of western issues and of the prices<sup>8</sup>, etc.

At this point of the exposition I have to give utterance to a truism expressed indirectly from the first lines of this paper: the knowledge produced with the help of a science begets other types of understanding, specific to other disciplines. Thus, for instance, the case of the South-American silver from 16<sup>th</sup> century European coins, or the explanation of the alloying procedures, have had serious consequences at the level of perceiving economical phenomena. Of these, I succinctly list the monetary policies, scale of the issues, issuing frequency, monetary circulation, economic crises, financial systems (imposts, taxes, budgets), banking activity (credit, interest rates, etc.), trade, emergence and evolution of markets and of cities (ancient and medieval)<sup>9</sup>, etc.

Methods and techniques of the **economic science** are frequently used in this kind of research. Nonetheless, the examination of the problems of ancient or medieval economy and, implicitly, of the financial-monetary aspects has occasioned a lively and long discussion about how this research should be carried out. In this regard I must mention the dispute between “modernists” and “primitivists” or, more correctly, as I would call them, “archaisers”. Ancient economy is a stage of the history of economy and it should be treated accordingly<sup>10</sup>. The use of modern concepts for discerning and explaining economic phenomena from a certain historical stage can be risky but it can nevertheless help us observe their evolution and, more particularly, to understand present-day economy<sup>11</sup>. A series of economic manifestations of Antiquity are considered by the “primitivists” as being archaic and rudimentary<sup>12</sup>. But, at the same time, it cannot be denied that we can identify as early as that moment the first elements of certain knowledge of a financial specificity that lay at the basis of modern economic science<sup>13</sup>.

The last decades also witnessed the appearance of a new discipline — **computer science** — that from the start has been extensively used in numismatics; currently, it is hard to envision a numismatic study that does not contain graphical representations produced by computer software<sup>14</sup>.

It can definitely be stated that other relations of numismatics with other fields of knowledge have been left unrevealed. However, I will not dwell on this topic at the moment, but only hope to return to it on some other occasion.

<sup>7</sup> Kaletsch 1958, p. 1-47; Hartmann 1976, p. 102-134; Hartman 1985, p. 660-674; Morrisson 1992, p. 116-117; Moesta, Franke 1995, p. 11-14, 53-55.

<sup>8</sup> Spooner 1956; Austin, Vidal-Naquet 1972; Claude 1985, p. 107-115; Hendy 1985; Hackens 1987, p. 152-168; Depyrot 1987, p. 707-729; Depyrot 1988, p. 235-247; Depyrot 1991; North 1989; Miskimin 1989; Duncan-Jones 1990; Lowick 1990; Contamine *et alii* 1993; Mossman 1992; Day 1994; Grindler-Hansen 1997; Noonan 1997.

<sup>9</sup> Harris 1993, p. 25.

<sup>10</sup> “Le problème des longues séries et celui de leur homogénéité remet donc à l'ordre du jour la question de la comparabilité dans le temps” (*cf.* Kula 1960, p. 306; also see Finley 1975, p. 23 and 29).

<sup>11</sup> It seems that the Romans knew quite well the quantitative theory of money, at least with respect to its effect on the short time frame (*cf.* Pousard 1959, p. 106-121 and 224; Pekáry 1994, p. 281-286; Beyer 1995, p. 104; Burnett 1988, p. 108-109).

<sup>12</sup> Roman economy witnessed great stability for a long period of time particularly because of the bimetal monetary system and of the state monetary policy. This shows that the Romans had knowledge of the quantity of money theory and acted according to its provisions (*cf.* Beyer 1995, p. 34-76).

<sup>13</sup> Beyer 1995, p. 261.

<sup>14</sup> Jonsson 1997, p. 813-815; Esty 1997, p. 817-823; Wigg-Wolf 20009, p. 720-726; Verspagen 2015, p. 757-760; Pett 2015, p. 761-773 (the term **coin-computer**: 97,100,000 and the term **numismatics**: 8,530,000).

