

Thermalism in the Roman Provinces. The Role of Medicinal Mineral Waters across the Empire



ARCHAEOPRESS ROMAN ARCHAEOLOGY 117

THERMALISM IN THE ROMAN PROVINCES

THE ROLE OF MEDICINAL MINERAL
WATERS ACROSS THE EMPIRE

Edited by

Silvia González Soutelo

Universidad Autónoma de Madrid/MIAS

ARCHAEOPRESS ARCHAEOLOGY



ARCHAEOPRESS PUBLISHING LTD
Summertown Pavilion
18-24 Middle Way
Summertown
Oxford OX2 7LG
www.archaeopress.com

ISBN 978-1-80327-775-2
ISBN 978-1-80327-776-9 (e-Pdf)

© the individual authors Archaeopress 2024



'Tomás y Valiente' fellowship: Healing spas in Antiquity (MIAS/UAM).
Project of the Spanish Ministry of Science, Innovation and Universities 'THERMASCAPE: El paisaje termal en Hispania. El papel de los recursos termales en la península Ibérica desde época romana' (PID2022-138809NB-I00)



This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

This book is available direct from Archaeopress or from our website www.archaeopress.com

Contents

List of Authors	iii
Introduction	1
<i>Silvia González Soutelo</i>	
1. Adaptations to Topographical and Geological Conditions. Healing Spas Over the Territory	
The Roman Thermal Spa of <i>Aquae Iasae</i>, Varaždinske Toplice (Croatia)	5
<i>Dora KUŠAN ŠPALJ and Nikoleta PEROK</i>	
Healing Spas in the Arverni Territory (France, Auvergne Rhône Alpes)	26
<i>Lise AUGUSTIN-ROLLAND, Élise NECTOUX, Hélène DARTEVELLE, Bertrand DOUSTEYSSIER, Élise FOVET and Gabriel ROCQUE</i>	
<i>Nunc Baias petamus</i>: A Visit to the Roman Elite Spa Town from an Archaeological Perspective	42
<i>Matthias NIEBERLE</i>	
Architecture Adapted to Thermal Springs. Some Examples of Roman Engineering Solutions to Thermo-Mineral Water Abstraction in the Western Empire	55
<i>Matteo MARCATO and Silvia GONZÁLEZ SOUTELO</i>	
The Use of Thermal and Medicinal Waters in Aquincum (Budapest, Hungary)	68
<i>Gabriella FÉNYES</i>	
The Role of Statues in the Thermal Springs of the Province of Asia during the Roman Imperial Period	81
<i>Ahmet YARAŞ and Gamze ÜSKÜPLÜ AKGÜL</i>	
2. Healing Spas in Context. The Role of Bathing Establishments in the territory	
Banja Bansko (R.N. Macedonia). Through Time and Space	95
<i>Vane P. SEKULOV</i>	
Ceremonial Buildings at Thermo-Mineral Springs: The Example of Via Scavi at Montegrotto Terme	108
<i>Maddalena BASSANI</i>	
<i>Aquae Helveticae</i> Becomes Baden (Switzerland). From the Roman Vicus to the Medieval Town	122
<i>Andrea SCHAER</i>	
Repositioning a Spa in Space and Time: The Bagneres-de-Bigorre Spa (Hautes-Pyrénées, France)	131
<i>Laurent COSTA and Richard SABATIER</i>	
Space and Place around the Sacred Pool of Bagno Grande at San Casciano Dei Bagni (Toscany, Italy)	148
<i>Jacopo TABOLLI and Emanuele MARIOTTI</i>	
Transformation of Residential Architecture into Private and Public Baths in Late Antique Baiae	157
<i>Gioconda DI LUCA</i>	
The Roman Healing Spa of Termas de São Vicente (Penafiel, Portugal) and Its Surroundings in Roman Times and Late Antiquity	169
<i>Teresa SOEIRO, Silvia GONZÁLEZ SOUTELO, Helena BERNARDO and Jorge SAMPAIO</i>	
The Exploitation of Natural Resources at <i>Aquae Flaviae</i> (Chaves, Portugal)	189
<i>Sérgio CARNEIRO</i>	

