

Scientific synthesis report for the entire execution period of the project

PN-II-ID-PCE-2011-3-0825, nr. 219/5.10.2011

**The ethno-archaeology of the salt springs and salt mountains from the
extra-Carpathian area of Romania**

(EthnosalRo)

The final scientific report is structured on the main stages of implementation of the EthnosalRo project.

2011-2013

The following is a synthesis of the scientific reports for the years 2011, 2012, 2013 and 2014, which are also available *in extenso* in Romanian. The yearly scientific reports assess the degree of implementation of the project in correlation with the scientific capitalisation in scholarly journals, study volumes, as well as the increase of the project's visibility on a national and international scale through participations at scientific gatherings and the organising by the project members of sessions at gatherings of the highest notability. Special sections of the reports make reference to the international feedback to publications by *EthnosalRo* members.

2011

Objective no. 1/2011, namely the *Theoretic grounding of the concept of anthropology of salt*, was accomplished. The vast problematics on salt has been up to this moment addressed sectorally in geological, chemical, technological, archaeological, historical, ethnographical, ethnoarchaeological, linguistic and literary works. After a grandiose encyclopedic attempt of a Spanish Renaissance scholar from the 16th century, Bernardino Gomez Miedes's (first edition) *Commentariorum de sale libri quattuor* (Valentiae 1572) / (second edition) *Commentariorum de sale libri quinque* (Valentiae 1579), the endeavours gradually became more specialised, particularly in the 20th century, but also more atomized. Our innovatory idea is to unify under the sign of cultural anthropology the very diverse approaches on this essential reference of life, exactly in order to highlight its primordial importance for the entire evolution of mankind, but also to restore its eminence, steadily

suppressed since the industrial and, above all, the globalisation era.

The themes that must be investigated from a holistic approach can be synthesized, in a first approach, as follows:

- a) Types of salt
- b) Techniques of salt exploitation;
- c) Uses of salt in the diachronic past;
- d) Trade, barter, gift;
- e) Linguistic reflexes of the referential *salt*;
- f) Salt in religious beliefs;
- g) Symbolism of salt;
- h) Salt and economic development;
- i) Control of the salt resources;
- j) Social and societal implications of the exploitation, storing and control of the salt resources.

A **second objective** set for 2011 consists of conceiving a series of ethnographic questionnaires adjusted for the specificities of traditional exploitation of salt outcrops (salt mountains or banks). Embodying the conclusions drawn from the theoretical configuration of the concept of anthropology of salt, these new questionnaires are capable of registering the quasi-totality of relevant elements for this type of resource exploitation still practiced in Romania. The three types of questionnaires are structured according to the location of the ethnographic inquiry (at the salt outcrop, at a sheepfold, or in the consumer settlement).

2012–2013

Meeting the results

The objectives listed in the yearly implementation plan for 2012 have been fully met. A special mention should be made with respect to the situation from Botoșani, Iași and Vaslui counties, where despite the presence of toponyms related to salt and to the thorough field work, there were no identifiable salt springs or salt outcrops that are or can be exploited on the surface. The halotponymy from these areas is linked to geological processes of capillarity that produce salty spots which predominantly contain potassium salts. Nevertheless, field investigations revealed that the herders use these salts for feeding sheep, improvising small basins with saline water, which is outside of the actual scope of the project. The objectives set to be accomplished in 2013, according to the financial resources allocated by the funding authority, have been fully met with respect to the toponymic, bibliographic and methodological (the critical grounding of employing

ethnographic analogies for explaining archaeological phenomena and context from the extra-Carpathian area) facets, and are under way with respect to the field investigations with associated activities in Prahova county (collecting samples of saline water, GPS registering), as well as ethnographic inquiries estimated at ca. 60-70 (for Buzau and, partially, Prahova counties). After populating the database with the new data collected on the field, spatial analysis was performed, the information from written sources were confronted with those from the ethnographic inquiries, and the modellisation of the distribution network for non-industrial salt was produced.

Research directions

- Defining the first nutrition supplement based on NaCl from the inner continental area of Europe (see Annex, point 1);
- Determining the parameters of the demographic dynamics in the hydrographic basins remote from the salt sources in the Moldavian piedmont (see Annex, point 1);
- The assessment of the quantities of salt required by the communities investigated archaeologically through non-destructive methods led to the employment of a recent method for estimating the surface area of a Cucutenian site from the region of Moldavia (see Annex, point 1);
- Original research on the saturated model in ethnoarchaeology on a global scale and in Romania;
- Defining the parameters of the geological and geographic basis of the pre- and proto-historical exploitation of the salt springs and salt outcrops in Romania (see Annex, point 3B);
- The theoretical grounding of the original method of spatial ethnoarchaeology;
- The ratio between the salt springs and the density of identified (and in some cases archaeologically investigated) settlements has also been investigated with regards to the mobility linked to these "salt attractors". The results of the investigations were presented at the 18th Annual Meeting of the European Association of Archaeologists, Helsinki, 2012;
- The elaboration of an original model on the toponymic impact of the salt springs from Romania;
- The investigation of the linguistic reflexes of salt in the languages with the oldest written attestations in Europe, conducted as part of a wider original study, constitutes the topic of poster presented at the International Conference of Ethnoarchaeology in Rome, pending partial publication (only the Latin lexicon) in a collective volume published abroad (see Annex, point 3B);
- The ratio between the invisible heritage on salt and the archaeological time (see Annex, point 3B);
- Human interaction and the impact of the exploitation of the salt springs in the case of one of

the most ancient exploitation points in the world (Hălăbutoaia, Țolici, Neamț county);

- The completion of the database concerning the foreign travellers in the Romanian principalities with make reference to the salt resources;
- Establishing the relationships between the exploitation of brine from salt springs and the exploitation of salt outcrops.

Increasing the international visibility

The project's website was built and continuously updated. The presentation of the *EthnosalRo* project was published in the online journal *The European Archaeology* published by the European Association of Archaeologists (see Annex, point 4C). All the members of the project, up to the level of MA student, have participated to five major scientific events (four abroad and two in Romania; see Annex, points 3B and 5). One member of the project was elected chairman of a session (Gh. Romanescu), and two others (M. Alexianu and R-G. Curcă) were invited as Visiting Professors to Buffalo University, USA (see Annex, point 3A).

Organization of sessions at scientific gathers with major international visibility

A session on the archaeology of salt around the world was approved as part of the 7th World Archaeological Congress (Jordan, 13-19 January 2013). The organisers of this session were four project members (M. Alexianu, O. Weller, R. Brigand, R.-G. Curca) (see Annex, point 3A). The same members further submitted successfully the session entitled *Salt of the Earth: an Invisible Past in European Archaeology* organised as part of the 19th Annual Meeting of the European Association of Archaeologists (Pilsen, 4-8 September 2013). We mention that from the eleven papers delivered by specialists from Japan, France, Germany, Croatia, Rep. of Moldova, Switzerland, Spain, Poland, and Romania, four concerned the salt from the Carpathian areas of Romania, a fact that reveals the intensity of such researches carried out in Romania, above all by the members and external collaborators of the *EthnosalRo* project (see Annex, point 3A).

1. ISI articles

- M. Alexianu, *Lexicographers, paroemiographers and slaves-for-salt barter in ancient Thrace*, Phoenix, Vol. 65 (2011), 3-4, p. 389-394.
- M. Alexianu, I. Sandu, R. Curcă, *Fire, Brine and Wood: The First Nutritional Supplement in the Inland World*, Mankind Quarterly, Vol. 52, Nos. 3-4 (Spring-Summer 2012), p. 415-427 (M. Alexianu, I. Sandu, R.-G. Curcă).
- A. Asăndulesei, L. Istina, V. Cotiuğă, F.-A. Tencariu, Șt. Caliniuc, R.-Șt. Balaur, A.-P. Crețu, C. Nicu, B. Venedict, *Cesium magnetometer survey in the Cucuteni settlement of Fulgeriș – La Trei Cireși, Bacău County, Romania*, Romanian Reports in Physics, Volume 64, Number 3, 2012.
- R. Brigand, A. Asăndulesei, O. Weller, V. Cotiuğă, *Contribution à l'étude du peuplement chalcolithique des bassins hydrographiques du Bahluet et du Valea Oii (dép. Iasi)*, Dacia N.S., tome LVI, 2012, p. 5-32.

Accepted for publication in ISI journals

- I. SANDU, V. VASILACHE, M. ALEXIANU, R.-G. CURCA, *Chemical explanation of an original milk curdling ethnoprocedure by natural brine*, Revista de chimie, vol.65, nr.1/2014.
- Ghe. ROMANESCU, M. A. CRETU, I. G. SANDU, E. PAUN, I. SANDU, *Chemism of streams within the Siret and Prut drainage basins: water resources and management*, Revista de Chimie, vol.64, nr.12/2013.
- Ghe. ROMANESCU, I. SANDU, C. STOLERIU, I. G. SANDU, *Water resources in Romania and their quality in the main lacustrine basins*, Revista de Chimie, vol. 65, nr.3/2014.
- Ghe. ROMANESCU, E. PAUN, I. SANDU, I. JORA, E. PANAITESCU, O. MACHIDON, C. STOLERU, *Quantitative and qualitative assessments of groundwater into the catchment of Vaslui river*, Revista de Chimie, vol. 65,

nr.4/2014.

2. Reviews in ISI journals of publications by EthnosalRo members

- M. Alexianu, O. Weller and R.-G. Curcă, eds. *Archaeology and Anthropology of Salt: A Diachronic Approach*. Proceedings of the International Colloquium, 1–5 October 2008, Al. I. Cuza University (Iaso, Romania). (British Archaeological Reports International Series 2198, Oxford: Archaeopress, 2011, 226pp., several illustrations (in colour & b/w) and maps, ISBN 978-1-4073-0754-1), Review by Elisa Guerra Doce, *European Journal of Archaeology* 16 (2) 2013, 336-339.
- M.-T. Alexianu, O. Weller, R.-G. Curcă (eds.), *Archaeology and Anthropology of Salt. A diachronic approach*. Proceedings of the International Colloquium, 1-5 October 2008, Al. I. Cuza University (Iași, Romania), BAR – 2198, Oxford, 2011, **Review** by Nena Galanidou, **Antiquity**, Vol 86, No 333 (2012), p. 935-937.
- M.-T. Alexianu, O. Weller, R.-G. Curcă (eds.), *Archaeology and Anthropology of Salt. A diachronic approach*. Proceedings of the International Colloquium, 1-5 October 2008, Al. I. Cuza University (Iași, Romania), BAR – 2198, Oxford, 2011, **Review** by Oana Macari, **Mankind Quarterly**, Vol LII, No 2 (Winter 2011), p. 222-229.

3. International visibility

A.

- **Photographic exposition** « Du sel et des hommes: approches ethnoarchéologiques », Maison de l'Archéologie et de l'Ethnologie, CNRS-Universités Panthéon-Sorbonne et Paris Ouest La Défense, November 2012 — January 2013.
- **Organising a session** on the project's theme at the *7th World Archaeological Congress*, Jordan, 13-18 January 2013, entitled *Archaeology of salt: approach to an invisible past*. Organisers: M.-T. Alexianu; O. Weller; R. Brigand; R. Curcă.
- **Organising the Ethnoarchaeology and Experimental Archaeology session** at the Third Arheoinvest Congress, Iași, June 6-8, 2013. Organisers: Pierre Petrequin, Marius Alexianu.

- **Organising a session on the project's theme** at the 19th Annual Meeting of the European Association of Archaeologists, Pilsen 4-6 September 2013, entitled *Salt of the Earth: an invisible past in European Archaeology*. Organisers: R.Brigand, O.Weller, M.Alexianu, R.Curcă.
- M.-T. Alexianu and R. Curcă: **Visiting Professors** at State University of New York at Buffalo, United States of America (Department of Anthropology); December 2012. Lecture delivered: *Understanding the Prehistoric Salt Springs: Ethnoarchaeological Investigations in the Romanian Carpathians*.
- Ghe. Romanescu was elected **chairman of a session** at the *International Congress on Informatics, Environment, Energy and Applications (IEEA 2012)*, March 17-18, 2012, Singapore.