## BIBLIOGRAPHY

- Allen 1958 – H.D. Allen, *Mathematics and Money*, The Numismatic Scrapbook Magazine 24, 1958, 12, p. 2612-2620.
- Allin, Wallace 1954 – E.J. Allin, W.P. Wallace, *Impurities in Euboean Monetary Silver*, ANSMN 6, 1954, p. 35-67.
- Archibald, Cowell 1993 – M.M. Archibald, M.R. Cowell (eds.), *Metallurgy in Numismatics*, 3 vol., Royal Numismatic Society, Special Publication 24, London, 1993.
- Austin, Vidal-Naquet 1972 – M. Austin, P. Vidal-Naquet, *Economies et sociétés en Grèce ancienne*, Paris, 1972.
- Barrandon, Guerra 1997 – J.-N. Barrandon, M.F. Guerra, *Méthodes d'analyses appliquées à la Numismatique*, in C. Morrison, B. Kluge (eds.), *International Numismatic Commission. A Survey of numismatic research, 1990-1995*, Berlin, International Association of Professional Numismatists, 1997, p. 825-830.
- Beyer 1995 – F. Beyer, *Geldpolitik in der Römischen Kaiserzeit. Von der Währungsreform des Augustus bis Septimius Severus*, Wiesbaden, 1995.
- Blet-Lemarquand, Ponting 1997 – M. Blet-Lemarquand, M.J. Ponting, *Scientific and Technical Applications*, in C. Morrison, B. Kluge, A. Burnett, L. Ilisch, W. Steguweit (eds.), *A Survey of Numismatic Research 1990-1995*, International Association of Professional Numismatists, Special Publication 13, Berlin, 1997, p. 714-719.
- Blet-Lemarquand, Nieto-Pelletier 2015 – M. Blet-Lemarquand, S. Nieto-Pelletier, *Analyses élémentaires, métallographiques et isotopiques*, in C. Arnold-Biucchi, M. Caccamo Caltabiano (eds.), *Survey of Numismatic Research 2008-2013*, International Association of Professional Numismatists, Special Publication 16, Taormina, 2015, p. 743-750.
- Brunetti 1963 – L. Brunetti, *Aspetti statistici della metanumismatica*, Roma, 1963.
- Brunetti 1965 – L. Brunetti, *Die Hochwahrscheinlichkeit bei statistischen Problemen der Numismatik*, JNG 15, 1965, p. 53-61.
- Burnett 1998 – A. Burnett, *La numismatique romaine*, Paris, 1988.
- Caley 1964 – E.R. Caley, *Orichalcum and Related Ancient Alloys. Origin, Composition and Manufacture with Special Reference to the Coinage of the Roman Empire*, NNM 151, New York, 1964.
- Caley 1965 – E.R. Caley, *Metrological Tables*, New York, 1965.
- Carcassonne 1987 – Ch. Carcassonne, *Méthodes statistiques en numismatique*, Séminaire de numismatique Marcel Hoc, Louvain-la-Neuve, 1987.
- Carcassonne et alii – Ch. Carcassonne, F. Dumas, H. Huvelin, *Recherche du poids légal à partir des poids réels, I (Monnaies médiévales) – II (Solidi du Bas Empire)*, BSFN 29, 1974, 7, p. 616-621.
- Carter 1981 – G.F. Carter, *Comparison of Methods for Calculating the Total Number of Dies from Die-Link Statistics*, in Ch. Carcassonne, T. Hackens (eds.), *Statistique et Numismatique/ Statistics and Numismatics, Table ronde organisée par le Centre de Mathématique sociale de l'École des Hautes Études en Sciences Sociales, Paris et le Séminaire de Numismatique Marcel Hoc de l'Université Catholique de Louvain, Paris, 17-19 sept. 1979*, Pact 5, Strasbourg, 1981, p. 204-213.
- Claude 1985 – D. Claude, *Der Handel im westlichen Mittelmeer während des Frühmittelalters*, in *Bericht über ein Kolloquium der Kommission für die Altertumskunde Mittel- und Nordeuropas im Jahre 1980*, Göttingen, 1985, p. 107-115.
- Contamine et alii 1993 – P. Contamine, M. Bompaire, S. Lebecq, J.-L. Sarrazin, *L'économie médiévale*, Paris, 1993.
- Cooper 1998 – D.R. Cooper, *The Art and Craft of Coinmaking: A History of Minting Technology*, London, 1988.
- Craig 1963 – A.K. Craig, *Neutrons and Numismatics*, The Numismatist 76, 1963, 8, p. 1085-1086.
- Dahmen 2009 – K. Dahmen, *Art and Iconography*, in M. Amandry, D. Bateson (eds.), *A Survey of Numismatic Research 2002-2007*, International Association of Professional Numismatist, Special Publication 15, Glasgow, 2009, p. 200-208.
- Day 1994 – J. Day, *Monnaies et marchés au Moyen Âge*, Paris, 1994.
- Depeyrot 1981 – G. Depeyrot, *L'informatique et les volumes d'émission: les programmes Numis 1976*, in Ch. Carcassonne, T. Hackens (eds.), *Statistique et Numismatique/ Statistics and Numismatics, Table ronde organisée par le Centre de Mathématique sociale de l'École des Hautes Études en Sciences Sociales, Paris et le Séminaire de Numismatique Marcel Hoc de l'Université Catholique de Louvain, Paris, 17-19 sept. 1979*, Pact 5, p. 399-405.
- Depeyrot 1987 – G. Depeyrot, *Numéraire et prix: le rôle des métaux*, in G. Depeyrot, T. Hackens, G. Moucharte (eds.), *Rythmes de la production monétaire, de l'Antiquité à nos jours. Actes du colloque international organisé à Paris du 10 au 12 janvier 1986, par la Monnaie de Paris, le CNRS et le Séminaire de numismatique de l'Université de Louvain*, Numismatica Lovaniensia 7, Louvain-la-Neuve, 1987, p. 707-729.
- Depeyrot 1988 – G. Depeyrot, *Crise économique, formation des prix, et politique monétaire au troisième siècle après J.-C.*, Histoire et Mesure 3, 1988, 2, p. 235-247.
- Depeyrot 1991 – G. Depeyrot, *Crises et Inflation entre Antiquité et Moyen-Âge*, Paris, 1991.
- Dieudonné 1925 – A. Dieudonné, *Manuel des poids monétaires*, Paris, 1925.

- Duncan-Jones 1990 – R.P. Duncan-Jones, *Structure and Scale in the Roman Economy*, Cambridge, 1990.
- Esty 1997 – W.W. Esty, *Statistics in Numismatics*, in C. Morrison, B. Kluge, A. Burnett, L. Ilisch, W. Steguweit (eds.), *A Survey of Numismatic Research 1990-1995*, International Association of Professional Numismatists, Special Publication 13, Berlin, 1997, p. 817-823.
- Finley 1975 – M.I. Finley, *L'Économie Antique*, Paris, 1975, p. 23 and 29.
- Forbes 1964 – R.J. Forbes, *Metallurgy in Antiquity*, part 1. *Early Metallurgy, the Smith and his Tools, Gold, Silver and Lead, Zinc and Brass*, Studies in Ancient Technology 8, Leiden, 1964.
- Grinder-Hansen 1997 – K. Grinder-Hansen, *The money-based economy and coin circulation in Denmark 1241–ca. 1310*, in *XII. Internationaler Numismatischer Kongreß/ XIIth International Numismatic Congress/ XIIème Congrès International de Numismatique. Vortragszusammenfassungen/Abstract of Papers/ Résumés des Communications*, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Münzkabinett, Berlin 1997, p. 142-143.
- Hackens 1968 – T. Hackens, *L'analyse de laboratoire appliquée aux métaux anciens*, Revue des Archéologues et Historiens d'Art Louvain 1, 1968, p. 9-14.
- Hackens 1987 – T. Hackens, *L'apport de la numismatique à l'histoire économique*, in T. Hackens, P. Marchetti, *Histoire économique de l'Antiquité. Bilans et contributions de savants Belges présentés dans une réunion interuniversitaire à Anvers/Anwerpen, Universitaire Fakulteiten Sint – Ignatius*, Louvain-la-Neuve, 1987, p. 152-168.
- Hall 1959 – E.T. Hall, *Some Uses of Physics in Archaeology*, *Archaeometry* 2, 1959, p. 22-34.
- Hall, Metcalf 1972 – E.T. Hall, D.M. Metcalf (eds.), *Methods of Chemical and Metallurgical Investigation of Ancient Coinage*, Royal Numismatic Society Special Publication 8, London, 1972.
- Harris 1993 – W.V. Harris, *Between archaic and modern: some current problems in the history of the Roman economy*, in W.V. Harris (ed.), *The inscribed economy. Production and distribution in the Roman empire in the light of "instrumentum domesticum"*, *The proceedings of a conference held in the American Academy in Rome on 10–11 January, 1992*, Ann Arbor, 1993.
- Hartmann 1976 – A. Hartmann, *Ergebnisse spektralanalytischer Untersuchungen an keltischen Goldmünzen aus Hessen und Süddeutschland*, *Germania* 54, 1976, p. 102-134.
- Hartmann 1985 – A. Hartmann, *Über Materialanalysen an Goldmünzen der keltischen Bojer*, *JRGZM* 32, 1985, p. 660-674.
- Hendy 1985 – M.F. Hendy, *Studies in the Byzantine Monetary Economy, c. 300 – 1450*, Cambridge, 1985.
- Hultsch 1882 – F. Hultsch, *Griechische und römische Metrologie*, Berlin, 1882.
- Jonsson 1997 – K. Jonsson, *Computer Applications*, in C. Morrison, B. Kluge, A. Burnett, L. Ilisch, W. Steguweit (eds.), *A Survey of Numismatic Research 1990-1995*, International Association of Professional Numismatists, Special Publication 13, Berlin, 1997, p. 813-815.
- Kaletsch 1958 – H. Kaletsch, *Zur lydischen Chronologie*, *Historia* 7, 1958, p. 1-47.
- Kula 1960 – W. Kula, *Histoire et économie*, *Annales ESC* 15, 1960, 2, p. 306.
- Lafaurie 1970 – J. Lafaurie, *Contribution à l'étude du poids réel des monnaies*, *BSFN* 25, 1970, p. 491-493.
- Lowick 1990 – N. Lowick, *Islamic Coins and Trade in the Medieval World*, *Variorum collected studies* 318, Aldershot, 1990.
- Martin, Campagnolo 1994 – C. Martin, M. Campagnolo, *Catalogue des balances de changeurs, des dénéreaux et des poids, 1 (La France et l'Italie)*, *Cahiers romands de numismatique* 2, Lausanne, 1994.
- McKerrel, Stevenson 1972 – H. McKerrel, R.B.K. Stevenson, *Some Analysis of Anglo-Saxon and Associated Oriental Silver Coinage. Methods of Chemical and Metallurgical Investigation of Ancient Coinage*, Royal Numismatic Society Special Publication 8, London, 1972.
- Metcalf 1958 – M. Metcalf, *Statistische Analyse bei der Auswertung von Münzfundmaterialien*, *JNG* 9, 1958, p. 187-196.
- Miskimin 1989 – H.A. Miskimin, *Cash, credit and crisis in Europe: 1300–1600*, *Collected Studies Series* 289, London, 1989.
- Moesta, Franke 1995 – H. Moesta, P.R. Franke, *Antike Metallurgie. Ein Beitrag zur Technikgeschichte*, Basel – Boston – Berlin, 1995.
- Morrisson 1992 – C. Morriison, *La numismatique*, Paris, 1992, p. 116-117.
- Mossman 1992 – P.L. Mossman, *Money of the American Colonies and Confederation: A Numismatic, Economic, and Historical Correlation*, *ANSNS* 20, New York, 1992.
- Naster 1975a – P. Naster, *La méthode en métrologie numismatique*, in J.M. Dentzer, Ph. Gauthier, T. Hackens (eds.), *Numismatique antique. Problèmes et méthodes. Actes du colloque organisé à Nancy du 27 septembre au 2 octobre 1971 par l'Université de Nancy II et l'Université Catholique de Louvain*, Nancy – Louvain, 1975, p. 65-74.
- Naster 1975b – P. Naster, *Le carré creux en numismatique grecque*, in J.M. Dentzer, Ph. Gauthier, T. Hackens (eds.),

