Contents

Part I  Ceramics, Glazes, Glass and Vitreous Materials (Technology and Provenance)

Late Byzantine-Early Islamic Ceramic Technology, Transjordan .......... 3
F.M. Alawneh and H.A. Béarat

Provenance Study of Some Samples of “Compendiario” Majolica Found in Archaeological Excavations Carried Out in the Centre of Amsterdam ................................................................. 9
F. Amato, B. Fabbri, S. Gualtieri, J. Gawronski, and N. Jaspers

Archaeometry of Bronze Age and Early Iron Age Italian Vitreous Materials: A Review ................................................................. 17
I. Angelini

Chemical, Mineralogical and Textural Characterisation of Early Iron Age Vitreous Materials from the Golasecca Culture (Northern Italy) ................................................................. 25
I. Angelini, C. Nicola, G. Artioli, R. DeMarinis, M. Rapi, and M. Uboldi

Mapping Regional Ceramic Fabrics in Sagalassos (SW-Turkey), Dating from 500 BC–700 AD ................................................................. 33

Ethnoarchaeometric Study of the Traditional Cooking Ware Production Centre of Pabillonis (Sardinia): Investigating Raw Materials and Final Products ................................................................. 41
M.A. Cau, G. Montana, D. Pagliarello, and E. Tsantini
Materials, Technology and Provenance of Ancient Ceiling Tiles from the Ceramic District in Riva San Vitale (Southern Switzerland) .......... 49
G. Cavallo and M. Moresi

An Investigation into the Ceramic Technology of the Two-Colour Tiles of “Prince Noir” Castle (Bordeaux, France, Thirteenth to Fourteenth Centuries AD) ................................................. 55
B. Cicuttini, A. Ben Amara, and F. Bechtel

Ceramic Production and Metal Working at the Trebbio Archaeological Site (Sansepolcro, Arezzo, Italy) ............................................. 61
E. Gliozzo, A. Comini, A. Cherubini, A. Ciacci, A. Moroni, and I. Turbanti Memmi

Many Potters – One Style: Pottery Production and Distribution in Transitional Late Byzantine–Early Islamic Palaestina Tertia .......... 71
V.E. Holmqvist and M. Martinón-Torres

Technological Features of Colonial Glazed Pottery from el Convento de Santo Domingo (Antigua, Guatemala). Similarities and Differences Between Colonial and Spanish pottery ...................................... 77
J.G. Iñañez and R.J. Speakman

Applicability of Prompt Gamma Activation Analysis to Glass Archaeometry ................................................................. 83
Z. Kasztovszky and J. Kunicki-Goldfinger

Colorants and Their Provenance of a Late Medieval Glass Goblet Found in Eger (Hungary) ......................................................... 91
A. Kocsonya, A. Váradi, I. Fórizs, I. Kovács, Z. Kasztovszky, and Z. Szőkefalvi-Nagy

Gnathia and Red-Figured Pottery from Apulia: The Continuity of a Production Technology ...................................................... 99
A. Mangone, L.C. Giannossa, G. Colafemmina, R. Laviano, V. Redavid, and A. Traini

North-Western European Forest Glass: Working Towards An Independent Means of Provenance ............................................. 105
A.S. Meek, J. Henderson, and J.A. Evans

Ceramic Production in the Indigenous Settlement of Entella (Western Sicily) During the Archaic Age ........................................... 113
G. Montana, A. Corretti, A.M. Polito, and F. Spatafora
Part II Stone, Plaster and Pigments (Technology and Provenance)

Palaeolithic Paintings at Riparo Dalmeri, a Northern Italian Rock Shelter: Materials, Technologies, Techniques ....................... 187
R. Belli, G. Dalmeri, A. Frongia, S. Gialanella, M. Mattarelli, M. Montagna, and L. Toniutti