B

Participations at international scientific gatherings

- Ghe. Romanescu, M. Alexianu, O. Weller — *Fresh rivers and salt springs: modern management and ethno-management of water resources in Eastern Romania* — International Congress on Informatics, Environment, Energy and Applications (IEEA 2012), Singapore, March 17-18, 2012.
- E. Gauthier, Olivier Weller, J. Giraud, R. Brigand — *Diffusion of Raw Materials and Manufactured Objects. A challenge for spatial analysis?* — Computer Applications and Quantitative Methods in Archaeology (CAA 2012), Southampton, March 26-30, 2012.
- Andrei Asandulesei, Robin Brigand, Vasile Cotiuga, Olivier Weller — Neolithic and Chalcolithic territorial patterns in Moldavia (Romania). Remarks on Neamt and Iasi regions — Computer Applications and Quantitative Methods in Archaeology (CAA 2012), Southampton, March 26-30, 2012.
- L. Saligny, X. Rodier, F. Bertoncello, F. Favory, E. Fovet, C. Gandini, E. Gauthier, J. Giraud, M. Leroy, L. Nuninger, N. Poirier, O. Weller — *Formalization of scientific process and conceptual modelling for the study of territorial and products circulation dynamics (ArchaeDyn II programme)* — Computer Applications and Quantitative Methods in Archaeology (CAA 2012), Southampton, March 26-30, 2012.

- M. Alexianu, V. Cotiugă, A. Asăndulesei, R.-St. Balaur, R. Curcă, St. Caliniuc — *Salt springs and mobility: Natural invariants and human variables in archaeological sequences from Eastern Romania* — European Association of Archaeologists 2012 annual meeting (EAA 2012), Helsinki, August 29-September 1, 2012 (abstract in *European Association of Archaeologists 2012. Abstracts*, p. 105-106).
- E. Gauthier, O. Weller, J. Giraud et R. Brigand in coll. M. Gabillot et P. Pétrequin — Theoretic space-time modeling of the diffusion processes of raw materials and manufactured objects (poster) — European Association of Archaeologists 2012 annual meeting (EAA 2012), Helsinki, August 29-September 1, 2012.
- M. Alexianu, O. Weller, R. Brigand — *Patrimoine invisible-temps archéologique: une géométrie variable* — *Italian Society for Ethnoarchaeology (AIE)*, International Conference “The Intangible Elements of Culture in the Ethnoarchaeological Research”, Roma, 21-23.11.2012.
- R.-G. Curcă — The linguistics of salt: from history to prehistory (poster) — *Italian Society for Ethnoarchaeology (AIE)*, International Conference “The Intangible Elements of Culture in the Ethnoarchaeological Research”, Roma, 21-23.11 2012.
- M.-T. Alexianu, R.-G. Curcă, A. Asăndulesei, R. Balaur, St. Caliniuc — *The spatial ethnoarchaeology of the salt springs from the Eastern Subcarpathians of Romania* — 7th World Archaeological Congress (WAC-7), Dead Sea, Jordan, 13–18 January 2013.
- O. Weller — *Salt making in prehistory: a global overview from the European perspective* — 7th World Archaeological Congress (WAC-7), Dead Sea, Jordan, 13–18 January 2013.
- R.-G. Curcă — *Halotherapy: from ethnography and history to prehistory* — 7th World Archaeological Congress (WAC-7), Dead Sea, Jordan, 13–18 January 2013.
- Ghe. Romanescu — *The geological basis for the development of salt production in ancient Romania* — 7th World Archaeological Congress (WAC-7), Dead Sea, Jordan, 13–18 January 2013.
- D. Monah, St. Caliniuc — *The importance of salt in ritual exchanges in the Southeastern European Chalcolithic* — 7th World Archaeological Congress (WAC-7), Dead Sea, Jordan, 13–18 January 2013.

- A. Asăndulesei, R.-Șt. Balaur, F.-A. Tencariu — *Ethno-archaeological research concerning the salt supply in Neolithic and Chalcolithic communities from Eastern part of Romania* — 7th World Archaeological Congress (WAC-7), Dead Sea, Jordan, 13–18 January 2013.
- M. Alexianu, A. Asăndulesei, R. Balaur, R. Brigand, Șt. Caliniuc, V. Cotiuță, R.-G. Curcă, Ghe. Romanescu, I. Sandu, F.-A. Tencariu, O. Weller — *Diachronic (from the Palaeolithic to 5th c. A.D.) site density around the salt springs from the Romanian Eastern Carpathians. An ethnoarchaeological model* — Third Arheoinvest Congress, Iași, Romania, 6-8 June 2013.
- I.-C. Nicu, Ghe. Romanescu, A. Asăndulesei, V. Cotiuță — *Morphometrical and geomorphological characteristics of the landscape from the Valea Oii basin (tributary of the Bahlui River). Direct implications for Chalcolithic archaeological sites* — Third Arheoinvest Congress, Iași, Romania, 6-8 June 2013.
- O. Weller - *First Salt Making in Europe: a Global Overview from Neolithic times*, 19th Annual Meeting of the European Association of Archaeologists, 4-8 September, Pilsen, Czech Republic.
- R. Brigand, O. Weller, A. Asăndulesei - *Spatial Models for Salt Archaeology. A Neolithic Case Study from Moldova (Romania)*, 19th Annual Meeting of the European Association of Archaeologists, 4-8 September, Pilsen, Czech Republic.
- M. Alexianu, O. Weller, R. Brigand, I. Sandu, Ghe. Romanescu, R. Curcă, V. Cotiuță, R. Balaur, Șt. Caliniuc, F. Tencariu, *Natural brine or rock salt exploitation? Ethnoarchaeological researches in the extracarpathian area of Romania*, 19th Annual Meeting of the European Association of Archaeologists, 4-8 September, Pilsen, Czech Republic.
- Romanescu G., Alexianu M., Romanescu A.M., Romanescu G., *Distribuția masivelor de sare și exploatarea vechilor și actualelor rezerve de ape mineralizate din bazinul hidrografic Siret (Romania) – studiu de caz pentru zona estică a Carpaților Orientali.*, Seminarul geografic internațional „Dimitrie Cantemir”, ediția a XXXIII-a, 18-20 octombrie 2013, Iași.

C.

Volumes published in the framework of the project

- V. Cotiuță, Șt. Caliniuc (eds.), *Interdisciplinarity Research in Archaeology. Proceedings of the First Arheoinvest Congress, 10–11 June 2011, Iași, Romania*, BAR International Series 2433, Oxford, Archaeopress, 2012, ISBN 978-1-4073-1032-9.

- B. Moinier, *Le sel dans la culture antique*, Parthenon Verlag, Kaiserslautern, 2012. • **Salt effect**. Proceedings of the Second Arheoinvest Symposium — *From the Ethno-archaeology to the Anthropology of Salt*, “Alexandru Ioan Cuza” University of Iași (Romania), 20-21 April 2012 (eds. M. Alexianu, R.-G. Curcă, V. Cotiugă), Oxford, Archaeopress, 2013 (in press).

4. Publications in non-ISI journals and in collective volumes

- I. Sandu, O. Weller, D. Stumbea, M. Alexianu, *Analyses archéométriques sur les moules à sel chalcolithiques de l'est de la Roumanie*, in V.Nikolov, K.Bacvarov (eds.), *Salt and Gold: The Role of Salt in Prehistoric Europe*, Provadia-Veliko Tarnovo, 2012, p. 143-154.
- M. Alexianu, O. Weller, R. Brigand, R.-G. Curcă, *Ethnoarchaeologische Forschungen zu den Salzwasserquellen der moldauischen Vorkarpaten, Rumaenien*, in V.Nikolov, K.Bacvarov (eds.), *Salt and Gold: The Role of Salt in Prehistoric Europe*, Provadia-Veliko Tarnovo, 2012, p. 155-172.
- O. Weller, *La production chalcolithique du sel à Provadia-Solnitsata: de la technologie céramique aux implications socio-économiques*, in V.Nikolov, K.Bacvarov (eds.), *Salt and Gold: The Role of Salt in Prehistoric Europe*, Provadia-Veliko Tarnovo, 2012, p. 67-87.
- M. Alexianu, O. Weller, R. Brigand, R.-G. Curcă, *Ethnoarchéologie des sources salées de la Moldavie précarpatique: une taxonomie des habitats*, Thraco-Dacica, 2012, p. 141-150.
- Ghe. Romanescu, M. Alexianu, O. Weller, *Fresh Rivers and Salt Springs: Modern Management and Ethno-Management of Water Resources in Eastern Romania*, in Fan Hong (ed.), *Informatics, Environment, Energy and Applications. Selected, peer reviewed papers from the 2012 International Congress on Informatics, Environment, Energy and Applications (IEEA 2012)*, March 17-18, 2012, Singapore. Singapore, IACSIT Press, 2012, p. 207-219.
- R. Brigand, O. Weller, *Natural resources and settlements dynamics during Later Prehistory in Central Moldavia (Romania). An integrated GIS for spatial archaeological studies*. In V. Cotiugă and S. Caliniuc (eds.), *Interdisciplinarity*

Research in Archaeology. Proceedings of the First Arheoinvest Congress, 10–11 June 2011, Iași, Romania, BAR International Series 2433, Oxford, Archaeopress, 2012, p. 1-18.

- O. Weller, *Plaidoyer pour quelques grains de sel dans la Préhistoire européenne*, Tyragea, s.n, vol. VI [XXI], no. 1 (Arheologie. Istorie Antică), 2012.
- M. Alexianu, O. Weller, R. Brigand, *EthnosalRo: an ethnoarchaeological project on Romanian salt*. In *TEA The — the European Archaeologist*, Issue 38: Winter 2012/2013, p. 17-22.
- S. Cassen, O. Weller, *Idées et faits relatifs à la production des sels marins et terrestres en Europe, du VIe au IIIe millénaire*. In: J. Soares (ed.), *Prehistory of Wetlands*, Museum of Archaeology and Ethnography of the District of Setúbal (MAEDS) (in press, 2012).

5. Participations at national scientific gatherings

- M. Alexianu — *Anthropology of salt: a first conceptual approach* — Second Arheoinvest Symposium. From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- O. Weller, Gh. Dumitroaia, R. Brigand, D. Garvăn, M. Alexianu, R. Munteanu — *Un grain de sel dans les Carpates : regards croisés sur l'exploitation passée et actuelle des sources salées (départ. Neamț)* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- I. Sandu, R.-G. Curcă, V. Vasilache, M. Canache — *The correlation between the chemical composition and the domestic uses of brine* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- R. Brigand — *Territoires, hommes et sel. Variations archéogéographiques* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- Ghe. Romanescu — *The perception of salt springs in the Romanian geographic and geologic literature* — Second Arheoinvest Symposium — From the Ethno-archaeology to

the Anthropology of Salt, Iasi, 20-21 April 2012.

- V. Cotiuğă — *On salt exploitation in the Romanian principalities through the accounts of foreign travellers* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- M.-T. Alexianu — *Salt springs in Romanian toponymy* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- Al. Bounegru — *Halotoponyms and halohydronyms as reflected in medieval documents from Wallachia* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- Al. Bounegru — *Halotoponyms and halohydronyms as reflected in the atlas "Plans des Bukowiner Districts in 72 sections welche in denen Jahren 1773, 1774 und 1775 von einen Departament des Kays: Königlicher General Staabs geometrisch aufgenommen worden"* — Second Arheoinvest Symposium — From the Ethno-archaeology to the Anthropology of Salt, Iasi, 20-21 April 2012.
- M.-T. Alexianu — *Ethnoarchaeology of Salt Springs and Salt Mountains from the extra-Carpathian zone of Romania* (poster) — EUROINVENT-2012 European Exhibition of Creativity and Innovation, section Innovative Research, Iași, 10-12 May 2012.
- M.-T. Alexianu, O. Weller, R. Brigand, I. Sandu, Ghe. Romanescu, R.-G. Curcă, V. Cotiuğă, A. Asăndulesei, Șt. Caliniuc, R.-Șt. Balaur, Al. Bounegru — *A Romanian CNCS project (2011–2014): The ethnoarchaeology of the salt springs and salt mountains from the extra-Carpathian areas of Romania* — Second Arheoinvest Congress — Interdisciplinary Research in Archaeology, Iași, 7-9 June 2012.
- R. Brigand, A. Asăndulesei, O. Weller, V. Cotiuğă — *GIS-based spatial analysis in Chalcolithic. Case study in Moldova* — Second Arheoinvest Congress — Interdisciplinary Research in Archaeology, Iasi, 7-9 June 2012.
- C. Nicu, G h. Romanescu, A. Asăndulesei, V. Cotiuğă, S. Gania, R.-Șt. Balaur — *Interdisciplinary geographical and archaeological approaches in Cucutenian settlements from the Valea Oii River watershed* — Second Arheoinvest Congress — Interdisciplinary

Research in Archaeology, Iași, 7-9 June 2012.