- Numismatique antique. Problèmes et méthodes. Actes du colloque organisé à Nancy du 27 septembre au 2 octobre 1971 par l'Université de Nancy II et l'Université Catholique de Louvain*, Nancy – Louvain, 1975, p. 17-21.
- Noonan 1997 – T. S. Noonan, *Dirham imports and the growth of towns in early medieval European Russia*, in *XII. Internationaler Numismatischer Kongreß/XIIth International Numismatic Congress/XIIème Congrès International de Numismatique. Vortragszusammenfassungen/Abstract of Papers/Résumés des Communications*, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Münzkabinett, Berlin 1997, p. 201.
- North 1989 – M. North (ed.), *Geldumlauf, Währungssysteme und Zahlungsverkehr in Nordwesteuropa 1300-1800. Beiträge zur Geldgeschichte der späten Hansezeit*, Quellen und Darstellungen zur Hansischen Geschichte N.F. 35, Köln, Wien, 1989.
- Parise 1997 – N.F. Parise, *Metallic currency and weights units in the Mediterranean before coinage*, in C. Morrison, B. Kluge, A. Burnett, L. Ilisch, W. Steguweit (eds.), *A Survey of Numismatic Research 1990-1995*, International Association of Professional Numismatists, Special Publication 13, Berlin, 1997, p. 5-9.
- Pekáry 1994 – T. Pekáry, *Geldtheorie in Rom?*, in T. Pekáry, *Ausgewählte kleine Schriften*, Pharos. Studien zur griechisch – römischen Antike, Band IV, St. Katharinen, 1994, p. 281-286.
- Pett 2015 – D.E.J. Pett, *Numismatics, computers and the internet*, in C. Arnold-Biucchi, M. Caccamo Caltabiano (eds.), *Survey of Numismatic Research 2008-2013*, International Association of Professional Numismatists, Special Publication 16, Taormina, 2015, p. 761-773.
- Pousard 1959 – C. Pousard, *La théorie quantitative de la monnaie*, Annales ESC 14, 1959, 1, p. 106-121 and 224.
- Schilbach 1970 – E. Schilbach, *Byzantinische Metrologie*, Handbuch der Altertumswissenschaft XII/4, München, 1970.
- Schmutz, Jäggy 1997 – D. Schmutz, C. Jäggy, *Neue Erkenntnisse zur Brakteatenherstellung: Experimenteller Nachvollzug prägetechnischer Merkmale*, in *XII. Internationaler Numismatischer Kongreß/ XIIth International Numismatic Congress/ XIIème Congrès International de Numismatique. Vortragszusammenfassungen/Abstract of Papers/Résumés des Communications*, Staatliche Museen zu Berlin, Preußischer Kulturbesitz, Münzkabinett, Berlin 1997, p. 157-158.
- Spooner 1956 – F.C. Spooner, *L'économie mondiale et les frappes monétaires en France, 1493-1680*, Paris, 1956.
- Stoicescu 1971 – N. Stoicescu, *Cum măsurau strămoşii. Metrologia medievală pe teritoriul României*, Bucureşti, 1971.
- Sutzu 1909 – M.C. Sutzu, *Originele asi-ro-chaldeene ale greutăţilor romane*, AARMSI, s. II, 31, 1909, 5, p. 353-403.
- Verspagen 2015 – T. Verspagen, *Numismatic literature and the internet*, in C. Arnold-Biucchi, M. Caccamo Caltabiano (eds.), *Survey of Numismatic Research 2008-2013*, International Association of Professional Numismatists, Special Publication 16, Taormina, 2015, p. 757-760.
- Yao, Stross 1965 – T.C. Yao, F.H. Stross, *The Use of Analysis by X – Ray Fluorescence in the Study of Coins*, AJA 69, 1965, 2, p. 154-156.
- Zäch 2009 – B. Zäch, *Allgemeine Numismatik*, in M. Amandry, D. Bateson (eds.), *A Survey of Numismatic Research 2002-2007*, International Association of Professional Numismatists, Special Publication 15, Glasgow, 2009, p. 710-713.
- West 1941 – L.C. West, *Gold and Silver Coin Standards in the Roman Empire*, NNM 94, New York, 1941.
- Wigg-Wolf 2009 – D. Wigg-Wolf, *Numismatics, Computers and Internet*, in M. Amandry, D. Bateson (eds.), *A Survey of Numismatic Research 2002-2007*, International Association of Professional Numismatists, Special Publication 15, Glasgow, 2009, p. 720-726.
- Withers, Withers 1993 – P. Withers, B.R. Withers, *British Coin Weights: A Corpus of Coin-Weights Made in England, Scotland and Ireland for Use in Britain*, Llanfyllin, 1993.
- Wytenbach, Hermann 1966 – A. Wytenbach, A. Hermann, *The Quantitative Nondestructive Analysis of Silver Coins by Neutron Activation*, Archaeometry 9, 1966, p. 139-147.