“Ramses II in Majesty”: A Minero-Petrographic and Provenance Rock Study ................................................................. 193
A. Borghi, E. D’Amicone, M. Serra, G. Vaggelli, and L. Vigna

Using Non-destructive X-Ray Fluorescence Analysis to Investigate the Prehistoric Use and Distribution of Hornfels in Southern Quebec ... 199
A.L. Burke and G. Gauthier

Clinical Test Strips for Rapid Identification of Binder Materials in Rock Paintings ............................................................ 205
D. Fraser and R.A. Armitage

Archaeometric Processing of Polished Stone Artefacts from the Ebenöhöch Collection (Hungarian National Museum, Budapest, Hungary) .......................................................... 211
O. Friedel, B. Bradák, G. Szakmány, V. Szilágyi, and K.T. Biró

The Colour of the Facades in Siena’s Historical Centre: Calcium Oxalate Films on Brickwork of the Fifteenth to Sixteenth Century Palaces ............................................................ 221
M. Giamello, F. Droghini, F. Gabbrielli, G. Guasparri, S. Mugnaini, G. Sabatini, and A. Scala

Stone Beads from Late Bronze Age and Early Iron Age Settlements from South-Western Portugal: Analyses by X-Ray Diffraction .......... 227
A.P. Gonçalves, A.M. Monge Soares, A.C. Silva, and L. Berrocal-Rangel

Integrated Research on Sixteenth to Early Nineteenth Century Panel Paintings: Chromatographic and Spectroscopic Characterisation of Paint Layers .................................................. 233
E. Kouloumpi, G. Lawson, and V. Pavlidis

A Diptich by Marcellus Coffermans Analysed by Portable XRF ....... 239
A. Kriznar, M.V. Muñoz, F. de La Paz, M.A. Respaldiza, and M. Vega

The Analysis of “San He Tu” from the Haizi and Weizi Emplacements at the Tianjin Dagu Site .................................................. 247
N. Li, Z. Guo, Z. Zhang, and D. Wang
Neolithic Obsidian Economy Around the Monte Arci Source (Sardinia, Italy): The Importance of Integrated Provenance/Technology Analyses  …  255
C. Lugliè, F.X. Le Bourdonnec, and G. Poupeau

Mineralogical Characterization of the Weathering Crusts Covering the Ancient Wall Paintings of the Festival Temple of Thutmosis III, Karnak Temple Complex, Upper Egypt  ……………. 261
H.H.M. Mahmoud, N.A. Kantiranis, and J.A. Stratis

Scientific Characterization of Roman Age Over-Paintings at Luxor Temple, Upper Egypt: Preliminary Results  …………………. 267
H.H.M. Mahmoud, N.A. Kantiranis, E. Pavlidou, and J.A. Stratis

Gilding Techniques in Mural Paintings: Three Examples from the Romanesque Period in France  …………………………… 273
A. Mounier, F. Daniel, and F. Bechtel

The Basalts of the Independent State of Samoa  …………………. 279
L.A. Pavlish, R.G.V. Hancock, and A.C. D’Andrea

Petrographic and Geochemical Investigation of Sarmatian Grinding Stones from the Üllo 5 Site, North Hungary  ……………. 285
B. Péterdi, G. Szakmány, K. Judik, G. Dobosi, Z. Kasztovszky, and V. Szilágyi

Brick-Lime Mortars and Plasters of a Sixteenth Century Ottoman Bath from Budapest, Hungary  …………………………… 293
F. Pintér, J. Weber, B. Bajnóczi, and M. Tóth

Manufacturing Analysis and Non Destructive Characterisation of Green Stone Objects from the Tenochtitlan Templo Mayor Museum, Mexico  ……………………………… 299
J.L. Ruvalcaba, E. Melgar, and Th. Calligaro

Traces of Ancient Treatments on the Stone Materials of the Main Façade of the Siena Cathedral: Glazings (Calcium Oxalate Films s.s.) and Other Finishes  ……………………………. 305
G. Sabatini, F. Droghini, M. Giamello, G. Guasparri, S. Mugnaini, and A. Scala