- M. Alexianu, V. Cotiuqă, A. Asăndulesei, Șt. Caliniuc — *Research in Spatial Ethnoarchaeology on the Supplying with Brine from Salt Springs in Moldavia Romania* (abstract) — “Human Impact on the Natural Environment in the Neo-Eneolithic of South-Eastern Europe” International Colloquium, Piatra-Neamț, 24-26 October 2012.
- O. Weller, M. Danu, E. Gauthier, D. Sordoillet, A. Dufraisse, C. Delhon, R. Brigand, Ghe. Dumitroaia, D. Garvăn, R. Munteanu, V. Diaconu — *Human Interaction and Environmental Impact of Salt Spring Exploitation over 2000 Years (Hălăbutoaia-Țolici, Petricani, Neamț, Romania)* (abstract) — “Human Impact on the Natural Environment in the Neo-Eneolithic of South-Eastern Europe” International Colloquium, Piatra-Neamț, 24-26 October 2012.

6. Scientific events organised within the framework of the project

- *Second Arheoinvest Symposium — From the Ethno- archaeology to the Anthropology of Salt* — Arheoinvest Symposium Series — Iasi, 20-21 April 2012.
- *Second Arheoinvest Congress — Interdisciplinary Research in Archaeology* (International participation) — Iasi, 7-9 June 2012.
- *Third Arheoinvest Congress – Interdisciplinary Research in Archaeology* (International participation) – Iași, June 6th-8th 2013

7. Awards

- Grand Prize - M.-T. Alexianu, O. Weller, R.-G. Curcă (eds.), *Archaeology and Anthropology of Salt. A diachronic approach. Proceedings of the International Colloquium, 1-5 October 2008, Al. I. Cuza University (Iași, Romania), BAR – 2198, Oxford, 2011* — National Salon of Technical and Scientific Books, Euroinvent, 11.05.2012.
- Gold Medal - M.-T. Alexianu, *Ethnoarchaeology and anthropology of Salt Springs and Salt Mountains from the extra-Carpathian zone of Romania*, Euroinvent, 11.05.2012.

The present scientific report assesses the degree of achievement of the activities associated to the objectives of the current year, in correlation with the targeted research directions, with their capitalisation in major journals and in volumes of studies of books, as well as in national and international scientific gatherings. Special sections are dedicated to the international visibility of the *EthnosalRo* project within and outside the European Community, and the involvement of the young and experienced project members in fulfilling the objectives set for 2014. The report also has two annexes.

ATTAINING THE OBJECTIVES

Objective no. 1 set to be achieved in 2014 (**developing the database on the salt springs and salt mountains from Prahova, Dambovita and Arges counties**) has been fully attained in terms of toponymic research, field work, conducting ethnographic inquiries, collecting samples of saline water from the salt springs, surface investigation around the salt springs, and collecting GPS location data. In regards the ethnographic inquiries, we aimed to conduct them in a systematic manner not only at the salt springs/outcrops, but also in a number of consumer sheepfolds and settlements, in order to multiply the analysis vantage points of the various facets investigated. The analyses of the saline water samples are at the moment of speaking under way.

With respect to **Objective no. 2 (Modelling the distribution network of the saline water/salt boulders for the aforementioned counties)**, all the associated activities have likewise been fully met, namely the charting of the GPS data, applying spatial analysis methods to the data concerning the salt sources, and the elaboration of specific cartographic models. An important achievement in this sense is the configuration, for the first time ever, of working models for the supplying with salt of the settlements and sheepfolds from the area of an outcrop, models which have been correlated with the types of pastoralism as defined by Romanian ethnographic works.

The elaboration of 50% of the final synthesis, which constitutes **Objective no. 3**, will be finalised by the end of 2014, considering the very high amount of information that must be processed and correlated.

RESEARCH DIRECTIONS

The year 2014 witnessed, on the one hand, the completion of a series of researches started in the previous year, and, on the other, the commencing and in some cases even the completion of other researches, which are pending publication in journals or volumes. An important part of the research conducted in 2014 have been disseminated at various international or national scientific gatherings. In the following, we briefly present these researches:

- 1. Multi-faceted approach of the salt outcrop from Alghianu (Bodesti village, Vrancea commune, Vrancea county) with respect to the local and pendulatory pastoralism.**
- 2. Experimental archaeology researches on the production of salt block.**
- 3. Chronological layers in our knowledge of the intangible heritage on salt**
- 4. The diachronic impact of the saline water reserves on the evolution of the human communities**
- 5. Models of selecting human occupation in the areas with salt resources**
- 6. Ethnoarchaeological researches on the use of natural brine for preserving food**
- 7. Configuring a radial model of salt supplying of the permanent and seasonal human settlements.**
- 8. Implications of the Romanian untangible heritage of salt for the conception and carrying out of research projects.**
- 9. The salt springs exploited during Prehistory in Romania as part of the world heritage.**
- 10. Capitalising from a current perspective of the pioneering works of Romanian ethnographers concerning the role of salt in Romanian feasts**

INCREASING THE INTERNATIONAL VISIBILITY

The website of the project *EthnosalRo* has been updated continuously with all the necessary information, particularly the implementation of the project's staged activities and increasing the international visibility. All the members, to the level of MA student, have participated to no less than 15 international scientific gatherings. Two members have been invited as visiting professors by universities from Argentina and Chile. The *EthnosalRo* project in these two Latin-American countries was regarded as representing Romanian, as well as European research, in the context in which many of our research directions have not been explored as such in South America. Bernard Moinier's volume published within the framework of the project *EthnosalRo* was available, as of the 2nd of December 2014, in 29 libraries indexed

by the Worldcat system. The volume *Contesting Ethnoarchaeologies* (eds. A. Marciniak and N. Yalman; 2013), which contains a chapter authored by M. Alexianu, was present as of the same date in 216 Worldcat libraries.

REFERENCES IN A VOLUME OF STUDIES PUBLISHED BY SPRINGER

The volume *Contesting Ethnoarchaeologies: Traditions, Theories, Prospects* (eds. A. Marciniak, N. Yalman), published by the prestigious Springer publishing house in December 2013, contains an introduction signed by the two editors entitled *Non-anglophone Ethnoarchaeologies in the Past and Today: An Introduction* and containing multiple references to the study *The saturated model: a first application on World and Romanian Ethnoarchaeology* by M. Alexianu, which also constitutes the 11th chapter of the volume. We hold the opinion that these references contribute to the highest degree to the international visibility of the *EthnosaiRo* project and, in general, of Romanian ethnoarchaeology. The textual reproduction of the references is clarifying:

p. 8-9: "The second most pronounced and distinct theoretical framework is proposed by Alexianu (Chap.11, this volume). The saturated model he advocates is a logical-mathematical model that is intended to grasp all the existing parameters while studying a given object, phenomenon or process.

This grasp of all the existing parameters is a prerequisite for reaching definite knowledge. While a list of considered parameters does not have to be finite, the saturated model is in place when there are enough parameters for adequately defining the investigated object. The model also specifies conditions concerning the requirements as regards the knowledge of the parameters".

p. 9: "South-Eastern Europe has a particularly high ethnoarchaeological potential, although there is no direct ethnic continuity. However, local villages, such as those in Romania, maintains direct, organic relations with the natural environment, providing a natural reservoir for potentially powerful ethnoarchaeological studies (Chap. 11 by Alexianu, in this volume)."

p. 10: "The idea of direct historical continuity is criticized by some scholars (Chap. 7 and 11 by Yalman and Alexianu, this volume). They point to the fact that Europe is devoid of ethnic continuity between the distant past and the present. Considering the significant time span between the two phenomena under investigation (i.e., the distant past and the present), the achieved results are problematic at best."

“In Romania, ethnoarchaeology is also undergoing dynamic development, as manifested by the emergence of academic courses, numerous seminars and the flourishing of research projects (Chap. 11 by Alexianu, this volume).”

p. 11: “Other equally complex issues may involve the study of pastoralism in the rural landscape, systems of salt exploitation and the emergence of writing systems (Chaps. 8, 9, 11 and 12 by Kenig et al., Kong, Alexianu, and Tacaoglu, in this volume).”

p.12: **“The ‘salt project’, along with studies of high-land zone exploitations and settlements forms are remarkable examples of this kind of study from Romania (Alexianu, Weller & Curcă, 2011; Nandriş 1985).”**

In the same vein, we also mention that the thematic index from the end of the volume contains several notable references to Romanian archaeology and ethnoarchaeology.

SYNTHETIC BREAKDOWN OF THE PUBLICATIONS AND PARTICIPATIONS OF THE *ETHNOSALRO* MEMBERS TO INTERNATIONAL AND NATIONAL SCIENTIFIC GATHERINGS IN 2014

- 3 volumes of studies elaborated in the framework of the project (see Annex I: A.I.1-3);
- 3 ISI articles published (see Annex I: A.II.1.1-3);
- 1 ISI article accepted for publication (see Annex I: A.II.1.4);
- 1 ISI article submitted for review (see Annex I: A.II.1.5);
- 1 ERIH article accepted for publication (see Annex I: A.II.2.1);
- 1 BDI article published (see Annex I: A.II.2.2);
- 2 studies published in ISI Proceedings (see Annex I: A.III.1-2);
- 1 study published in International Proceedings (see Annex I: A.III.2.1);
- 1 study accepted for publication in International Proceedings (see Annex I: A.III.2.2);
- 3 chapters accepted for publication in a specialised book (see Annex I: A.IV.1-3);
- 15 participations at international scientific gatherings (see Annex I: B.I.1-15);
- 2 participations at national scientific gatherings (see Annex I: B.II.1-2);
- 2 conferences held abroad (see Annex I: B.III.1-2).

ANNEX I

A. PUBLICATIONS

I. VOLUMES EDITED IN THE FRAMEWORK OF THE PROJECT

I.1. Marius Alexianu, Roxana-Gabriela Curcă, Vasile Cotiuğă (eds.), *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series, Oxford, Archaeopress, 2014, ISBN 978-1-4073-****-* (in print).

I.2. Robin Brigand, Olivier Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015 (in print).

I.3. Vasile Cotiuğă, Ștefan Caliniuc (eds.), *Interdisciplinary Research in Archaeology. Proceedings of the Second Arheoinvest Congress, 7–9 June 2012, Iași, Romania*, BAR International Series, Oxford, Archaeopress, 2015, ISBN 978-1-4073-****-* (in press).

II. ARTICLES

II.1. ISI JOURNALS

II.1.1. Gheorghe Romanescu, Ion Sandu, Cristian Stoleriu, Ioan-Gabriel Sandu, *Water Resources in Romania and Their Quality in the Main Lacustrine Basins*, *Revista de Chimie*, vol. 65, no. 3, p. 344-349.

II.1.2. Ion Sandu, Viorica Vasilache, Marius Alexianu, Roxana-Gabriela Curcă, *Chemical explanation of an original milk curdling ethnoprocedure by natural brine*, *Revista de chimie*, vol. 65, no. 1, 2014, p. 120-122.

II.1.3. Gheorghe Romanescu, Elena Paun, Ion Sandu, Ionuț Jora, Emilian Panaitescu, Ovidiu Machidon, Cristian Stoleriu, *Quantitative and qualitative assessments of groundwater into the catchment of Vaslui river*, *Revista de Chimie*, vol. 65, no. 4, 2014, p. 401-410.

II.1.4. Ion Sandu, Maria Canache, Traian Mihăescu, Marin Chirazi, Andrei-Victor Sandu, Laura-Monica Trandafir, Alina-Costina Luca, Laura Checherita, *The Influence of NaCl Aerosols on the Functional Characteristics on Children*, *Revista de Chimie*, 66, 1, 2015 (in press).

II.1.5. Felix Tencariu, Marius Alexianu, Vasile Cotiuğă, Ion Sandu, Viorica Vasilache, Briquetages and salt cakes: an experimental approach of a prehistoric technique, *Journal of*

Archaeological Science (in evaluation).

II.2. ERIH AND BDI JOURNALS

II.2.1. Mihaela Asăndulesei, *Salt exploitation references in Plinius Maior's work*, *Studia Antiqua et Archaeologica*, XX, 2014 (in press).

II.2.2. Robin Brigand, Andrei Asăndulesei, Ionuț Cristi Nicu, *Autour de la station eponyme de Cucuteni: paysage et peuplement (Valea Oii, Iași, Roumanie)*, *Tyragetia*, vol. VIII [XXIII], nr.1, 2014, p.89-106.