## ABRÉVIATIONS

- AA – Archäologischer Anzeiger. Deutsches Archäologisches Institut, Darmstadt, München, Tübingen – Berlin  
AAIN – Annali dell’Istituto Italiano di Numismatica, Roma  
AARMSI – Analele Academiei Române. Memoriile Secțiunii Istorice, București  
Academica – Academica. Revistă editată de Academia Română, București  
ACSS – Ancient Civilizations from Scythia to Siberia, Bordeaux – Moscow  
ActaArchCop – Acta Archaeologica, Copenhagen  
ActaArchHung – Acta Archaeologica Academiae Scientiarum Hungaricae, Budapest  
ActaMM – Acta Moldaviae Meridionalis, Vaslui  
ActaMN – Acta Musei Napocensis. Muzeul Național de Istorie a Transilvaniei, Cluj-Napoca  
ActaMP – Acta Musei Porolissensis. Muzeul Județean de Istorie și Artă, Zalău  
ActaMV – Acta Musei Varnaensis, Varna  
ActaMT – Acta Musei Tutovens, Muzeul „Vasile Pârvan”, Bârlad  
ActaPraehArch – Acta Praehistorica et Archaeologica, Berlin  
ActaTS – Acta Terrae Septemcastrensis. Institutul pentru Cercetarea Patrimoniului Cultural Transilvănean în Context European, Sibiu  
AÉ – L’Année Épigraphique, Paris  
AEM – Archäologisch-epigraphische Mitteilungen aus Österreich-Ungarn, Wien  
AISC – Anuarul Institutului de Studii Clasice, Cluj-Napoca  
AJA – American Journal of Archaeology, Boston  
AJS – The American Journal of Sociology, Chicago  
Alba Regia – Alba Regia. Annales Musei Stephani regis, Székesfehérvár  
Aluta – Muzeul Național Secuiesc, Sfântu Gheorghe  
Alt-Hildesheim – Alt-Hildesheim. Jahrbuch für Stadt und Stift Hildesheim, Hildesheim  
AM – Mitteilungen des Deutschen Archäologischen Instituts. Athenische Abteilung, Athen  
American Anthropologist – American Anthropologist. Journal of the American Anthropological Association, ([http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1548-1433](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1548-1433))  
American Antiquity – American Antiquity. Society for American Archaeology, Washington  
Anatolia Antiqua – Anatolia Antiqua, Istanbul  
AnB – Analele Banatului, Muzeul Banatului, Timișoara  
Ancient Philosophy – Ancient Philosophy, Duquesne University, Pittsburg  
AncWestEast – Ancient West & East, Leiden  
AnnalesESC – Annales. Économies, Sociétés, Civilisations, Paris  
AnnalesHSS – Annales. Histoire, Sciences Sociales, Paris  
Annals of Science – Annals of Science, Taylor and Francis Online (<http://www.tandfonline.com/loi/tasc20>)  
ANSNS – American Numismatic Society. Numismatic Studies, New York  
AnUA-SH – Annales Universitatis Apulensis, Series Historica, Alba Iulia  
AnUBucurești – Analele Universității București, București  
Angustia – Angustia. Arheologie, Etnografie, Sfântu Gheorghe  
ANSMN – American Numismatic Society; Museum Notes, New York  
AntCl – L’antiquité Classique, Revue interuniversitaire d’études classiques  
Antik Tanulmányok – Antik Tanulmányok. Studia Antiqua, Eötvös József Collegium, Budapest  
Antiquitas – Antiquitas, Museo Historico Municipal de Priego, Cordoba  
Antiquités Nationales – Antiquités Nationales, Musée des Antiquités Nationales, Saint-Germain-en-Laye  
Antiquity – Antiquity. A Review of World Archaeology, Durham  
AO – Arhivele Olteniei, Craiova  
APS News – The American Physical Society News  
Apulum – Apulum. Acta Musei Apulensis. Muzeul Național al Unirii, Alba Iulia  
Archaeological Dialogues – Archaeological Dialogues, Cambridge

- Archaeometry – Archaeometry, The Society for Archaeological Science, Gesellschaft für Naturwissenschaftliche, Associazione Italiana di Archeometria, University of Oxford, Wiley
- ArchBulg – Archaeologia Bulgarica, Sofia
- ArchÉrt – Archeológiai Értesítő, Budapest
- ArchHung – Archaeologia Hungarica, Acta Archaeologica Musei Nationalis Hungarici, Budapest
- ArchKorr – Archäologisches Korrespondenzblatt, Mainz
- ArchRozhledy – Archeologické Rozhledy, Praha
- ArheologijaSSSR – Arheologija Soyuz Sovetskikh Sotsialisticheskikh Respublik, Moskova
- ArhMold – Arheologia Moldovei. Academia Română, Institutul de Arheologie, Iași
- ArhSofia – Arheologija. Organ na Arheologičeskija i Muzej, Sofia
- Arqueologia y Territorio Medieval – Arqueologia y Territorio Medieval, Universidad de Jaén, Jaén
- Ausgrabungen und Funde – Ausgrabungen und Funde, Deutsche Akademie der Wissenschaften zu Berlin. Sektion für Vor- und Frühgeschichte; Akademie der Wissenschaften der DDR. Zentralinstitut für Alte Geschichte und Archäologie
- BARIntSer – British Archaeological Reports, International Series, Oxford
- BerRGK – Bericht der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts, Frankfurt am Main
- BCH – Bulletin de Correspondance Hellénique, Athènes – Paris
- BHAUT – Bibliotheca Historica et Archaeologica Universitatis Timisiensis, Timișoara Bibliotheca Historica et Archaeologica Universitatis Timisiensis, Timișoara
- Bibliotheca Ephemeris Napocensis – Bibliotheca Ephemeris Napocensis, Institutul de Arheologie și Istoria Artei al Academiei Române, Cluj-Napoca
- Bibliotheca Historica Romaniae. Monographies – Bibliotheca Historica Romaniae. Monographies, Academia Republicii Socialiste România, Secția Științe Istorice, București
- Bibliotheca Musei Napocensis – Bibliotheca Musei Napocensis, Institutul de Arheologie și Istoria Artei al Academiei Române, Cluj-Napoca
- BJb – Bonner Jahrbücher des Rheinischen Landesmuseums in Bonn, Bonn
- BMC, I – H. Mattingly, *Coins of the Roman Empire in the British Museum, I, Augustus to Vittelius*, London, 1923.
- BMC, II – H. Mattingly, *Coins of the Roman Empire in the British Museum, II, Vespasian to Domitian*, London, 1930.
- BMC, III – H. Mattingly, *Coins of the Roman Empire in the British Museum, III, Nerva to Hadrian*, London, 1936
- BMC, IV – H. Mattingly, *Coins of the Roman Empire in the British Museum, IV, Antoninus Pius to Commodus*, London, 1940.
- BMC, V – H. Mattingly, *Coins of the Roman Empire in the British Museum, V, Pertinax to Elagabalus*, London, 1950.
- BMC, VI – R. A. G. Carson, *Coins of the Roman Empire in the British Museum, VI, Severus Alexander to Balbinus and Pupienus*, London, 1962.
- BMI – Buletinul Monumentelor Istorice, București
- BMJT – Buletinul Muzeului Județean Teleorman, Alexandria
- BMTAGiurgiu – Buletinul Muzeului „Teohari Antonescu”, Giurgiu
- Bosporskie issledovanija – Bosporskie Issledovanija (Études bosporaines), Académie nationale ukrainienne des sciences, Simferopol
- BSFN – Bulletin de la Société Française de Numismatique, Paris
- BSNR – Buletinul Societății Numismatice Române, București
- BTM Mühely – BTM Mühely, Budapesti Történeti Múzeum, Budapest
- Budapest Régiségei – Budapest Régiségei, Budapesti Történeti Múzeum, Budapest
- BulBOR – Buletinul Bisericii Ortodoxe Române, București
- Buridava – Buridava. Muzeul Județean Vâlcea, Râmnicu Vâlcea
- CA – Cercetări Arheologice. Muzeul Național de Istorie a României, București
- CAB – Cercetări Arheologice în București, Muzeul Municipiului București, București
- Caiete ARA – Caiete ARA. Arhitectură, Restaurare, Arheologie. Asociația ARA, București
- Cahiers des Sciences Humaines – Cahiers des Sciences Humaines, O.R.S.T.O.M. (Agency: France)