3. Healing Spas and Ancient Roads. Pilgrims and visitors to thermal sites.

<i>Ad Aquas... Some Observations on the Correlation between Accessibility and Development of Thermal Sites in Roman Thrace</i>	200
<i>Mariya AVRAMOVA</i>	
Thermalism and Road System in the African Roman Provinces. A Focus on Roman Algeria	210
<i>Paola ZANOVELLO and Jacopo TURCHETTO</i>	

List of Authors

- AUGUSTIN-ROLLAND, Lise. Université Clermont Auvergne (UAR 3550; ArAr, UMR 5138) / Ingénieure d'études, 4 rue Ledru, 63000 Clermont-Ferrand, France. lise.augustin@uca.fr
- AVRAMOVA, Mariya. National Archaeological Institute with Museum – Bulgarian Academy of Sciences. avramova.m@gmail.com
- BASSANI, Maddalena. Iuav University of Venice, Department of Architecture and Arts. Associate Professor of Classical Archaeology. Palazzo Badoer, San Polo 2468, 30125 Venezia (Italy). mbassani@iuav.it
- BERNARDO, Helena. Museu Municipal de Penafiel y CITCEM. helena.bernardo@cm-penafiel.pt
- CARNEIRO, Sérgio. UNIARQ – Centre for Archaeology. School of Arts and Humanities. University of Lisbon. Alameda da Universidade, 1600-214 Lisboa, Portugal; CCDR-LVT - Commission for Regional Development and Coordination of Lisbon and Tagus Valley, Department of Culture. sergio.carneiro@ccdr-lvt.pt
- COSTA, Laurent. Research Engineer at the French National Centre for Scientific Research (CNRS) – PhD, The Huma-num Paris Time Machine (PTM) Consortium MSH Mondes, 21, allée de l'Université, 92023 Nanterre Cedex. laurent.costa@cnrs.fr
- DARTEVELLE, Hélène. French Ministry of Culture (ArAr, UMR 5138; ArScAn, UMR 7041) / Ingénieure d'études, Service régional de l'archéologie d'Auvergne-Rhône-Alpes, 4 rue Pascal, 63000 Clermont-Ferrand, France. helene.dartevelle@culture.gouv.fr
- DI LUCA, Gioconda. Università degli Studi di Roma 'Tor Vergata'. latericium@hotmail.com
- DOUSTEYSSIER, Bertrand. Université Clermont Auvergne (UAR 3550) / Ingénieur de recherche, 4 rue Ledru, 63000 Clermont-Ferrand, France. bertrand.dousteyssier@uca.fr
- FÉNYES, Gabriella. Aquincum Museum of the Budapest History Museum. feny.es.gabriella@btm.hu
- FOVET, Élise. CNRS, Université Clermont Auvergne (UAR 3550) / Ingénieure de recherche, 4 rue Ledru, 63000 Clermont-Ferrand, France. elise.fov et@uca.fr
- GONZÁLEZ SOUTELO, Silvia. Universidad Autónoma de Madrid (UAM) and Madrid Institute for Advanced Studies (MIAS). Campus Cantoblanco. Faculty of Filosofía y Letras, Dep. Prehistory and Archaeology. silvia.gonzalezs@uam.es
- KUŠAN ŠPALJ, Dora. Archaeological Museum in Zagreb. Zagreb, Croatia. dkusan@amz.hr
- MARCATO, Matteo. Independent researcher. matteo.marcato.87@gmail.com
- MARIOTTI, Emanuele. Università per Stranieri di Siena. emanuele.mariotti@unistrasi.it
- NECTOUX, Élise. French Ministry of Culture (ArAr, UMR 5138; ArScAn, UMR 7041) / Conservatrice du patrimoine, Service régional de l'archéologie d'Auvergne-Rhône-Alpes, 4 rue Pascal, 63000 Clermont-Ferrand, France. elise.nectoux@culture.gouv.fr
- NIEBERLE, Matthias. Universität zu Köln, Archäologisches Institut, Albertus-Magnus-Platz 1, 5931 Köln. nieberlematthias@gmail.com
- PEROK, Nikoleta. Archaeological Museum in Zagreb. Zagreb, Croatia. nperok@amz.hr
- ROCQUE, Gabriel. Service d'archéologie préventive du département de l'Allier (Citeres, UMR 7324) / Operation manager, 1 avenue Victor Hugo BP 1669, 03000 Moulins, France. rocque.g@allier.fr
- SABATIER, Richard. Government-accredited Architect (DPLG), Chairman of the Observatory for Archaeology and Heritage in Haute-Bigorre (OAPHB), 6, rue Gambetta, 65200 Bagnères-de-Bigorre. oaphb65@gmail.com
- SAMPAIO, Jorge. Área Arqueológica do Freixo - Património Cultural I.P. jorgesampaio@patrimoniocultural.gov.pt
- SCHAER, Andrea. Independent researcher. andrea.schaer@archaeokontor.ch
- SEKULOV, Vane P. NI Institute for protection of cultural monuments and the Museum of Strumica. v.p.sekulov@gmail.com
- SOEIRO, Teresa. CITCEM-Faculty of Letters. University of Porto (FLUP). teresasoeiro@sapo.pt
- TABOLLI, Jacopo. Università per Stranieri di Siena. jacopo.tabolli@unistrasi.it
- TURCHETTO, Jacopo. Department of Cultural Heritage, University of Padova / Research fellow, piazza Capitaniato, 7. 35139 Padova (Italy). jacopo.turchetto@unipd.it
- ÜSKÜPLÜ AKGÜL, Gamze. Research Assistant, Trakya University, Faculty of Letters, Department of Archaeology, TR-22100 Edirne/Turkey. gamzeuskuplu@trakya.edu.tr
- YARAŞ, Ahmet. Prof. Dr., Trakya University, Faculty of Letters, Department of Archaeology, TR-22100 Edirne/Turkey. ahmetyaras@trakya.edu.tr
- ZANOVELLO, Paola. Department of Cultural Heritage, University of Padova / Associate professor, piazza Capitaniato, 7. 35139 Padova (Italy). paola.zanovello.1@unipd.it