III. PROCEEDINGS

III.1. ISI PROCEEDINGS

III.1.1 Gheorghe Romanescu, Marius Alexianu, Andrei Asăndulesei, *The distribution of salt massifs and the exploitation of ancient and current reserves of mineralized waters within the Siret hydrographical basin (Romania). Case study for the eastern area of the Eastern Carpathians*. In *International Multidisciplinary Scientific Geoconferences. 17–26 June 2014, Bulgaria. 14th GeoConference on Water Resources, Forests, Marine and Ocean Ecosystems. Conference proceedings, volume I, Hydrology & Water Resources*, Sofia, STEF92, p. 731–746.

III.1.2. Andrei Asăndulesei, Marius Alexianu, Roxana-Gabriela Curcă, Ștefan Caliniuc, Mihaela Asăndulesei, *Settling selection patterns in the Subcarpathian areas of Romania. Salt resources as a determining factor for prehistoric occupation*. In *International Multidisciplinary Scientific Geoconferences. 17–26 June 2014, Bulgaria. 14th GeoConference on Informatics, Geoinformatics and Remote Sensing. Conference proceedings, volume III, Photogrammetry & Remote Sensing, Cartography & GIS*, Sofia, STEF92, p. 829–839.

III.2. INTERNATIONAL PROCEEDINGS

III.2.1. Robin Brigand, Andrei Asăndulesei, Olivier Weller, Vasile Cotiuță, *Chalcolithic territorial patterns in central Moldavia (Iași County, Romania)*, in G. Earl, T. Sly, A. Chrysanthi, P. Murrieta-Flores, C. Papadopoulos, I. Romanowska and D. Wheatley (eds.), *Archaeology in the Digital Era. Papers from the 40th Annual Conference of Computer Applications and Quantitative Methods in Archaeology (CAA)*, Southampton, 26-29 March 2012, Amsterdam University Press, 2014, p. 624-635.

III.2.2. Marius Alexianu, Olivier Weller, Robin Brigand, *Romanian Salt Springs, Intangible*

Cultural Heritage, Archaeological Reconstruction: A Variable Geometry, in Biagetti, S., Stoppiello, A. A., and Lugli, F. (eds), Proceedings of the International Conference “The Intangible Elements of Culture in the Ethnoarchaeological Research”, Roma, 21-23.11 2012, Springer, New York, 2015 (in press).

IV. BOOK CHAPTERS

IV.1. Marius Alexianu, Felix Tencariu, Andrei Asăndulesei, Olivier Weller, Robin Brigand, Ion Sandu, Gheorghe Romanescu, Roxana-Gabriela Curcă, Ștefan Caliniuc, Mihaela Asăndulesei, *The Salt from the Alghianu Beck (Vrancea County, Romania): A Multifaceted Ethnoarchaeological Approach*, in Robin Brigand, Olivier Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015 (in press).

IV.2. Olivier Weller, *First salt making in Europe: a global overview from Neolithic times*, in Robin Brigand, Olivier Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015 (in press).

IV.3. Robin Brigand, Olivier Weller, *Spatial analyses for salt archaeology. A case study from Moldavian Neolithic (Romania)*, in Robin Brigand, Olivier Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015 (in press).

B. PARTICIPATIONS AT SCIENTIFIC GATHERINGS

I. International

I.1. Andrei Asăndulesei — *Archaeological prospection and GIS-based analysis on Chalcolithic settlements from Eastern Romania* — National Archaeology Student Conference 2014 (NASC 2014), Flinders University Department of Archaeology, Adelaide, Australia, 11-13 April 2014.

I.2. Marius Alexianu, Andrei Asăndulesei, Felix-Adrian Tencariu, Ion Sandu, Gheorghe Romanescu, Roxana-Gabriela Curcă, Mihaela Asăndulesei — *Ethno-archaeology of Salt Supply during the Neolithic and Chalcolithic in the Romanian Carpathians* — International Symposium on Archaeometry (ISA 2014), University of California, Los Angeles, 19-23 May 2014.

I.3. Andrei Asăndulesei, Ionuț Cristi Nicu, Radu Balaur, Ștefan Caliniuc, Vasile Cotiuță, Cristian Stoleriu, Oana Stoleriu — *Subsurface Survey and Spatial Analysis on Chalcolithic Settlements from Eastern Romania* [poster] — International Symposium on Archaeometry

(ISA 2014), University of California, Los Angeles, 19-23 May 2014.

I.4. Marius Alexianu, Ion Sandu, Andrei Asăndulesei, Roxana-Gabriela Curcă, Ștefan Caliniuc, Mihaela Asăndulesei — *Savory Salt: Ethnoarchaeological research in Romania* — Theoretical Archaeology Group 2014 Conference (TAG 2014), University of Illinois at Urbana-Champaign, 23-25 May 2014.

I.5. Gheorghe Romanescu, Marius Alexianu Olivier Weller, Gabriela Romanescu — *Sweet rivers and salt springs: modern management and ethno-management of water resources in eastern Romania* — A IX-a ediție a simpozionului internațional Mediul Actual & Dezvoltare Durabilă, Iași 6-8 iunie 2014.

I.6. Gheorghe Romanescu, Marius Alexianu, Andrei Asăndulesei — *The distribution of salt massifs and the exploitation of ancient and current reserves of mineralized waters within the Siret hydrographical basin (Romania). Case study for the eastern area of the Eastern Carpathians* — 14th International Multidisciplinary Scientific GeoConference (SGEM 2014), Albena, Bulgaria, 17-26 June 2014.

I.7. Andrei Asăndulesei, Marius Alexianu, Roxana-Gabriela Curcă, Ștefan Caliniuc, Mihaela Asăndulesei — *Site catchment analysis in Subcarpathian areas. Salt resources as a determining factor for prehistoric habitation* — 14th International Multidisciplinary Scientific GeoConference (SGEM 2014), Albena, Bulgaria, 17-26 June 2014.

I.8. Andrei Asăndulesei, Marius Alexianu, Felix Tencariu, Ștefan Caliniuc, Roxana-Gabriela Curcă, Mihaela Asăndulesei — *Salt and prehistoric (from the Neolithic to the Early Bronze Age) population movements in the Eastern Carpathians of Romania. A diachronic GIS-based analysis* — European Association of Archaeologists 20th Annual Meeting (EAA 2014), ITU, Istanbul, 10-14 September 2014.

I.9. Felix Tencariu, Marius Alexianu, Andrei Asăndulesei, Mihaela Asăndulesei, Ștefan Caliniuc — *The use of the natural brine for food preservation. Ethnoarchaeological research in the extra-Carpathian area of Romania* — European Association of Archaeologists 20th Annual Meeting (EAA 2014), ITU, Istanbul, 10-14 September 2014.

I.10. Robin Brigand, Mariana Vasilache, Olivier Weller — *5th millenium BC in the Carpathian-Dniestrian region. An overview of Cucuteni A settlement patterns* [poster] — European Association of Archaeologists 20th Annual Meeting (EAA 2014), ITU, Istanbul, 10-14 September 2014.

I.11. Robin Brigand, Olivier Weller, Mariana Vasilache and Andrei Asăndulesei — Le peuplement néo-énéolithique de Moldavie: analyse et modélisation spatiale— International Colloquium ‘Cucuteni Culture within the European Neo-Eneolithic Context’, Piatra Neamț, 15-17 October 2014.

I.12. Marius Alexianu, Roxana-Gabriela Curcă — *Patrimoniul imaterial românesc despre sare Implicații în cercetarea arheologică* — the 24th Scientific Meeting of the National Museum of History of Moldova, Chișinău, 16-17 October 2014.

I.13. Robin Brigand, Olivier Weller, Mariana Vasilache, Andrei Asăndulesei — *Analyses spatiales et modélisation du peuplement néo-énéolithique des Carpates orientales* — the 24th Scientific Meeting of the National Museum of History of Moldova, Chișinău, 16-17 October 2014.

I.14. Marius Alexianu, Roxana-Gabriela Curcă — *Romanian intangible heritage of salt. Implications for archaeological research* — ICAHM 2014 Annual Conference Universal Standards for Archaeological Heritage Management (ICAHM 2014), Jishou City, Hunan Province, China, 20–23 October 2014.

I.15. Mihaela Asăndulesei — *Symbolic uses of salt in baptism, wedding and funeral in Eastern Romania* — Conferința internațională „Vulnerabilität und Resilienz in den Siedlungsräumen entlang der Donau“, Trier, Germania, 26 noiembrie 2014.

II. National

II.1. Mihaela Asăndulesei — *Antropologia culturală a sării în spațiul est-carpatic. Studiu de caz: practici și valori simbolice în ritualurile de trecere prezentate în opera lui Simion Florea Marian*

— Sesiunea națională a studenților și doctoranzilor. Istorie - Arheologie – Muzeologie, Ediția a XXII-a, Alba Iulia, România, 13-14 noiembrie 2014.

II.2. Felix-Adrian Tencariu, Marius Alexianu, Vasile Cotiuță — *„Briquetages” și calupuri de sare: o abordare experimentală a unei tehnici preistorice* — ‘Arheologia experimentală — metodă de generare și testare a ipotezelor arheologice’ National Colloquium, Alexandria, 17 octombrie 2014.

III. Conferences held abroad

III.1. Marius Alexianu, Roxana-Gabriela Curcă: visiting professors la Pontifical Catholic University of Chile; 28.05.2014: *Etnoarqueología simbólica de la sal en la Prehistoria y el Mundo Antiguo*.

III.2. Marius Alexianu, Roxana-Gabriela Curcă: visiting professors la Universidad De La Plata, Buenos Aires, Argentina; 26.05.2014: *Salt Springs in Prehistory: Ethnoarchaeological Investigation in Romania*.

This report outlines the extent to which the activities associated to the project objectives for 2015 were accomplished, as well as the previewed and additional research directions. The report also includes the highlights of research outcomes in various types of publications and within diverse high-impact international scientific events, including within *The First International Congress on the Anthropology of Salt* organized in Iași (August 20-24, 2015) by EthnosalRo. An extended section reflects the efforts made by the project members to increase international visibility and the signs of EU and extra-EU international acknowledgement of the activities conducted within the EthnosalRo project. Taking into account the outstanding outcomes obtained this year, we considered it necessary to add a special section dedicated to the project members concerning the attainment of objectives set for 2015. The report is accompanied by three annexes.

The general appraisal is that the activities conducted within the project – especially the valorisation of research outcomes and the increase of international visibility – have surpassed by far the initial predictions.

ATTAINMENT OF OBJECTIVES

The first objective set for 2015 – elaborating databases on salt-water springs and salt mountains/ deposits in Vâlcea (100%) and Gorj (20%) counties – was fully attained. The activities associated to this objective are numerous (toponymic research, field trips, ethnographic surveys, samplings and analyses for salt water and salt block samples, surface archaeological research around the salt springs, GPS localization, etc.). It is worth highlighting the situation of the Ocnele Mari (Vâlcea County) area, where a difference must be made between natural salt water sources and sources resulted from human interventions (as a result of exploitation works or of the exploration of salt resources in the area). In addition, greater efforts must be made to identify certain ethnographic survey subjects, who know very well the local situations of the past; this is necessary because the local demographic structure was strongly affected by the industrialization process. In exchange, the archaeological data specific to our ethnoarchaeological endeavour are clearly outlined on all chronological segments of interest for the EthnosalRo project. Nonetheless, in what concerns the previous researches on the toponymy and localization of certain salt springs, certain inadvertencies with the situations on the field have been highlighted.

The second objective – modelling the salt water distribution network (spatializing the relevant information regarding the distribution of salt from salt-water springs and from salt outcrops, 100% for Vâlcea County and 20% for Gorj County) – was also fully attained. As for the doubts pointed out regarding the existence of older layers

of information, we believe that the models resulted from researches conducted in the other counties within the entire Romanian Subcarpathian area can be justly applied to the Vâlcea County, too. Therefore, it has been determined that salt-water springs and salt deposits played – in this county, too – an important role in the increase of habitat density diachronically, at least on a distance of 10-15 km, thus acting like genuine *salt attractors*.