- CAJ – Cambridge Archaeological Journal  
 CANT – Cercetări arheologice în aria nord-tracă, București (I – 1995, II – 1997, III - 1999)  
 Carpica – Carpica, Carpica. Complexul Muzeal „Julian Antonescu” Bacău, Bacău  
 CCA, campania ..... – Cronica Cercetărilor Arheologice din România, București  
 CCDJ – Cultură și Civilizație la Dunărea de Jos, Muzeul “Dunării de Jos”, Călărași  
 CCGG – Cahiers du Centre Gustav-Glotz, Publications de la Sorbonne, Paris  
 Centaurus – Centaurus, European Society for the History of Science, John Wiley & Sons Ltd  
 CercIst – Cercetări Istorice, Iași  
 Chiron – Mitteilungen der Kommission für Alte Geschichte und Epigraphik des Deutschen Archäologischen Instituts, München  
 Chronica Valachica – Chronica Valachica. Studii și materiale de istorie și istorie a culturii, Târgoviște  
 Chronométriphilia – Chronométriphilia, La Chaux-de-Fonds  
 CICSA – Centrul de Istorie Comparată a Societăților Antice, Universitatea București, București  
 CIL – *Corpus Inscriptionum Latinarum*, Berlin, 1862-.  
 CIS – *Corpus Inscriptionum Semiticarum*, Paris, 1881-.  
 Classica et Christiana – Classica et Christiana, Centrul de Studii Clasice și Creștine al Facultății de Istorie a Universității „Al.I. Cuza”, Iași  
 CIQ – The Classical Quaterly, The Classical Association, Cambridge  
 CN – Cercetări Numismatice. Muzeul Național de Istorie a României, București  
 CNM – Corpus Nummorum Moldaviae  
 Collection de la Maison de l’Orient méditerranéen. Série Épigraphique – Collection de la Maison de l’Orient méditerranéen. Série Épigraphique, Maison de l’Orient et de la Méditerranée Jean Pouilloux, Fédération de recherche sur les sociétés anciennes, Université Lumière Lyon 2 - CNRS  
 Communications – Communications. EHESS/CNRS-Centre Edgar Morin, Paris  
 Comparative Criticism – Comparative Criticism, Cambridge University Press  
 Corviniana – Corviniana. Acta Musei Corviniensis, Hunedoara  
 CRAI – Comptes Rendus des Séances de l’Académie des Inscriptions et Belles-Lettres, Paris  
 Crisia – Crisia. Muzeului Țării Crișurilor, Oradea  
 Critica Storica – Critica Storica, Associazione degli storici europei, Firenze  
 CSA – Current Swedish Archaeology, Swedish Archaeological Society  
 Current Anthropology – Current Anthropology. University of California, Merced  
 Dacia N.S. – Dacia (Nouvelle Série). Revue d’archéologie et d’histoire ancienne. Académie Roumaine. Institut d’archéologie « V. Pârvan », București  
 Danubius – Danubius, Revista Muzeului de Istorie Galați, Galați  
 Das Altertum – Das Altertum, Berlin – Amsterdam – Oldenburg  
 Das Mittelalter – Das Mittelalter, UTB GmbH, Stuttgart  
 Der Anschnitt – Der Anschnitt, Vereinigung der Freunde von Kunst und Kultur im Bergbau, Bochum  
 DHA – Dialogues d’Histoire ancienne, Université de Franche-Comté, Paris  
 Die Kunde – Die Kunde. Zeitschrift für niedersächsische Archäologie, Hannover  
 DissArch – Dissertationes Archaeologicae ex Instituto Archaeologico Universitatis de Rolando Eötvös Nominatae, Budapest  
 DissPann – Dissertationes Pannonicae. Ex Instituto Numismatico et Archaeologico Universitatis de Petro Pázmány nominatae Budapestensis provenientes, Budapest  
 DIVR – D.M. Pippidi (ed.), *Dicționar de istorie veche a României (Paleolitic – sec. X)*, București, 1976.  
 Documenta Praehistorica – Documenta Praehistorica, University of Ljubljana, Faculty of Arts, Department of Archaeology  
 Documenta Valachica – Documenta Valachica. Studii și materiale de istorie și istorie a culturii, Târgoviște  
 Drobeta – Drobeta. Muzeul Regiunii Porțile de Fier, Drobeta-Turnu Severin  
 EAIVR – Enciclopedia Arheologiei și Istoriei Vechi a României (ed. C. Preda), București, 1994  
 EJS – European Journal of Sociology  
 Epigraphische Studien – Epigraphische Studien, Rheinisches Landesmuseum Bonn, Köln  
 EphemDAC – Ephemeris Dacoromana. Annuario della Scuola Romana di Roma  
 EphemNap – Ephemeris Napocensis. Academia Română, Institutul de Arheologie și Istoria Artei, Cluj-Napoca  
 Ethnic and Racial Studies – Ethnic and Racial Studies, London : Routledge & Kegan Paul