Introduction

Silvia González Soutelo

Throughout history, mineral and thermal waters have been a source of health and a remedy for numerous ailments and diseases. Before the development of pharmacology, which occurred essentially from the mid-20th century onwards, this natural resource was a fundamental element for all those who, beset by various illnesses, travelled to the most highly valued thermal springs in order to undergo various treatments associated with their waters.

Based on the local population's empirical knowledge of their salutary properties, which had both religious and medical associations, the various types of water present in these natural springs were identified in accordance with their temperature, flow, colour, odour or flavour, which could be used to heal or alleviate certain physical problems. Given the importance the Romans placed on these waters in the process of expanding their Empire, this resource became a highly valued natural asset from multiple perspectives, including both strategic and functional considerations.

Indeed, the geology of Italic areas such as Etruria, Campania or Lazio formed a sort of laboratory in which the abundance of thermal springs, mainly hyperthermal, provided a breeding ground for the use of natural spaces (caves, crevices, pools, etc.), which were gradually copied and integrated through the creation of baths used not only for curative purposes (in the case of mineral-medicinal waters), but which also played a hygienic, social and cultural role (in the case of common water) that was easy to replicate in all settlements during the Roman period.

This is supported, for example, by physician Antyllus in Oribasius (X, 1, 6 and X, 3, 1) who writes in his first book on *Methods of Treatment and on Natural Mineral Baths* that “regarding the baths, some are composed of fresh water of poor quality, whilst others are impregnated with a certain quality and endowed with efficient and manifest properties (...). The action of *natural mineral baths* is far more efficient and energetic than that of *artificial baths*. Indeed, there are a large number of types of mineral waters, determined by the properties of the soils they pass through (...)”¹.

¹ For a more detailed translation and study of this text and other works of classical authors who dealt with different topics on thermalism, see the project website www.healingsspainantiquity.

Thanks to this perception, which was shared by classical authors, the construction of sanctuaries and bathing houses may well have commenced in an Italian setting. Indeed, more and more specialised building solutions and infrastructures would gradually emerge of an increasingly monumental nature that would spread to the new provinces that made up the Empire.