RESEARCH DIRECTIONS

Integrating the ethnoarchaeological, experimental and archaeometric data to adapt and increase the quality of archaeological interpretation

This research direction has a long history in the western cultural anthropology, but it has only recently penetrated the Romanian research world. The main research method of archaeology – as a discipline that studies the past of humankind – is the recovery and analysis of various material culture elements preserved over time. Therefore, archaeological interpretation is an attempt to understand the technologies, human behaviours, religious systems and ideas, and the interaction with the environment in the past, all based on archaeological discoveries. In this context, the intelligence, knowledge, experience and imagination of an archaeologist are simply not enough to consolidate this hypothetical and deductive process. At such a point, it may become highly relevant to add —ingredientsll from other disciplines to this —recipe. If archaeological interpretation is considered a type of inferential process, then one can add to the basic premise represented by archaeological discovery other solid premises to validate the entire process. These premises can come from an ethnoarchaeological experience, from an experimental testing or from archaeometric data. These research strategies within the field of archaeology have represented – for a long time – productive methods to explain the far past.

Ethnoarchaeology – as the study of material culture variation and of its relationship with human behaviours – has the power to invigorate archaeological thinking, thus furnishing the data necessary for possible transcultural correlations. Often, it can bring simple but very useful references for interpreting an item, a technology or behaviour from the past.

Archaeological experiments – as procedures applied to assess hypotheses at almost all levels of archaeological research – can provide significant observations on the processes involved in the production, use, removal and deterioration of material culture elements.

Archaeometric analyses applied to ancient artefacts may contribute to the reconstruction of their life cycle, from their production to their distribution and use, thus helping to interpret the *chaîne opératoire*, even in terms of human behaviour involved.

Though many years have passed since the two aforementioned disciplines were considered the key ingredients of one of behavioural archaeology strategies (1975) or since they were characterized as making a —perfect marriage (1992), we believe that adding

archaeometry to this formula can lead to a perfect *ménage à trois*. The integration of this research strategy is perfectly visible in the outcomes of our project.

Characteristics of areas with salt fields in northeastern Romania:

The current landforms of this region overlap clays, sandy loams and oolitic limestone. In the past (5-7 million years ago, starting with the Miocene), the area was covered by the Sarmatian Sea, which withdrew gradually toward the southeast. A consequence of this withdrawal was the formation of massive salt deposits, preserved as sedimentary rocks. The geologic and hydrogeologic conditions of the area are the main underlying factors for the emergence of salt and sulphur springs, which were used by prehistoric communities. Because of climatic changes, especially during the summer, when evapotranspiration is high and the level of water table is situated at small depths (< 3m), the ground salt content comes to the surface through capillarity, thus forming salt zones (*chelituri*). In the basin of Valea Oii, after analyzing the geologic map, we noted a concentration of prehistoric settlements around salt reservoirs (that comprise 1% of the total basin surface, of 98 km²). This fact demonstrates that they were used by prehistoric populations. A point of interest worthy of thorough investigations in this basin is the one of Balș (*Arcaci* point), where an ancient salt-water spring was located on the left side of the valley.

Salt exploitation and the Neolithic territories in the east of Romania

We continued and then detailed the spatial analyses focused on the dynamic of salt exploitation. The spatial and statistic measurements were used in order to investigate the relationships between the distribution of salt resources and the habitat models of the Neo-Eneolithic (cca 6000 – 3500 BC). This research direction combines methodologies used in *landscape archaeology* and *GIS*, in order to highlight the archaeological artefacts at a deeper level and with more thematic purposes. The general target of these researches is to appraise the way in which salt resources constituted an active factor for the groups of farmers within the studied area.

Archaeometric analyses of briquetage in Japan

The practical outcome of the research visit conducted in 2015 at the Yamaguchi University in Japan and of the first *Romania-Japan International Seminar on Salt Studies* (<http://ethnosalro.uaic.ro/category/news-and-events/>) unfolded on the same occasion was the beginning of a collaboration between the Romanian and the Japanese specialists regarding the complex investigation of briquetage artefacts in some areas of Japan. The purpose is to **establish a comparative framework as detailed as possible**. In this sense, eight briquetage fragments from the Minogahama site (discovered during the archaeological excavations of 1993) were sent for analysis to the Laboratory of scientific Investigations and Conservation of Cultural Heritage belonging to the ARHEOINVEST interdisciplinary Platform

of —Alexandru Ioan Cuzall in Iași. Systematic excavations have been conducted as early as 1960 in Minogahama, which proved that salt production activities unfolded there during the Kofun period and at the beginning of the subsequent period (around the 6th–7th centuries AD). For the physical and chemical characterization of pottery samples, analytical techniques such as optical microscopy and SEM-EDX were used. The surface microstructures of pottery shards were studied using a Zeiss A1m Imager optical microscope, with an AXIOCAM camera attached, and analyzed using specialized software that enhances 50x. In order to determine the composing elements and the disposition of microstructures for these samples, a SEM (VEGA II LSH model) equipment was used, along an EDX detector (QUANTAX QX2 model). Their enhancing capacity varies between 100 and 1000x; the image is created by secondary electrons (SE) and BSE. In the basic structure of samples, the following chemical elements were identified: Si, Al, Fe, Ca, Mg, K, NA, Ti and O. Some of the shards also comprised various proportions of P, C and S. The inclusion compounds (degreasers) have a complex composition, where aluminosilicates dominate. Among the inclusions of a shard (no. 6) along Al, Si, Ca, Mg, NA, K, high amounts of Fe (59 wt%), Cr (7,7 wt%) and C (3,11 wt%) were also pinpointed, possibly due to contamination with a foreign object.

New interpretations of ancient texts on the uses of salt

Two texts were studied – one by Herodotus and the other one by Strabo – that mention the existence of dwellings made of salt in northern Africa and in the Gerrha area (Arabia). A thorough analysis of the meaning of both texts shows that the use of salt for building houses is not motivated by an absence of common building materials in those areas. Taking into account all the parameters of the two ancient texts, a new theory emerged, stating that these salt dwellings may have represented precursors of modern halochambers, thus having been used for halotherapy.

Revaluating the intangible heritage on salt within pioneering ethnographic works of the Romanian culture

Thorough studies on the symbolism of salt can be found in the work of Elena Niculiță-Voronca, *Datinile și credințele poporului român adunate și așezate în ordine mitologică* [*Customs and Beliefs of the Romanian People Gathered and Presented in Mythological Order* – in Romanian] (1903). The importance of salt in the daily life of the Romanian rural space is underscored by the fact that an entire chapter of the book is dedicated to this topic. It was highlighted that salt – seen as a gift for God – accomplishes multiple and diverse functions (e.g. purification, reward or protection, but also destructive force). The analysis of texts on salt has also revealed beyond doubt that salt is ascribed imaginary properties in the rural areas studied.

Toponymy of salt in the space between the Carpathians and the Pruth

This toponymic research paid special attention to —spontaneousll micro-toponymy. A quasi-exhaustive inventory of salt related toponymy was elaborated, by researching various categories of sources (documents, geographic and toponymic dictionaries, maps from various periods and scientific works). Halo-toponyms were analyzed from the perspective of the original theory of toponymic fields, elaborated by the distinguished researcher Dragoş Moldovanu (—A. Philippidell Institute of Romanian Philology, Iaşi). The conclusion with the highest generalizing value is that salt springs and salt deposits generated complex toponymic fields by polarization, by differentiation, and by both methods.

Study of the genesis and repartition of salt deposits in the Romanian Subcarpathian area

The Subcarpathians represent the transition unit between the mountainous and the plain area, and they are rich in salt deposits. Romanian Subcarpathians are situated between the Moldavian Valley to the north and the Motru River to the west. Salt deposits were created in the lagoon areas situated at the margin of mountains. Local climate favoured water evaporation and salt deposition; such depositions were covered by erosion materials from the Eastern and the Southern Carpathians. The high degree of salinity was determined by heat and the dry climate. Local factors entailed a chemical differentiation between Subcarpathian deposits and the deposits within the Transylvanian Depression. The finality of this analysis was represented by two updated maps on the repartition of salt deposits in the Moldavian Subcarpathian and the Wallachian Subcarpathians. The study of the geologic history of the Romanian sub-Carpathian area represents a special interest for the archaeological approach, because it is a way to analyze thoroughly the relation between the environment and the human communities from a diachronic perspective.

Scientific grounds for including salt springs with the oldest salt exploitation traces in the world within the World Heritage

This project started from the need to underscore the importance of the first forms of brine exploitation from salt springs (in order to obtain recrystallized salt) in the development of prehistoric communities within the continental mainland of Europe. Though they cannot be compared with the specific monumental character of most objectives included within World Heritage, the exploitation vestiges of the five salt springs in the east of Romania (Solca, Cacica, Lunca, Ţolici and Cucuieţi) are around eight millennia old, as indicated by ¹⁴C datings. It is also very important to highlight that in the area of these springs, natural brine is still exploited traditionally, an aspect which has generated a complex spiritual universe of salt. In its turn, this universe represents a unique reference point of the Intangible World Heritage. We believe that precisely the association (in variable proportions) between tangible elements (lacking monumentality) and intangible elements makes the salt springs with the oldest salt exploitation traces in the world worthy of being included within the World Heritage.

Currently, an increasing number of personalities within the field of archaeology, anthropology and history consider that salt represents a major reference of humankind. Obviously, the success of this idea – formulated for the first time internationally within the EthnosolRo project – involves considerable efforts, from both local communities and the national and international scientific and cultural establishments concerned with World Heritage. In this context, it is worth noting that within the past two or three decades, research on salt has developed to an unprecedented level, to become one of the major topics of European archaeology and ethnoarchaeology. Nationally, we must highlight the initiative of the museums in the area – History Museum of Piatra Neamț and History Museum of Târgu Neamț–, which organized distinct sections that feature (using well-planned museographic means) both archaeological vestiges and contemporary items or traditional practices of salt springs exploitation. Naturally, the aim for the future is to extend this initiative to the museums of Suceava and Bacău counties, too.

Valorisation of salt-water springs on economic and heritage level

Ethnoarchaeological researches within the Romanian Subcarpathian area have pinpointed a veritable rural universe generated by salt springs and rock salt deposits, whose sides (gastronomy, popular medicine, ethnoscience, ethnomangement) feature a heritage value with universal potential. Unfortunately, this heritage is in an extinction crisis, caused by modern economy and by cultural globalization. This research direction focused of finding solutions to include this heritage within a national brand, to find a way for auxiliary goods to contribute to increased living standard for local communities, and to encourage the communities in this direction.

Archaeological excavations concerning the oldest traces of natural brine exploitation

In the period May 18–30 2015, preventive archaeological excavations were conducted in the locality of Cacica, commune of Cacica, Suceava County, in the point we called *Basin*, situated near the entry to the Cacica salt mine (code RAN 147544.01, code LMI SV-I-s-B-05405) by a team comprised of Gheorghe Dumitroaia, PhD, manager (archaeology expert, County Museum Complex of Neamț), of Emil Ursu, PhD (archaeology specialist, Bukovina Museum Suceava), of Felix-Adrian Tencariu, PhD (archaeology specialist, —Alexandru Ioan Cuzall University Iași) and of Mugur Andronic, PhD (archaeology expert, Bukovina Museum Suceava). The archaeological research was conducted after receiving a request from the Cacica city hall. They wished to build, on this very spot, a Medical Tourism Facility Based on Natural Resources. The area under investigation is situated near natural salt-water springs (*slatină*), and it is well-known to the archaeological literature because it includes a prehistoric exploitation point (Cucuteni culture, phase B) of spring brine using the briquetage technique (evaporating salt by boiling, in quasi-conical clay containers with widened base, to obtain standardized salt blocks, probably to be traded for other goods). It may have been a

seasonal habitation, which was initially pointed out through surface investigations, followed by two small-scale archaeological surveys. Hence, the previous researches showed the existence of a consistent Neolithic level (up to 50 cm), comprising mainly vestiges of briquetage containers, but also a possible oval-shaped Cucuteni dwelling. In the four archaeological sections investigated, from the surface to a depth of around -0.50 m, an impressive amount of briquetage fragments was discovered. However, both the consistency of the earth and the association of prehistoric fragments with numerous modern fragments (hand thrown enamelled pottery, porcelain, glass, brick, metallic items) indicate clearly that this deposition is of a recent date (probably from the end of the 19th or the beginning of the 20th century, when the outer facility of the salt mine was constructed). Thus, archaeological excavations have shown that this area, like the one around the salt mine, was strongly affected by modern and contemporary human interventions (levelling, buildings), which occurred within the outer facility of the salt mine was constructed, which almost completely destroyed the prehistoric habitation level. By having recovered numerous briquetage fragments, we have contributed to enriching the Romanian collections of such artefacts, of great value for the researches on prehistoric techniques of obtaining recrystallized salt from spring brine.

Interpretation of symbolical value of salt identified in the current Christian holidays and rites of passage in Romania

We have studied the presence of this vital substance in various traditions, such as those developed within rites of passage (birth, marriage, death), as well as customs related to various seasons, developed in relation to the most important Christian holidays.