- EurAnt – Eurasia Antiqua. Deutsche Archäologisches Institut, Berlin
- FI – File de Istorie. Muzeul Județean Bistrița-Năsăud, Bistrița
- FolArch – Folia Archaeologica, Budapest
- Fontes I – V. Iliescu, V. C. Popescu, Gh. Ștefan (ed.), Izvoare privind Istoria României, vol. I, București, 1964.
- Fontes II – H. Mihăescu, Gh. Ștefan, R. Hîncu, V. Iliescu, V. C. Popescu (ed.), Izvoare privind Istoria României, vol. I, București, 1970.
- FrühMitAltSt – Frühmittelalterliche Studien. Jahrbuch des Instituts für Frühmittelalterforschung der Universität Münster, Münster
- Gerión – Gerión. Revista de Historia Antigua
- Germania – Germania. Anzeiger der Römisch-Germanischen Kommission des Deutschen Archäologischen Instituts, Frankfurt am Main
- GlasnikSarajevo – Glasnik Zemlinskog Muzeja u Sarajevu, Sarajevo
- Greece & Rome – Greece & Rome, Classical Association, Cambridge University Press
- HispAnt – Hispania Antiqua. Revista de Historia Antigua (digital journal: <https://revistas.uva.es/index.php/hispaanti>)
- Hesperia – Hesperia. The Journal of the American School of Classical Studies at Athens, Athens
- Historia – Historia. Zeitschrift für Alte Geschichte, Franz Steiner Verlag, Stuttgart
- History and Anthropology – History and Anthropology, Taylor & Francis (Routledge)
- History and Theory – History and Theory. Studies in the Philosophy of History, Middletown
- History Compass – History Compass, Wiley-Blackwell
- Histria Antiqua – Histria Antiqua, Institut društvenih znanosti IVO PILAR, Zagreb
- HNE – M. Lidzbarski, *Handbuch der Nordsemitischen Epigraphik*, Weimar, 1898.
- HPQ – History of Philosophy Quarterly, University of Illinois Press
- IDR II – G. Florescu, C.C. Petolescu, *Inscripțiile Daciei Romane*, vol. II: *Oltenia și Muntenia*, Editura Academiei Române, București, 1977.
- IDR III/1 – I.I. Russu, N. Gudea, V. Wollmann, M. Dușanic, *Inscripțiile Daciei Romane*, vol. III/1: *Dacia Superior. Zona de sud-vest*, Editura Academiei Române, București, 1977.
- IDRE – C.C. Petolescu, *Inscriptiones Daciae Romanae. Inscriptions externes concernant l'histoire de la Dacie*, I-II, București, 1996-2000.
- IG XII 6.2 – K. Hallof, A.P. Matthaiou, *Inscriptiones Graecae XII 6. Inscriptiones Chii et Sami cum Corassiis Icariaque. Pars 2. Inscriptiones Sami insulae. Dedicaciones. Tituli sepulcrales. Tituli Christiani, Byzantini, Iudaei. Varia. Tituli graphio incisi. Incerta. Tituli alieni. Inscriptiones Corassiarum. Inscriptiones Icariae insulae*, Berlin – New York, 2003.
- IGB – G. Mihailov, *Inscriptiones Graecae in Bulgaria Repertae*, 5 vol., Sofia, 1958–2001.
- IGLN – V. Božilova, J. Kolendo (eds.), *Inscriptions grecques et latines de Novae (Mésie inférieure)*, Ausonius, Bordeaux, 1997.
- IGLR – E. Popescu, *Inscripțiile grecești și latinești descoperite pe teritoriul României*, București, 1976.
- IGLS VI – J.-P. Rey-Coquais, *Inscriptions Grecques et Latines de la Syrie. VI. Baalbek et Beqa'.* Bibliothèque Archéologique et Historique 78, Paris, 1967.
- IGLS XVII.1 – J.-B. Yon, *Inscriptions grecques et latines de la Syrie. XVII/1. Palmyre* Bibliothèque archéologique et historique 195; Beirut, 2012.
- ILB – B. Gerov, *Inscriptiones Latinae in Bulgaria Repertae*, Sofia, 1989.
- Il Mar Nero – Il mar nero: annali di archeologia e storia, Roma
- ILS – H. Dessau, *Inscriptiones Latinae Selectae*, Berlin, I (1892), II (1902), III (1916).
- ISSJ – International Social Science Journal
- Interpretation – Interpretation. A Journal of Political Philosophy, Waco
- ISM I – D.M. Pippidi, *Inscripțiile din Scythia Minor*, vol. I. *Histria și împrejurimile*, București, 1983.
- ISM II – I. Stoian, *Inscripțiile din Scythia Minor grecești și latine*, vol. II. *Tomis și teritoriul său*, Bucarest, 1987.
- ISM III – A. Avram, *Inscriptions grecques et latines de Scythie Mineure*, vol. III. *Callatis et son territoire*, Bucharest–Paris, 1999.
- ISM IV – E. Popescu, *Inscriptions de Scythie Mineure*, vol. IV. *Tropaeum – Durostorum – Axiopolis*, Bucharest–Paris, 2015.



- ISM V – E. Doruțiu Boilă, *Inscripțiile din Scythia Minor*, vol. V. *Capidava – Troesmis – Noviodunum*, București, 1980.
- IstMitt – Istanbuler Mitteilungen, Istanbul
- Istros – Istros, Muzeul Brăilei „Carol I”, Brăila
- IzvestijaSofia – Izvestija na Nacionalnija Arheologičeski Institut, Sofia
- JAMT – Journal of Archaeological Method and Theory, Springer
- JHS – Journal of Hellenic Studies, London
- JIES – Journal of Indo-European Studies, Washington
- JFA – Journal of Field Archaeology, Boston University, Taylor & Francis
- JMC – Journal of Material Culture, SAGE Publications Ltd.
- JNG – Jahrbuch für Numismatik und Geldgeschichte, Bayerische Numismatische Gesellschaft, München
- JÖAI – Jahreshefte des Österreichischen Archäologischen Institutes in Wien
- Journal of Value Inquiry – The Journal of Value Inquiry, Springer
- JRA – Journal of Roman Archaeology, Portsmouth, Rhode Island
- JRAI – Journal of Royal Anthropological Institute, London
- JRAI (N.S.) – The Journal of the Royal Anthropological Institute, London
- JRAI-GBI – Journal of Royal Anthropological Institute of Great Britain and Ireland, London
- JRGZM – Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz, Mainz
- JRS – Journal of Roman Studies, London
- Kadmos – Kadmos. Zeitschrift für vor- und frühgriechische Epigraphik, Berlin
- Klio – Klio. Beiträge zur Alten Geschichte, Berlin
- La Cultura – La Cultura. Rivista de Filosofia, Letteratura e Storia
- LIMC – Lexicon iconographicum mythologiae classicae, Zürich, 1981-1999
- Lucerna – Lucerna. The Roman Finds Group Newsletter, Stevenage, UK
- Marmația – Marmația, Muzeul Județean de Istorie și Arheologie Baia Mare, Baia Mare
- MASP – Materiali po Arheologii Severnogo Pričernomorja, Odesa
- MCA – Materiale și cercetări arheologice. Academia Română, Institutul de Arheologie „Vasile Pârvan”, București
- MemAnt – Memoria Antiquitatis, Acta Musei Petrodavensis, Complexul Muzeal Județean Neamț, Piatra-Neamț
- MFME – A Móra Ferenc Múzeum évkönyve. Móra Ferenc Múzeum, Szeged
- MIA – Materialy i issledovanija po arheologii SSSR, Moskva – Sk. Petersburg
- MitteilungenBerlin – Mitteilungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Berlin
- Mitteilungen der Vorderasiatisch-Aegyptischen Gesellschaft – Mitteilungen der Vorderasiatisch-Aegyptischen Gesellschaft, Leipzig
- MN – Muzeul Național, București
- MonographRGZM – Monographies des Römisch-Germanischen Zentralmuseums, Mainz
- Montana II – V. Velkov, G. Aleksandrov, *Epigrafski pametnitsi ot Montana i raiona*, Montana, 1994.
- Mousaios – Mousaios. Buletinul Științific al Muzeului Județean Buzău, Bacău
- MSȘIA – Academia Română. Memoriile Secției de Științe Istorice și Arheologie, București
- MusHelv – Museum Helveticum: schweizerische Zeitschrift für klassische Altertumswissenschaft = Revue suisse pour l'étude de l'antiquité classique = Rivista svizzera di filologia classica, Schwabe-Verlag
- NAC – Numismatica et Antichità Classiche. Quaderni Ticinesi, Lugano
- Nestor – Nestor, University of Cincinnati, Department of Classics, Cincinnati
- NC – Numismatic Chronicle, London
- NNM – Numismatic Notes and Monographs, New York
- Novensia – Novensia, Antiquity of Southeastern Europe Research Centre, University of Warsaw, Warsaw
- NZ – Numismatische Zeitschrift. Österreichische Numismatische Gesellschaft, Wien
- Oltenia – Oltenia. Studii și comunicări, Craiova
- Orientalia – Orientalia, Pontificio Istituto biblico, Roma
- Pact – Pact. Journal of the European Study Group on Physical, Chemical, Biological & Mathematical Techniques Applied to Archaeology, Strasbourg
- PAS – Praehistorische Archäologie in Südosteuropa, Berlin