Investigating Trade and Exchange Patterns in Prehistory: Preliminary Results of the Archaeometric Analyses of Stone Artefacts from Tell Gorzsa (South-East Hungary)  ………………… 311
Gy. Szakmány, E. Starnini, F. Horváth, and B. Bradák
Intra-site Obsidian Subsource Patterns at Contraguda, Sardinia (Italy) ............................................................. 321
R.H. Tykot, L. Lai, and C. Tozzi

The Characterisation of Lime Plasters from Lamanai, Belize:
A Diachronic Approach to the Study of Architectural Practices ........ 329
I. Villasenor, E. Graham, R. Siddall, and C.A. Price

Provenance Studies of Midwestern Pipestones Using a Portable
Infrared Spectrometer ..................................................... 335
S.U. Wisseman, T.E. Emerson, R.E. Hughes, and K.B. Farnsworth

Application of Micro-CT: 3D Reconstruction of Tool Marks
on an Ancient Stone Bead and its Implication for
Jade Drilling Techniques .................................................. 343
Y. Yang, M. Yang, Y. Xie, and C. Wang

Non Destructive In Situ Study of Mexican Codices: Methodology
and First Results of Materials Analysis for the Colombino
and Azoyu Codices .......................................................... 349
S. Zetina, J.L. Ruvalcaba, M. Lopez Cáceres, T. Falcón, E. Hernández,
C. González, and E. Arroyo

MissMarble, an Interdisciplinary Data Base of Marble for
Archaeometric, Art History and Restoration Use ...................... 355
J. Zöldfeldi, P. Hegedüs, and B. Székely

Part III Micro-Nano Diagnostic and Ancient Technology

Look Into the Objects: Why? Cultural Heritage Motivations
of Neutron-Based Imaging Techniques ............................... 365
K.T. Biró and É. Durkovic, S. Farkas-Szőke, and The Ancient Charm
Collaboration

Nano-Scale Investigation of Some Dichroic/Opalescent Archaeological
Materials ................................................................. 371
D. Dungworth and S. Paynter

Sienese “Archaic” Majolica: Characterisation of Enamels and Glazes
by Analytical-Transmission Electron Microscopy (AEM–TEM) ....... 377
G. Giorgetti, C. Fortina, I. Turbanti Memmi, and A. Santagostino Barbone

From Micro- to Nano-Arrangement: Alteration Products in
Archaeological Glass from Marine and Land-Based Environments ..... 383
A. Silvestri, C. Viti, G. Molin, and G. Salviulo
An Investigation of the Sulfur–Iron Chemistry in Timbers of the Sixteenth Century Warship, the Mary Rose, by Synchrotron Micro-X-Ray Spectroscopy .................................................. 389

The Role of TOF-SIMS in the Characterisation of Inorganic and Organic Components in Paint Samples ........................................... 395
A. Tognazzi, F. Benetti, R. Lapucci, and C. Rossi

Part IV Bioarchaeology

Provenance Study of Wood Found in Archaeological and Architectural Objects ................................................................. 405
S. Fossati, G.L.A. Pesce, and A. Decri

Hormone Mass Fingerprinting: Novel Molecular Sex Determination of Ancient Human Skeletal Remains .................... 411
L. Mark, Z. Patonai, A. Vaczy, N. Kajsza, and A. Marcák

Hair: An Untapped Forensic Resource ........................................ 417
N.C. McCreesh, A.P. Gize, and A.R. David

Archaeobotany as an In-Site/Off-Site Tool for Paleoenvironmental Research at Pulo di Molfetta (Puglia, South-Eastern Italy) ........... 421
M. Primavera and G. Fiorentino

Analysis of Archaeological Bones for the Purpose of Reconstructing the Paleodiet of Medieval Inhabitants .......................... 427
V. Rudovica, A. Viksna, G. Zarina, and I. Melne