Identification of a new research direction in ethnoarchaeology

Usually, ethnoarchaeological researches are conducted in —exoticll areas or in areas with a pre-industrial, level of development, where one may still find the so-called —living societiesll. However, the rural areas investigated within the Ethnosal and EthnosalRo projects feature relatively high levels of civilization, such as buildings and constructions made by western standards, modern road network, high motorization level, electricity, radio, television, mobile phones, etc. Nonetheless, the difference between this Romanian rural world and the similar western societies is made by the direct exploitation of natural resources in the proximity by a considerable number of rural community members. In this sense, it is relevant to mention that animal breeders (mainly of sheep) – members of the communities in the Romanian Subcarpathian area – who are familiar with all facilities of modern life currently actually use traditional supply methods from salt springs and primitive forms of salt deposits exploitation to cover the salt intakes for their livestock and for themselves. They take into account mostly the special qualities of natural brines and salt rocks within surface deposits. These ethnological models – unique in Europe – increase the role of ethnographic analogy in the

archaeological research, taking into consideration the spatial unity and the temporal continuity, attested in documents for many centuries. We believe that the Romanian researches conducted under such circumstances can represent an alternative model for classic ethnoarchaeological researches. Hence, the variety of this model can be tested in other areas from different countries with emerging economies.

Intensification of ethnological researches in the area of salt deposits in Alghianu

Because the ethnological surveys conducted previously in the area of salt deposits in Alghianu were not designed to consider the whole phenomenon of local and distance pasturing, the ethnological researches in the area of Vrâncioaia and Năruja communes were reprised in 2015. The surveys conducted this year obtained all parameters necessary to elaborate a complete image on the exploitations of salt banks and on the transport of salt boulders for the needs of local and seasonal pasturing. We mention that the area studied here presents a unique European potential of configuring complex spatial models concerning the interrelations between salt resources and pastoral mobility. We also highlight that the field investigations conducted this year in the two aforementioned communes will be integrated in the paper to be published within a collection of studies that will be edited next year, following the EAA session of Glasgow in 2015 on Historical Transhumance in Europe.

Classification of salt springs in the Romanian extra-Carpathian space

From a methodological perspective, ethnoarchaeological researches conducted within the EthnosolRo project is at the opposite extreme of **site catchment area** researches, because the objective of our investigations is represented by natural resources (in our case, salt resources) and not by sites exploiting various natural resources. The over 300 investigations made thus far have reported that salt springs can be classified by their degree of importance for covering the salt needs of human communities, reflected in the number of localities getting their supply from one spring or another. The current research is meant to complete previous studies that managed to determine a typology of habitations in relation to salt springs. These two typologies represent a key point in our fundamental research.

INCREASED INTERNATIONAL VISIBILITY

There is no doubt that the event contributing the most to the increase of international visibility of the EthnosalRo project was the publication of the study signed by F.A. Tencariu *et al.* in the prestigious **Journal of Archaeological Science**. This journal is the second archaeology journal in the world, classified in descending order on subdomains by their impact factor, indexed in Social Sciences Citation Index, as the one posted on the UEFISCDI website (http://uefiscdi.gov.ro/userfiles/file/PREMIERE_ARTICOLE/ARTICOLE%202015/ClasamentIF2015bun.pdf).

An essential activity conducted this year for attaining the objective of Increased International Visibility was the organization of **The First International Congress on the Anthropology of Salt**. We received abstracts from specialists from 25 countries (Argentina, Australia, Austria, Bulgaria, Cameroon, Canada, China, Ivory Coast, France, Germany, India, Ireland, Israel, Italy, Japan, Mexico, Mongolia, Nigeria, Romania, Spain, Republic of Moldova, Russia, Ukraine, Great Britain, the USA) and 4 continents (to which we add another 20 requests from foreign and Romanian participants who found out too late about the Congress because of transmission problems through Academia.edu). This success can be interpreted as an implicit acknowledgement of the new discipline founded the manager of the EthnosalRo project. The proceedings of the congress represented —a great success, considering its echoes in the **Mexican** (<http://ethnosalro.uaic.ro/download/Ethnosal-Ro-Tribuna.pdf>; <http://ethnosalro.uaic.ro/download/EI%20Sudcaliforniano%20-%20Congreso%20Internacional%20de%20Antropologia%20de%20la%20Sal.pdf>), **Spanish** (http://ethnosalro.uaic.ro/download/E-%20Alfoli-17-2015_extract_EthnosalRo.pdf), **Irish** (<https://saltarch.wordpress.com/2015/08/31/anthropology-of-salt-congress-romania/>) and **Ukrainian press** (<http://ri-urbanhistory.org.ua/en/museum/12-news-en/308-first-international-congress-on-the-anthropology-of-salt-ia-i-romania>). However, the most relevant sign of international recognition of salt anthropology discipline was a proposal made by Mexican delegation to organize the next international congress on the anthropology of salt in the famous Los Cabos resort in Mexico in four years. The papers published in the Mexican press state that the manager of the EthnosalRo project was appointed Honorary President of the next congress, while R.-G. Curcă was included in the International Organizational Committee of the *Second International Congress on the Anthropology of Salt*. These two members of the EthnosalRo project were invited by the Mexican team (on their expense) to attend the first preparatory meeting of the Organizational Committee in Mexico, in the second part of February 2016.

The presentation made by Archaeopress for the volume **SALT EFFECT** ends with a highly favourable final assessment: —**This volume presents a fascinating and unique range of approaches for studying a ubiquitous and vitally important resource in past and**

present societies. The success of this volume is also suggested by the unusual procedure used to ensure a wide dissemination through the Worldcat system for this volume, published on September 23, 2015. Hence, 25 of the 29 studies and papers are featured separately in none less than 135 famous libraries in the entire world, including North America, Europe, Australia and Africa.

The volume **Archaeology of Salt: Approaching an Invisible Past** (Sidestone Press, Leiden, 2015, editors Robin Brigand and Olivier Weller, which also mentions the EthnosalRo project in the *Acknowledgement*) was present on December 2, 2015 in 85 libraries included in the Worldcat system. This volume makes 3 references to the EthnosalRo project and 37 references to authors who are members of the EthnosalRo project. This volume has already been reviewed in *ANTIQUITY*, vol. 89, issue 348, pp. 1511-1512, by Anthony Harding, member of the British Academy. The contribution of EthnosalRo members is appraised as follows: —The chapter on the ethnography of salt in Moldavia, by Marius Alexianu and colleagues, provides fascinating information on the modern, —traditionall, uses and practices of salt in peasant communities. This Iasi team, also including Weller and Brigand, has worked on the topic in various parts of Moldavia for many years; its results provide a window into the many possibilities that could also apply to the ancient exploitation of salt in such social and natural environments. The conclusion of this review published in the 4th archaeology journal in the world by Impact Factor criterion is clear: —...the volume, taken as a whole, is a valuable and welcome addition to the literature on salt archaeology.

The paper presented by F.A. Tencariu *et al.* during the **Current Ethnoarchaeology Conference**, Rome, Nov. 25-27, 2015 had an impact even during the conference – a very unusual situation – when Anne Mayor, PhD (University of Geneva) made several verbal references and commented on the Power-Point slides presented by Tencariu, thus making suggestions on his strategy of integrating ethnoarchaeological, experimental and archaeometric approaches in order to increase the quality of archaeological interpretation (see Annex III).

In a vast synthesis on world ethnoarchaeology, titled **Reflections on Contemporary Ethnoarchaeology** (Pyrenae, *Journal of Western Mediterranean Prehistory and Antiquity*, Barcelona, vol. I, 2015, 41-83), the famous Argentinean ethnoarchaeologist Gustavo G. Politis mentions twice the investigations conducted within the Ethnosal and Ethnosalro projects.

Considering the interest stirred by the EthnosalRo project, on May 29, 2015, the Faculty of Humanities, Yamaguchi University, Japan, organized **The First Romania-Japan International Seminar on Salt Studies** (<http://ethnosalro.uaic.ro/category/news-and->

events/). On this occasion, in front of a numerous audience comprising students, researchers and professors who participated actively to the debates, papers were presented by Takamune Kawashima, Marius Alexianu, Roxana-Gabriela Curcă and Shinsaku Tanaka. The concrete outcome of this reunion was the initiation of a collaboration between Japanese and Romanian specialists within the EthnosalRo project regarding the complex study of briquetage artefacts discovered in the Yamaguchi area. The first outcomes of these studies were presented during *The First International Congress on the Anthropology of Salt*, Iași, August 20-24, 2015. Following the outcomes obtained by the EthnosalRo project during *The First International Congress on the Anthropology of Salt*, Iași, two project members – Marius Alexianu and Roxana-Gabriela Curcă – were included in the **Scientific Committee of International Encyclopaedia of Salt**. This complex work will be prepared in honour of the *Second International Congress on the Anthropology of Salt*, whose proceedings will be conducted in 2018 in Los Cabos (Mexico). The initiative of this reference work belongs to Ramon Ojeda Mestre, PhD, President of *Centro de Estudios Integrales de Innovacion y el Territorio* (Mexico) (<http://ethnosalro.uaic.ro/about/objectives/international-encyclopedia-of-salt/>).

Four members of the EthnosalRo project (M. Alexianu, F.A. Tencariu, O. Weller and R. Brigand), in collaboration with Takamune Kawashima, PhD, with the University of Yamaguchi (Japan), proposed the organization – within the Eighth World Archaeological Congress of Kyoto, to be conducted in the fall of 2016 – of a session called **Archaeology of Salt: From Local to Global**. If approved, this session will represent the third such presence of the EthnosalRo project, after those of the Dead Sea (Jordan) within WAC (2012) and of Plsen (Czech Republic) within the EAA (2014), thus intensifying the international visibility of this Romanian project.

After presenting – during *The First International Congress on the Anthropology of Salt*, Iași – the outcomes of analyses conducted within the EthnosalRo project on the Japanese briquetage, the project manager received a collaboration proposal from Prof. Thomas Saile, PhD, (**University of Regensburg**), who is one of the greatest specialists on the archaeology of salt in Germany. This collaboration concerned an elemental analysis on certain briquetage fragments. Viorica Vasilache, PhD, included in the Arheoinvest Platform, in collaboration with Felix Tencariu, PhD, is currently conducting the requested analysis.

In the book of the French specialists Bernard Moinier and Olivier Weller, *Le sel dans l'Antiquité ou Les Cristaux d'Aphrodite*, published at the prestigious publishing house **Belles Lettres**, Paris, 2015, the studies and papers signed by the *EthnosalRo* project (Marius Alexianu, Roxana-Gabriela Curcă and Robin Brigand) are cited at pages 39, 102, 329, 330, 335, 339 and 341. We also mention the acknowledgments addressed to Roxana-Gabriela

Curcă, PhD, and to Marius Alexianu, PhD: —à ceux sans l'implication desquels il n'atteindrait pas un double objectif :

- donner toute leur valeur aux témoignages relevés dans la littérature

- inciter ceux auxquels sa lecture n'est plus familière à découvrir le sel comme un marqueur de la culture antique. **Cet hommage s'adresse notamment à Roxana Gabriela Curca qui a recensé toutes les occurrences significatives à propos du sel chez les Anciens..... et à Marius Tibérius Alexianu pour une capacité d'écoute, de conseil et d'enthousiasme très appréciée”.**

INCREASED NATIONAL VISIBILITY

The First International Congress on the Anthropology of Salt organized within the EthnosalRo project represented an event that also stirred the attention of national media. In this sense, we mention – besides the news published in various newspapers – a group of four articles featured in the **Bună Ziua Iași** newspaper, which had more than 5,500 views overall (<http://www.bzi.ro/tag/marius+alexianu>). We also mention the show hosted by **Radio Iași**, titled —*Aurul albll presărat în istorie. Despre antropologia sării [White gold spread over the history. On the anthropology of salt]*, part of *Ora de istorie [History Class]* with Radu Lipovan on September 15, 2015 (<http://ethnosalro.uaic.ro/about/results/#coverage>).

The participation to the **Caransebeș Symposium** and to the **Session of the National Museum of Eastern Carpathians** also contributed to the national dissemination of the outcomes obtained within the EthnosalRo project among science and culture specialists.