- PAT – Patrimonium Archaeologicum Transylvanicum  
 PAT – D.R. Hillers, E. Cussini, *Palmyrene Aramaic Texts*, The Comprehensive Aramaic Lexicon Project, Baltimore, 1996.
- PBF – Prähistorische Bronzefunde. Akademie der Wissenschaften und der Literatur, Mainz, Seminar für Vor- und Frühgeschichte der Goethe-Universität Frankfurt a. M, Abteilung für Ur- und Frühgeschichtliche Archäologie des Historischen Seminars der Westfälischen Wilhelms-Universität, Münster
- PCPhS – Proceedings of the Cambridge Philological Society, Cambridge
- Peuce – Peuce. Studii și Note de Istorie Veche și Arheologie. Muzeul Delta Dunării / Institutul de Cercetări Eco-Muzeale „Simion Gavrilă”, Tulcea
- Peuce S.N. – Peuce, serie nouă. Studii și Cercetări de Istorie și Arheologie. Institutul de Cercetări Eco-Muzeale „Simion Gavrilă”, Tulcea
- Philosophie – Philosophie, Les Éditions de Minuit, Paris
- Phronesis – Phronesis. A Journal for Ancient Philosophy, Leiden
- PIR<sup>2</sup> – *Prosopographia Imperii Romani, saec. I-III*, ed. II, Berlin–Leipzig
- PNAS – Proceedings of the National Academy of Sciences of the United States of America, Washington DC
- Poetics Today – Poetics Today, Duke University, Columbus, USA
- Polis – Polis. The Journal for Ancient Greek Political Thought, Exeter
- Pontica / Pontice – Pontica. Muzeul de Istorie Națională și Arheologie, Constanța
- PPS – Proceedings of the Prehistoric Society, Cambridge
- PZ – Praehistorische Zeitschrift. Freie Universität, Institut für Prähistorische Archäologie, Berlin
- QS – Quaderni di storia, Roma
- RAN – Repertoriul Arheologic Național (<http://ran.cimec.ro/>)
- RE – *Realencyclopädie der classischen Altertumswissenschaften*, Stuttgart, 1893-
- REA – Revue des Études Anciennes. Maison de l'Archéologie, Université Bordeaux Montaigne, Pessac
- RES – *Répertoire d'épigraphie sémitique*, Paris, 1900-1968.
- RÉSEE – Revue des Études Sud-Est Européennes. Academia Română, Institutul de Studii Sud-Est Europeene, București
- RevBistr – Revista Bistriței. Complexul Muzeal Bistrița-Năsăud, Bistrița
- Review of Metaphysics – The Review of Metaphysics. A Philosophical Quarterly, Washington DC
- Revista Arheologică – Revista Arheologică, Academia de Științe a Moldovei, Institutul Patrimoniului Cultural, Centrul de Arheologie, Chișinău
- Revista d'arqueologia de Ponent – Revista d'arqueologia de Ponent, Unitat d'Arqueologia, Prehistòria i Història Antiga del Departament d'Història de la Universitat de Lleida, Lleida
- RevMuz – Revista Muzeelor, București
- Révue d'Alsace – Révue d'Alsace, Fédération des Sociétés d'Histoire et d'Archéologie d'Alsace, Colmar
- Revue d'Archéométrie - ArchéoSciences, revue d'Archéométrie, Presses universitaires de Rennes
- Revue du Louvre – La Revue du Louvre et des musées de France, Conseil des musées nationaux (France), Paris
- Revue du Nord – Revue du Nord. Archéologie de la Picardie et du Nord de la France, Université de Lille, Villeneuve D'Asco
- RGA – *Reallexicon der Germanischen Altertumskunde*, Berlin
- RGZM – Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz, Bonn
- Rhetorica – Rhetorica. A Journal of the History of Rhetoric, Berkley
- RI – Revista Istorică. Academia Română, Institutul de Istorie „Nicolae Iorga”, București
- RIB – Roman Inscriptions of Britain, London
- RIC, II – H. Mattingly, E. A. Sydenham, *The Roman Imperial Coinage, II, Vespasian to Hadrian*, London, 1926.
- RIC, III – H. Mattingly, E. A. Sydenham, *The Roman Imperial Coinage, III, Antoninus Pius to Commodus*, London, 1930.
- RIC, IV/1 – H. Mattingly, E. A. Sydenham, C.H.V. Shutherland, *The Roman Imperial Coinage, IV/1, Pertinax to Geta*, London, 1936.
- RIC, IV/2 – H. Mattingly, E. A. Sydenham, C. H. V. Shutherland, *The Roman Imperial Coinage, IV/2, Macrinus to Papienus*, London, 1938.