Integrating Stable Isotopes to the Study of the Origin of Management Strategies for Domestic Animals: δ13C and δ18O Results from Bioapatite Enamel of Cattle from the Tell Halula Site, Syria (7800–7000 BC) ........................................................... 435
C. Tornero and M. Saña

Chemical Analysis of Hair Segments and Short-Term Dietary Variation: Results for the Ancient Site of Chongos (Peru) ................ 441
R.H. Tykot, A. Metroka, M. Dietz, and R.A. Bergfield

Distinguishing Between Reindeer Antler and Bone Using Raman Spectroscopy .............................................................. 447
J. Watson and C.C. Nordby
Part V  Food Preparation and Consumption in Antiquity

Fish-Based Subproducts in Late Antiquity. Archaeometric and Archaeological Evidence from the Fish Factories at Traducta (Algeciras, Cádiz, Spain) ................................................................. 453
S. Domínguez-Bella and D. Bernal Casasola

Chemical Analyses of Floors at San Genesio (San Miniato, Pisa): A Medieval Tavern ................................................................. 459
F. Inserra and A. Pecci

Food Habits and Social Identity During the Archaic Age: Chemical Analyses of Organic Residues Found on Pottery Vessels from the Messapian Settlement of San Vito dei Normanni (South-Eastern Italy) ................................................. 465
F. Notarstefano, M. Lettieri, G. Semeraro, and L. Troisi

Finding Food While Protecting Pots: A Non-Destructive Protocol for Absorbed Residue Analysis ........................................ 473
J.M. Vanderveen

Part VI  Archaeochronometry

ESR and U/Th Dating Methodologies Applied to Carbonates from Southern Italy ................................................................. 481
J.J. Bahain, G. Burrafato, C. Falguères, A.M. Gueli, G. Stella, S.O. Troja, and A.R. Zuccarello

The Mezza Spiaggia Tower (Cagliari, Italy): The Dating of Structures by the Metrological–Chronological Analysis of Masonry and the Petro-Geochemical Stratigraphy of Building Materials ............. 489
C. Giannattasio and S.M. Grillo

Preliminary Results of Magnetic Archaeointensity Measurements in Brazil ................................................................. 495
G.A. Hartmann, M.C. Afonso, and R.I.F. Trindade

The Dating of a Sixteenth Century Settlement in the Vicinity of Quebec City (Canada) by Means of Elemental Analysis of Glass Beads Through Thermal and Fast Neutron Activation Analyses ................................................. 501
J.F. Moreau, B. Gratuze, R.G.V. Hancock, and M. Blet Lemaquand
Faster and More Accurate Processing of Samples for Microtephrochronology ................................................. 509
J. Watson, C.A. Tryon, and M.C. Vicéns

Part VII Recent Development in Radiocarbon Dating

The Radiocarbon Dating of Mortars from Wielka Waga, The Great Scales Building in The Krakow Market Square .............. 517
D. Nawrocka and J. Michniewicz

Part VIII Field Archaeology

Combination of Non-Destructive Methods for the Observation of the State of Subsurface Preservation of Ploughed Archaeological Sites: A Case Study from Oppidum Stradonice in Bohemia ............... 527
R. Kršivánek

The Different Possibilities for Collaboration Between Geophysical and Archaeological Methods in the Context of the Research Project “Neglected Archaeology” of the Department of Archaeology of the University of West Bohemia in Pilsen ........................................ 533
R. Kršivánek

Comparative Archaeometric Analysis by 3D Laser, Short Range Photogrammetry, and Hyperspectral Remote Sensing Applied to the Celtiberian City-State of Segeda ........................................ 541

Part IX Human-Environment Interaction

Shell Mounds in Brazilian Coast: Integrating Archaeological and Environmental Studies ............................................. 549
M.C. Afonso and M.C. Tenório