INVOLVEMENT OF THE PROJECT MEMBERS

The degree of cohesion and interrelation between the project members of EthnosalRo marked a new phase this year, too, as entailed from the attainment of all objectives set for 2015, from the organization of *The First International Congress on the Anthropology of Salt*, from participations to international scientific events, from the involvement in designing and conducting interdisciplinary studies involving various professional competences, and from the involvement in various editorial and publishing activities. It is worth highlighting the efforts made by the entire team coordinated by Roxana-Gabriela Curcă, PhD. They managed complex situations successfully, for which they received international praise. Hence, R.-G. Curcă, PhD, was included in the International Organizational Committee of the *Second International Congress on the Anthropology of Salt* in Mexico (2018) and in the Scientific Committee of International Encyclopaedia of Salt. The inclusion of Adrian-Felix Tencariu, PhD, and of the PhD candidate Mihaela Asăndulesei in the EthnosalRo team proved to be fully justified. Hence, A.-F. Tencariu initiated an interdisciplinary research that led to the publication of a study in one of the most archaeological journals in the world: *Journal of*

Archaeological Science. The papers he presented at various international scientific events have always stirred great interest. PhD candidate Mihaela Asăndulesei conducted several studies, which involved many hours of work and a clear view of the salt anthropology field; some of her studies have already been published abroad. Furthermore, the works edited within EthnosalRo benefitted from her substantial contribution.

AWARDS

The study *Briquetage and salt cakes: an experimental approach of a prehistoric technique* by F.A. Tencariu *et al.* received the **UEFISCDI** award for having been published in a journal with great Impact Factor (the red area): *Journal of Archaeological Science* (second most important archaeological journal in the world) (see Annex I/A.II.1.3).

The volume edited by Robin Brigand and Olivier Weller –*Archaeology of Salt. Approaching an Invisible Past* (see Annex I/C.2) – received the **Grand PrizeEuroinvent** award during the National Salon of Technical and Scientific Books organized within the European Exhibition of Creativity and Innovation, Euroinvent 2015, May 14-16, Iași (see Annex I/A.I.2).

SYNTHETIC ASSESSMENT OF PUBLICATIONS AND PARTICIPATIONS OF ETHNOSALRO MEMBERS TO NATIONAL AND INTERNATIONAL SCIENTIFIC EVENTS

- 2 volumes of studies published abroad (see Annex I/A I.1., I.2.);
- 1 volume of abstracts published in Romania (see Annex I/A I.3.);
- 3 papers published in ISI journals, one of which in the red area (see Annex I/A.II.1.1-3);
- 1 paper accepted for publication in an ERIH + journal (see Annex I/A II.2);
- 1 study published in ISI Proceedings (see Annex I/A III.1);
- 1 accepted for publication in NON-ISI Proceedings (see Annex I/A III.2);
- 12 book chapters published abroad (see Annex I/A IV.1-12);
- 26 participations to international scientific events (see Annex I/B.I.1-26);
- 2 participations to national scientific events (see Annex I/B.II.1-2);

ANNEX I

A. PUBLICATIONS

I. VOLUMES

I.1. Marius Alexianu, Roxana-Gabriela Curcă, Vasile Cotiuğă (eds.), *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, British Archaeological Reports Oxford, 2015, ISBN 9781407314228.

I.2. Robin Brigand, Olivier Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015, ISBN 9789088903038.

I.3. Ștefan Caliniuc, Mihaela Asăndulesei, Roxana-Gabriela Curcă, Marius-Tiberiu Alexianu (eds.), *First International Congress on the Anthropology of Salt. Book of Abstracts. —Alexandru Ioan Cuzall University of Iasi, Romania, 20–24 August 2015*, Iași, 2015, ISBN 978-606-714-221-1.

II. ARTICLES

II.1. ISI JOURNALS

II.1.1. Gheorghe Romanescu, Roxana-Gabriela Curcă, Ioan Gabriel Sandu, *Salt deposits in the Romanian Subcarpathians – genesis, repartition and ethnomangement*, International Journal of Conservation Science, 6(3), 2015, 261-269.

II.1.2. Ion Sandu, Maria Canache, Traian Mihăescu, Marin Chirazi, Andrei-Victor Sandu, Laura-Monica Trandafir, Alina-Costina Luca, Laura Checherita, *Influence of NaCl aerosols on the functional characteristics of children*, Revista de Chimie, 66(1), 2015, 60-65.

II.1.3. Felix-Adrian Tencariu, Marius Alexianu, Vasile Cotiuğă, Viorica Vasilache, Ion Sandu, *Briquetage and salt cakes: an experimental approach of a prehistoric technique*, Journal of Archaeological Science 59, 2015, 118–131, DOI: 10.1016/j.jas.2015.04.016.

II.2.ERIH AND IDB JOURNALS

II.2.1. Roxana-Gabriela Curcă, *Terminology of salt in Ancient Greek*, *Studia Antiqua et Archaeologica*, 21(1) (sub tipar).

III. PROCEEDINGS ISI AND NON-ISI

III.1. Gheorghe Romanescu, Ionuț Jora, Emilian Panaitescu, Marius Alexianu, *Calcium and Magnesium in the groundwaters of the Moldavian Plateau (Romania) – Distribution and managerial and medical significance*. In: *15th International Multidisciplinary Scientific GeoConference SGEM 2015*, www.sgem.org, *SGEM2015 Conference Proceedings*, ISBN 978-619-7105-36-0 / ISSN 1314-2704, 2015, Book3 Vol. 1, 103-112, DOI: 10.5593/SGEM2015/B31/S12.014.

III.2. Marius Alexianu, Roxana-Gabriela Curcă, Ștefan Caliniuc, *Salt springs from Romania exploited during early archaeological times: a new candidate for world heritage*. In: Alicia Castillo Mena (Ed.), *Second International Conference on Best Practices in World Heritage: People and Communities*. Menorca, 29-30 April, 1-2 May 2015, 2015, 250-264.

IV.BOOK CHAPTERS

IV.1. Marius Alexianu, *Anthropology of Salt: a First Conceptual Approach*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 1-2.

IV.2. Gheorghe Romanescu, *The Perception of Salt Springs in the Romanian Geographic and Geologic Literature*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, pp. 99-109.

IV.3. Olivier Weller, Robin Brigand, Gheorghe Dumitroaia, Daniel Garvăn, Roxana Munteanu, *A Pinch of Salt in the Prehistoric Eastern Carpathian Mountains (Romania)*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 125-133.

IV.4. Robin Brigand, Olivier Weller, Marius Alexianu, *A New Technique for Salt Block Preparation at Coza (Tulnici, Vrancea County, Romania)*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012*,

Iași, Romania, BAR International Series S2760, Oxford, 2015, 223-227.

IV.5. Marius Alexianu, *The Radial Model of Salt Supplying. Preliminary Remarks*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 229-235.

IV.6. Mihaela Asăndulesei, *The Symbolism of Salt in Holidays as Expressed in the Pioneering Works of Romanian Ethnographers Simion Florea Marian and Tudor Pamfile*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 241-250.

IV.7. Marius Alexianu, *The Potential Toponymic Field of Salt Springs in Romanian Microtoponymy*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 261-264.

IV.8. Mihaela Asăndulesei, *The Toponymy of Salt in Zamfir Arbore's Geographical Dictionary of Bessarabia*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 265-273.

IV.9. Ion Sandu, Maria Canache, Andrei-Victor Sandu, Viorica Vasilache, Ioan Gabriel Sandu, *Use of Saline Aerosol Devices in School Gymnasiums: a Romanian Experiment*, in M. Alexianu, R.-G. Curcă, V. Cotiuță, *Salt Effect. Proceedings of the Second Arheoinvest Symposium, 20-21 April 2012, Iași, Romania*, BAR International Series S2760, Oxford, 2015, 275-278.

IV.10. Marius Alexianu, Felix Tencariu, Andrei Asăndulesei, Olivier Weller, Robin Brigand, Ion Sandu, Gheorghe Romanescu, Roxana-Gabriela Curcă, Ștefan Caliniuc, Mihaela Asăndulesei, *The Salt from the Alghianu Beck (Vrancea County, Romania): A Multifaceted Ethnoarchaeological Approach*, in R. Brigand and O. Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015, 47-63.

IV.11. Olivier Weller, *First salt making in Europe: a global overview from Neolithic times*, in R. Brigand and O. Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015, 67-82.

IV.12. Robin Brigand, Olivier Weller, *Spatial analyses for salt archaeology. A case study from Moldavian Neolithic (Romania)*, in R. Brigand and O. Weller (eds.), *Archaeology of salt: approaching an invisible past*, Leiden, Sidestone, 2015, 157-179.

5. PARTICIPATIONS TO SCIENTIFIC EVENTS

I. INTERNATIONAL

I.1. Marius Alexianu — *Same people, same places, intersected lifeways: another research field for ethnoarchaeology* — Current Ethnoarchaeology, Associazione Italiana di Etnoarcheologia, 25-27 November 2015, Rome (poster).

I.2. Mihaela Asăndulesei — *The cultural anthropology of salt in the rural world of Eastern Romania. Interpreting symbolic valences identified in Christian holydays and rituals of passage* — Current Ethnoarchaeology, Associazione Italiana di Etnoarcheologia, 25-27 November 2015, Rome (poster).

I.3. Felix-Adrian Tencariu, Marius Alexianu, Viorica Vasilache — *Integrating ethnoarchaeology, experimental archaeology and archaeometry towards understanding past behaviours and technologies. Case study: the briquetage technique in the Eastern Romanian Chalcolithic* — Current Ethnoarchaeology, Associazione Italiana di Etnoarcheologia, 25-27 November 2015, Rome.

I.4. Stefan Caliniuc, Roxana-Gabriela Curcă, Gheorghe Romanescu, Andrei Asăndulesei — *Romania's salt springs: local economic uplifting through heritage branding* — Current Ethnoarchaeology, Associazione Italiana di Etnoarcheologia, 25-27 November 2015, Rome (poster).

I.5. Marius Alexianu, Felix-Adrian Tencariu, Andrei Asăndulesei, Olivier Weller — *The salt outcrops from the Romanian Carpathians and pastoral mobility. An ethnoarchaeological approach* — European Association of Archaeologists 21th Annual Meeting (EAA 2015), University of Glasgow, Glasgow, 02-05 September 2015.

I.6. Marius Alexianu, Felix-Adrian Tencariu, Vasile Cotiuga — *Briquetages and salt cakes: interpreting some ceramic assemblages from the Romanian Chalcolithic by experiment and ethnographic analogy* — European Association of Archaeologists 21th Annual Meeting (EAA 2015), University of Glasgow, Glasgow, 02-05 September 2015.

I.7. Mihaela Asăndulesei — *A new way of perceiving salt: ceremonial substance in Romanian holidays and rituals of passage* — European Association of Archaeologists 21th Annual

Meeting (EAA 2015), University of Glasgow, Glasgow, 02-05 September 2015.

I.8. Marius-Tiberiu Alexianu — *Anthropology of Salt: Challenges of a New Discipline* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.9. Marius-Tiberiu Alexianu, Olivier Weller, Ion Sandu, Gheorghe Romanescu, Robin Brigand, Roxana-Gabriela Curcă, Vasile Cotiuğă, Felix Tencariu, Andrei Asăndulesei, Ștefan Caliniuc, Radu-Ștefan Balaur, Mihaela Asăndulesei — *EthnosalRo Project. Work in Progress* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.10. Olivier Weller — *First Salt Making in Europe: an Overview from Neolithic Times* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza, University of Iași, 20-24 August 2015.

I.11. Felix Tencariu, Marius-Tiberiu Alexianu, Vasile Cotiuğă, Viorica Vasilache, Ion Sandu — *Clay, Fire and Salt. Experimental Approaches on the Prehistoric Briquetage Technique* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.12. Alfons Fíguls, Olivier Weller, Thomas Xaver Schuhmacher, Mireia Martínez, Raül Segarra, Ainhoa Pancorbo, Rosa M. Lanasa, Marc Cots, Aitor Henestrosa — *The Vall Salina: More than 6500 Years of Halite Exploitation. Cardona, the Salt of History* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.13. Alfons Fíguls, Olivier Weller, Fidel Grandia — *The —Vall Salinall of Cardona and the Role of Salt in the Exchange Network during the Middle Neolithic (4500–3500 BC) in Catalonia* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza University of Iași, 20-24 August 2015.

I.14. Ionuț Cristi Nicu, Andrei Asăndulesei, Gheorghe Romanescu, Alin Mihu-Pintilie, Vasile Cotiuğă — *Archaeological Approaches of Salted Areas from Northeastern Romania* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza University of Iași, 20-24 August 2015.

I.15. Robin Brigand, Olivier Weller — *Neolithic Territories and Salt Exploitation in Moldavia (Romania)* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I.