- RIC, IV/3 – H. Mattingly, E. A. Sydenham, C. H. V. Shutherland, *The Roman Imperial Coinage, IV/3, Gordian III-Uranus Antoninus*, London, 1949.
- RIC, V/1 – P. H. Webb, *The Roman Imperial Coinage, V/1*, London, 1927.
- RIS – E. Weber (ed.), *Die römischen Inschriften der Steiermark*, Graz, 1969.
- RIU III – L. Barkóczi, S. Soproni, *Die römische Inschriften Ungarns, 3. Liefereng: Brigetio (Fortsetzung) und die Limesstrecke am Donauknie*, Budapest–Bonn, 1981.
- RMD – *Roman Military Diplomas*, London, I (M.M. Roxan, 1978), II (M.M. Roxan, 1985), III (M.M. Roxan, 1993), IV (M.M. Roxan, P.A. Holder, 2003), V (P.A. Holder, 2006)
- RMM-MIA – Revista muzeelor și monumentelor. Monumente istorice și de artă, București
- RPC I – A. Burnett, M. Amandry, P.P. Ripollès, *Roman Provincial Coinage, I. From the death of Caesar to the death of Vitellius (44 BC-AD 69)*, London – Paris, 1992.
- RPC II – A. Burnett, M. Amandry, I. Carradice, *Roman Provincial Coinage, II. From Vespasian to Domitian (AD 69-96)*, London – Paris, 1999.
- SAA – *Studia Antiqua et Archaeologica*. Universitatea „Al. I. Cuza”, Iași
- SAI – *Studii și Articole de Istorie*, București
- Sargetia – *Sargetia. Acta Musei Devensis. Muzeul Civilizației Dacice și Romane*, Deva
- SchwNumRu – *Schweizerische Numismatische Rundschau*, Bern
- Science – *Science*, American Association for the Advancement of Science, Washington DC
- SCIV(A) – *Studii și cercetări de istorie veche (și arheologie)*. Academia Română, Institutul de Arheologie „Vasile Pârvan”, București
- SCN – *Studii și Cercetări de Numismatică*. Academia Română, Institutul de Arheologie „Vasile Pârvan”, București
- Scripta Valachica – *Scripta Valachica, Studii și materiale de istorie și istorie a culturii*, Târgoviște
- SEG – *Supplementum Epigraphicum Graecum*, Leiden 1923-1971, Alphen aan den Rijn 1979-1980, Amsterdam 1979-2005, Boston 2006-
- Semitica et Classica – *Semitica et Classica. Revue internationale d'études orientales et méditerranéennes. International Journal of Oriental and Mediterranean Studies*, Paris – Turnhout
- SlovArch – *Slovenská Archeológia*, Nitra
- SMA – *Studies in Mediterranean Archaeology Series*
- SNG Copenhagen 2 – *Sylloge Nummorum Graecorum Copenhagen. The Royal Collection of Coins and Medals. Danish National Museum, Volume 2. Macedonia and Thrace*, reprint of original edition, New Jersey, 1981.
- SNG BM Black Sea – *Sylloge Nummorum Graecorum, Great Britain, Volume IX, British Museum, Part 1: The Black Sea*, London, 1993.
- SNG Stancomb – *Sylloge Nummorum Graecorum, Great Britain, Volume XI, The William Stancomb Collection of Coins of the Black Sea Region*, Oxford, 2000.
- Southwestern Journal of Anthropology – *Southwestern Journal of Anthropology*, University of Chicago, Chicago
- SP – *Studii de Preistorie*, București
- Starinar – *Starinar, Arheologskog Instituta*, Belgrade
- StCl – *Studii Clasice*, București
- StComPitești – *Studii și Comunicări*, Pitești
- StComBrukenthal – *Studii și Comunicări*, Muzeul Național Brukenthal, Sibiu
- StComSatuMare – *Studii și Comunicări*. Muzeul Județean Satu Mare, Satu Mare
- Stratum plus – *Stratum, Vysshaya Antropologicheskaya Shkola*, Chișinău
- Studia Palmyreńskie – *Studia Palmyreńskie*, Polish Centre of Mediterranean Archaeology, University of Warsaw, Warsaw
- Studia Troica – *Studia Troica*, Universität Tübingen, University of Cincinnati, Mainz am Rhein
- Südost-Forschungen – *Südost-Institut München, Deutsches Auslandswissenschaftliches Institut (Berlin, Germany)*, Leipzig
- Symbolae Osloenses – *Symbolae Osloenses. Norwegian Journal of Greek and Latin Studies*, Oslo
- SympThrac 1 – *Symposia Thracologica, I*, Institutul de Tracologie, Craiova, 1983
- SympThrac 2 – *Symposia Thracologica, II*, Institutul de Tracologie, Drobeta-Turnu Severin, 1984
- SympThrac 5 – *Symposia Thracologica, V*, Institutul de Tracologie, Miercurea Ciuc, 1987

- SympThrac 7 – Symposia Thracologica, VII, Institutul de Tracologie, Tulcea, 1989
- Terra Sebus – Terra Sebus. Acta Musei Sabesiensis, Muzeul Municipal „Ioan Raica” Sebeş
- The Antiquaries Journal – The Antiquaries Journal, Society of Antiquaries of London
- Theory, Culture and Society – Theory, Culture and Society, Universitz of London, London
- ThesCRA* – *Thesaurus Cultus et Rituum Antiquorum*, Los Angeles, The J. Paul Getty Museum: I-II (2004), III-V (2005), VI (2011), VII-VIII (2012), Index (2014)
- The Numismatist – The Numismatist, The American Numismatic association
- Thracia – Thracia, Bŭlgarska akademiia na naukite, Institut po trakologia, Serdica
- Thracia Pontica 4 – M. Lazarov *et alii* (eds.), *Thracia Pontica. Quatrieme Symposium International, Sozopol 6-12 Octobre 1988*, Sofia, 1991.
- Thraco-Dacica – Thraco-Dacica. Academia Română, Institutul de Arheologie „Vasile Pârvan”, Bucureşti
- TIR – Tabula Imperii Romani, Romula-Durostorum-Tomis, Bucarest, 1969.
- TPAPhS – Transactions and Proceedings of the American Philological Society. Johns Hopkins University Press, Baltimore
- TÜBA-AR – Türkiye Bilimler Akademisi Arkeoloji Dergisi
- Tyche – Tyche. Beiträge zur Alten Geschichte Papyrologie und Epigraphik, Wien
- Tyragetia – Tyragetia. Anuarul Muzeului Naţional de Istorie a Moldovei, Chişinău
- Tyragetia International – Tyragetia International, Muzeul Naţional de Istorie a Moldovei, Chişinău
- UPA – Universitätsforschungen zur prähistorischen Archäologie, Bonn
- Valachica – Studii şi cercetări de istorie şi istoria culturii, Târgovişte
- VDI – Vestnik Drevnej Istorii, Moskva
- World Archaeology – World Archaeology, Taylor & Francis
- ZfE – Zeitschrift für Ethnologie, Berlin
- ZfN – Zeitschrift für Numismatik, Berlin
- ZPE – Zeitschrift für Papyrologie und Epigraphik, Bonn
- ZSav – Zeitschrift der Savigny-Stiftung für Rechtsgeschichte. Romanistische Abteilung, Wien