In this sense, together with the steady expansion of hygienic baths, a new model of healing baths appeared that included spaces for immersion and ablutions, with pools and/or bathtubs, as well as the use of mud and *pediluvia*. The fact is, that from the Roman period at least, buildings and thermal complexes were built that made maximum use of these mineral waters, with attention being paid to the engineering difficulties involved in capturing those springs, as well as adapting the baths to the topography of the terrain and the myriad aspects that could affect these springs.

Gradually, many of these thermal sites would feature buildings and services that would allow widely varying settlements to be established around the waters. They included the construction of authentic spa towns, as well as individual facilities, dependent on cities or settlements of diverse nature, where ritual and salutary functions would play a major role in their layout.

However, much remains to be discovered. Despite pioneering work addressing the question of these waters aimed at pinpointing possible differences between baths with mineral and thermal water, very little research has been carried out that centres on the global nature of Roman thermalism, a phenomenon with numerous aspects that are still unknown to us.

That is the objective of this book. Starting from the hypothesis that the buildings that employed mineral-medicinal waters differed from the classic hygienic baths we all know, it features an interesting collection of thermal and archaeological sites located throughout the ancient Roman Empire and which evidence the complexities involved in their interpretation, reflected

es (in progress). This study on classical sources for the study of healing spas is also described in S. González Soutelo and S. Romano 2023. Sources for the study of ancient thermalism: a new proposal for editing and translation. *MonTI. Monografías de Traducción e Interpretación* 15: 179-205. DOI: 10.6035/MonTI.2023.15.06.

in the multiple physical and chemical determinants of these waters.

Indeed, the modern phenomenon of thermalism is that of a thermal-healing model associated with wellness spaces that today have spread beyond Europe, standing directly on sites that are hydrogeologically rich in thermal mineral waters. Yet in order to discover their origins and principles, we must go back to the Etruscan, Hellenistic and Roman worlds to obtain an insight into the plethora of cultural, social, political and economic phenomena that allowed this natural therapy to be put to use.

Furthermore, moving beyond this idea, we consider that the various baths that were constructed from the Hellenistic period onwards were essentially an attempt to imitate the natural sites where these waters emerged spontaneously and naturally. Consequently, the study of baths dating back to the Roman period also allows a far clearer insight into the origin and development of the various types of thermal and salutary complexes associated with each type of water. Many of them would therefore imitate the generation of steam and high temperatures these buildings were capable of through the use of boilers and complex hypocaust and heating systems.

In this sense, this volume addresses various questions of interest in order to understand this phenomenon. To what extent does thermalism display differences and similarities in each of the provinces the Roman Empire was divided into? What are the specific characteristics of each territory? Is this a singular or local occurrence, or can we find elements that are common to all thermal facilities?

In order to delve deeper into these and other aspects, this monograph includes a large number of studies, organised into various sections, featuring some of the most representative and internationally most studied sites and the leading specialists in each. Together, we seek to identify the various construction and functional solutions for thermal spas through the creation of a research network into ancient thermalism that provides a forum for the exchange of ideas and experiences in this field.

Therefore, and under the generic title *Thermal spas in the Roman Provinces: the role of medicinal mineral waters across the Empire*, and in the awareness that thermal waters were a much valued natural resource in antiquity, various authors attempt to respond to a series of questions that have arisen during the course of their research:

Addressing adaptation to topographical and geological conditions, we understand that the bath buildings

that exploited mineral-medicinal waters had to be in keeping with the places where these waters emerged, overcoming the challenges of rivers, hills, or filtrations of different types, which undoubtedly made their construction difficult, as well as their maintenance and subsequent study. An exceptional example of this phenomenon is provided by **D. Kušan Špalj and N. Perok** from the Museum of Varaždinske Toplice (Croatia), in their description of the complex process of excavation and study of a unique thermal complex, whose ancient toponym (*Aquae lasae*) reflects the value that has been attributed to these waters since ancient times. The same is true of the thermal sites of the French Massif Central, studied by the team of archaeologists formed by **L. Augustin-Rolland, B. Dousteysier, E. Fovet, E. Nectoux, G. Rocque and H. Darteville**. Their combined efforts constitute an outstanding example of integration, collaboration and communication, highlighting exceptional sites and benchmarks in European thermalism that were in danger of falling into oblivion.