Hydraulic Systems in the Po Plain (Northern Italy) During the Bronze Age: Archaeology and Geoarchaeology ....................... 555
M. Cremaschi and C. Pizzi

Cultural Landscapes of South-Eastern Rhodope: The Transition from Byzantine to Modern Times ................................. 561
M. Kampa, M.K. Sioliou, P. Kaparti, E. Tsirimona, and I. Ispikoudis
Part X  Metals and Metallurgical Ceramics
(Technology and Provenance)

XRF Analyses of Four Silver Gilded Hellenistic Epaulettes ............... 569
E. Asderaki-Tzoumerkioti and A.G. Karydas

The Use of Industrial Computed Tomography in the Study of Archaeological Finds ......................................................... 575
A. Berdondini, R. Brancaccio, V. D’Errico, A. Miceli, M. Bettuzzi,
F. Casali, M.P. Morigi, M. Senn, and A. Flisch

Arabic Coins as a Silver Source for Slavonic and Scandinavian Jewellers in the Tenth Century AD ........................................ 579
N. Eniosova and R. Mitoyan

Neutron-Based Analytical Methods for the Non-Invasive Characterisation of Iron Artefacts ............................................ 585
E. Godfrey and W. Kockelmann

Corrosion Studies and Lead Isotope Analyses of Musket Balls from Scottish Battlefield Sites .............................................. 591
A.J. Hall, R. Ellam, L. Wilson, T. Pollard, and N. Ferguson

Non-Destructive and Minimally Invasive Analyses of Bronze Seal Boxes from Augusta Raurica by Micro X-Ray Fluorescence Spectrometry, Raman Spectroscopy and FTIR Spectroscopy ........... 599
K. Hunger, E. Hildbrand, V. Hubert, M. Wörle, A.R. Furger,
and M. Wartmann

A Multi-Disciplinary Approach to the Study of An Assemblage of Copper-Based Finds Assigned to the Prehistory and Proto-History of Fucino, Abruzzo, Italy ................................. 605
M.L. Mascelloni, G. Cerichelli, and S. Ridolfi

Copper-Based Kettles from Brador: A Contribution to the Study of Eastern Settlements of New France on the Northern Shore of the Estuary of the Saint-Lawrence (Quebec, Canada) ............... 611
J.-F Moreau and R.G.V. Hancock

On the Gold Adornments from Apahida-Fifth Century AD,
Transylvania, Romania .......................................................... 617
G. Niculescu, R. Oanţă-Marghitu, and M. Georgescu
Non Destructive In Situ Analysis of Gold and Silver Artifacts from Tomb 7 of Monte Alban, Oaxaca, Mexico .................................. 623
G. Peñuelas, J.L. Ruvalcaba, J. Contreras, E. Hernández, and E. Ortiz

“Harvesting” the Ore: The Use of Iron Seepages in the Early Bloomery Furnace in Ireland ........................................... 629
E. Photos-Jones and A.J. Hall

V. Virgili and M.F. Guerra

Part XI Integrated Site Studies

Reconstructing the Lost Moregine Site: A VR Based Approach to Simulate and Navigate an Inaccessible Archaeological Excavation ... 645
A.F. Abate, S.C. Nappo, T. Paduano, and S. Ricciardi

The Study of the Fourth Millennium Mud-Bricks at Arslantepe: Malatya (Turkey): Preliminary Results ..................................... 651
C. Alvaro, M. Frangipane, G. Liberotti, R. Quaresima, and R. Volpe

Intra-Site Testing Using Magnetometry and Shovel Test Pits in the Podere Funghi near Poggio Colla (Florence, Italy) ............... 657
R. Sternberg and S. Bon-Harper
Proceedings of the 37th International Symposium on Archaeometry, 13th - 16th May 2008, Siena, Italy
Turbanti-Memmi, I. (Ed.)
2011, XLV, 662 p., Hardcover
ISBN: 978-3-642-14677-0