Likewise, the combination of nature and technical development during the Roman period is exemplified perfectly in the thermal site of Baia (Italy), the object of an in-depth study by **M. Nieberle** analysing the construction of one of the most elaborate thermal sites of entire Empire and a social, cultural, architectural and economic benchmark of the Roman period, located in the famous Bay of Naples. This combination is also reflected in the outstanding examples of adaptation and preparation of complex collection systems in the French sites studied by **M. Marcatto and S. González Soutelo**, which are still in use today at a considerable number of thermal sites. Further examples in Eastern Europe and Turkey are presented by **G. Fenyés** in the military context of the Roman limes with *Aquincum* (Budapest, Hungary) through the origins, singularity and thermal tradition of one of Europe's major thermal spa capitals; or in the architectural and monumental testimonies in the Anatolian peninsula by **A. Yaraş and G. Üsküplü Akgül**, focused mainly on the western area of modern-day Turkey, where local and Greco-Roman traditions come together in a territory with a longstanding thermal trajectory that extends to the current day.

Turning to the role Roman spas played in the landscape (the object of our ongoing RDI project "*THERMASCAPE: El paisaje termal en Hispania. El papel de los recursos termales en la península Ibérica desde época romana*" PID2022-138809NB-I00), the monograph includes an insight into the site at Bansko (Strumica), an exceptional thermal building and sanctuary situated in the countryside of what is today the Republic of North Macedonia, analysed by **V.P. Sekulov**, the site curator. Similar interest can be found in Italy, both in the research conducted by **M. Bassani**, at the thermal

site of Montegrotto Terme (*Aquae Patavinae*, just outside Padua); and again in Baia (Italy), where the built and functional entity continued until the Late Antique period, thanks to **G. di Lucca's** fascinating observations into this Mediterranean site associated with the city of Cumas; or in the magnificent example of the Etruscan-Roman sanctuary and healing site of *Bagno Grande* in San Casciano dei Bagni, also in Italy, presented by **J. Tabolli and E. Mariotti**, which in the last few years has generated a wealth of new and valuable information as well as highlighting the phenomenon of thermalism from the Etruscan period onwards.

Joining these contributions are the recent results of archaeological investigations conducted in highly significant sites such as *Aquae Helveticae* (Baden, Switzerland), by the archaeologist **A. Schaer**, who offers an intriguing diachronic vision of the thermal phenomenon in this Central-European spa town. The same is true of Bagnères-de-Bigorre in the French Pyrenees, studied by **L. Costa and R. Sabatier**, who address the role of these waters in these high mountains up until the current day. This same proposal is posited by the international team comprising **T. Soeiro, S. González Soutelo, H. Bernardo and J. Sampaio** regarding the Roman site of Termas de São Vicente (Penafiel) for the analysis of this spa within its historical and territorial context (between the 1st and 5th centuries AD). Similarly, the work of archaeologist **S. Carneiro** describes the exceptional

testimony of the Roman spa of *Aquae Flaviae* (Chaves) and its surrounding area, as particularly topical case studies located within Portuguese territory.

This volume of studies would not be complete without a small section discussing the role of thermalism in shaping of the axes of communication in the Roman period and the role these waters may have played in the creation, emergence and development of new settlements in very diverse geographical areas. This section includes a case study of the Roman province of Thracia (in present-day Bulgaria), the work of **M. Avramova**, who analyses the road network laid out between some of the main thermal sites in the eastern part of the Empire. North Africa is also addressed thanks to the update on research into road layouts and thermal enclaves in the different African provinces from **P. Zanovello and J. Turchetto**.

As has been very briefly set out in this introduction, together, these examples form a tour of the Mediterranean that will enable us to begin to trace a global vision of thermalism from antiquity to the present day. Looking beyond the more traditional studies of these sites conducted in previous centuries, we can observe a change of mentality among researchers, and the unanimous perception of a new direction in research addressing this phenomenon, in keeping with the singularities required by the study of a natural resource that has been highly valued since antiquity.