Cuza University of Iași, 20-24 August 2015.

I.16. Roxana-Gabriela Curcă — *Halotherapy in Graeco-Roman Antiquity* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza University of Iași, 20-24 August 2015.

I.17. Marius-Tiberiu Alexianu — *Houses Constructed of Salt in Herodotus and Strabo: the First Halo-Chambers?* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza University of Iași, 20-24 August 2015.

I.18. Maria Canache, Ion Sandu, Dan Canache, Andrei-Victor Sandu, Viorica Vasilache, Ioan Gabriel Sandu — *Halotherapy and Sports* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza University of Iași, 20-24 August 2015.

I.19. Gheorghe Romanescu — *The Distribution of Resources and Quality of Salt in Europe* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.20. Laurent Adopo Kouassi, Gheorghe Romanescu — *The Salt of Ivory Coast (Africa)* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.21. Ioan Nistor, Gheorghe Romanescu — *Salt in Canada-Distribution and Resources* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuza University of Iași, 20-24 August 2015.

I.22. Kei Aoshima, Takamune Kawashima, Viorica Vasilache, Ion Sandu, Felix Tencariu — *Archaeometric Analyses on Briquetages from Minogahama Site, Japan (ca. 6th–7th century AD)* — First International Congress on the Anthropology of Salt (SALT 2015), —Al. I. Cuzall University of Iași, 20-24 August 2015.

I.23. Gheorghe Romanescu, Ionuț Jora, Emilian Panaitescu, Marius Alexianu — *Calcium and Magnesium in the groundwaters of the Moldavian Plateau (Romania) – Distribution and managerial and medical significance* — 15th International Multidisciplinary Scientific GeoConference SGEM 2015, 18-24 June 2015.

I.24. Marius Alexianu, Roxana-Gabriela Curcă, Ștefan Caliniuc — *Salt springs from Romania exploited during early archaeological times: a new candidate for world heritage* — 2nd International Conference on Best Practices in World Heritage: People and Communities,

Mahón, Menorca, Balearic Islands, April 29–May 2, 2015.

I.25. Gheorghe Romanescu, Gabriela Romanescu — *Hydrological regime of the Prut River on the Romanian territory* — Simpozionul Internațional Calitatea Mediului și Utilizarea Terenurilor, Ediția a X-a, 8-10 May 2015, Suceava (programme & abstracts).

I.26. Dominique Sordoillet, Olivier Weller — *Appréhender les techniques d'exploitation du sel : Analyses microscopiques et géochimiques sur les sites préhistoriques des sources salées de Lunca et Tolici (Roumanie)* — 20e colloque international GMPCA, April 27–30, Besançon, 2015.

II. NATIONAL

II.1. Marius Alexianu, Roxana-Gabriela Curcă, Codrin Alexianu — *O clasificare a izvoarelor sărate: cercetări etnoarheologice în spațiul extracarpatic al României* — Sesiunea Muzeului Național al Carpaților Răsăriteni, Ediția a XII-a, 10-12 December 2015, Sf. Gheorghe.

II.2. Marius Alexianu — *Sarea și oieritul la munte* — „Țara Gugulanilor” Simpozion/Seminar de etnoarheologie, etnoreligie, etnoistorie, etnografie ... etno-, Caransebeș, 26-28 June 2015.

ANNEX II

FIRST INTERNATIONAL CONGRESS ON THE ANTHROPOLOGY OF SALT

20–24 August 2015, “Al. I. Cuza” University of Iași, Romania

PROGRAMME

PLENARY SESSION

Chairmen: Roxana-Gabriela Curcă, Olivier Weller, Valeriu Cavruc, Marius-Tiberiu Alexianu

Marius-Tiberiu Alexianu, *Anthropology of Salt: Challenges of a New Discipline*

Marius-Tiberiu Alexianu, Olivier Weller, Ion Sandu, Gheorghe Romanescu, Robin Brigand, Roxana-Gabriela Curcă, Vasile Cotiugă, Felix Tencariu, Andrei Asăndulesei, Ștefan Caliniuc, Radu-Ștefan Balaur, Mihaela Asăndulesei, *EthnosalRo Project. Work in Progress*

Ashley A. Dumas, *Recent Archaeology of Salt in the Eastern United States*

Shuicheng Li, *Archaeology of Salt Production in the Three Gorges Region: Focus on the Zhongba Site*

Olivier Weller, *First Salt Making in Europe: an Overview from Neolithic Times*

Takamune Kawashima, *Archaeology and Ethnology of Salt in Japan*

Blas Castellón, *Anthropology of Salt in Mexico in the Past 10 Years. An Overview*

Anthony Harding, *Salt in Prehistoric Europe: the Challenges and Perspectives of a General Book on Ancient Salt*

Dulam Sendenjav, *Usage, Therapy and Magical Cure of Salt among Mongolian Ethnic Groups*

Jayaram Gollapudi, *Depressed Classes of Madigas and its Culture Reflects in Using of Salt in Tanning and Traditional Buried the Body in South India*

Felix Tencariu, Marius-Tiberiu Alexianu, Vasile Cotiugă, Viorica Vasilache, Ion

Sandu, *Clay, Fire and Salt. Experimental Approaches on the Prehistoric Briquetage Technique*

Valeriu Cavruc, *The Archaeological Evidence for Salt Production in Romania*

I. ANTHROPOLOGY AND ARCHAEOLOGY (Part 1)

Chairmen: Ashley A. Dumas, Takamune Kawashima, Blas Castellón,

Olivier Weller, Wes Forsythe, Martin Hees

Michele Zuppi, Andrea Zuppi, Paolo Zuppi, Elisabetta Rossi, —*Cum grano salis*! — a Model of Man's Complexity

Andrea Zuppi, Michele Zuppi, Paolo Zuppi, Elisabetta Rossi, —*Sapientia* and Salt

Ralph M. Rowlett, *The Role of Salt in the Fame and Prosperity of Ancient Pompeii*

Tasha Vasiliki Athena Maroulis, *An Insight into the Use of Salt in the Aboriginal Culture in Australia*

Francesca Lugli, *The Use of Salt in Mongolia. An Example of Mogod Region (Bulgan Aimag)*

Henry Kam Kah, *Salt, History and Culture among the Western Grasslanders of Cameroon*

P-J Ezeh, *Unity of Sacred and Profane in Traditional Salt Industry of the Okposi Igbo of South-Eastern Nigeria*

Ioan Cojocariu, *Two Examples of Unusual Uses of Salt in Romania*

Ralph M. Rowlett, *Salt and Shell-tempered Pottery in European Prehistory*

Vassil Nikolov, *Formation of the Prehistoric Urban Centre Provadia-Solnitsata*

Gheorghe Dumitroaia, *Archaeological Research in the Salt Springs Area of Lunca and Oglinzi (Neamț County, Romania)*

Alfons Fíguls, Olivier Weller, Thomas Xaver Schuhmacher, Mireia Martínez, Raül Segarra, Ainhoa Pancorbo, Rosa M. Lanaspá, Marc Cots, Aitor Henestrosa, *The Vall Salina: More than 6500 Years of Halite Exploitation. Cardona, the Salt of History*

Gheorghe Dumitroaia, Vasile Diaconu, Ciprian-Dorin Nicola, *Briquetage in Cucuteni Settlements from Moldavia (Romania)*

Alfons Fíguls, Olivier Weller, Fidel Grandia, *The —Vall Salina of Cardona and the*

Role of Salt in the Exchange Network during the Middle Neolithic (4500–3500 BC) in Catalonia

Andrei Asăndulesei, *Settlement Density around Salt Springs from Solca and Cacica in Neolithic and Chalcolithic Periods*

Ionuț Cristi Nicu, Andrei Asăndulesei, Gheorghe Romanescu, Alin Mihu-Pintilie,

Vasile Cotiugă, *Archaeological Approaches of Salted Areas from Northeastern Romania*

Elisa Guerra Doce, F. Javier Abarquero Moras, Germán Delibes de Castro, *Brine Processing at the Beaker Site of Molino Sanchón II (Zamora, Spain): A Technological Approach*

Maciej Dębiec, Thomas Saile, *Tyrawa Solna. Salt, Settlements and a Magnetometer Survey along the Lower Course of the Tyrawka River (SE-Poland)*

Gheorghe Dumitroaia, Constantin Preoteasa, Ciprian-Dorin Nicola, *Unique Cucutenian Artefacts Related to Salt Recrystallization*

Robin Brigand, Olivier Weller, *Neolithic Territories and Salt Exploitation in Moldavia (Romania)*

Roxana Munteanu, *Sărata Monteoru: a Chalcolithic Site in a Saliferous Region*

Qiaowei Wei, *Ceramic Management at the Salt Production Site during the Early Bronze Age in the North Shandong, China*

Valeriu Cavruc, *The Bronze Age Salt Production Technologies in Transylvania and Maramureş*

Tomaso Di Fraia, *Reddish Ollas and Production and Use of Salt: an Open Question*

Daniel Costache, Laurențiu Grigoraş, *Settlements, Micro-regions and Natural Resources during the Bronze Age in the Curvature Subcarpathians Area*

Vasile Diaconu, *Salt in the Bronze Age. An Overview of Subcarpathian Moldavia (Romania)*

Neculai Bolohan, Luminița Bejenaru, Alexandru Gafincu, *A Tiny Story about Salt, Herding and Landscape in Late Bronze Age (LBA), Eastern Romania (Work in Progress)*

Alfons Fíguls, Hans Reschreiter, Kerstin Kowarik, *Research on the Use of Hallstatt's Stone Axes: Study of Mechanics*

Martin Hees, *Salt in Southwestern Germany at the End of the Iron Age*

Saturday, 22.08.2015

I. ANTHROPOLOGY AND ARCHAEOLOGY (Part 2)

Chairmen: Thomas Saile, Paolo Zuppi

Alfonso Stiglitz, *Archaeology of Salt Works in Ancient Sardinia*

Blas Castellón, *Subterranean Water as a Source of Salt. Reflections on Technological Variations of their Use in the South of Mexico*

Magda Mircea, *The Sacred Salt Spring of Erechtheion, or How the Aegean Sea Got to Flow High on the Top of Athens' Acropolis*

Wes Forsythe, *The Archaeology of Salt in Ireland*

Alexandru Popa, *Salt vs. Limes in the Eastern Part of Roman Province of Dacia*

Shinsaku Tanaka, *The Development of Salt Industry during the State Formation Period*

Kei Aoshima, Takamune Kawashima, Viorica Vasilache, Ion Sandu, Felix Tencariu,

Archaeometric Analyses on Briquetages from Minogahama Site, Japan (ca. 6th–7th century AD)

Catherine Liot, Elodie Mas, Javier Reveles, *Salt, Shell and Obsidian. The Role of Salt Producers- Craftsmen in the Sociocultural Dynamic of the Sayula Basin (Mexico) between 500 and 1000 A.D.*

Ashley A. Dumas, *Salt Production as a Reflection of Inter-Ethnic Contact and Culture Change during Late Prehistory (A.D. 800–1100) in South Alabama, United States*

Jorge Alejandro Ceja Acosta, María Luisa Martell, *Archaeological Observations on the Salt Production in Mesoamerica and Other Parts of the World. Technological Implications*

Jorge Alejandro Ceja Acosta, Braulio Pérez, *Ethnoarchaeology of Salt Production in Saltplaces from Oaxaca, Mexico*

Dan Lucian Buzea, Andrea Chiricescu, *The People of Salt and Experimental Archaeology in Romania*

II. HISTORY

Chairmen: Răzvan Pantelimon, Andrei Emilciuc

Sebastian Fink, *Salinization as a Trigger for Historical Change? The Case of Mesopotamia*

Nuria Morère, *Salt and Antiquity in the Iberian Peninsula: Research Perspectives*

Bernard Moinier, *Salt Outlets: Which Statistical Profiles in the Roman Empire?*

Iulia Dumitrache, *The Halieutic Circuit in Scythia Minor*

Ioan Iațcu, *Use of Salt in the Christian Church of Late Antiquity: Literary and Archaeological Evidence*

Mihai-Cristian Amărieuței, Ludmila Bacumenco-Pîrnău, *Salt —Roadsll in Moldavia by the 18th Century: Production, Transportation, and Consumption*

Natalia Matveeva, *Salt Works in Western Siberia in the First Half of 18th Century Influence on the Foreign Affairs*

Ioan Iațcu, *Salt and Economic Activities on the Pruth River, from Antiquity until the Late Medieval Period*

Andrei Emilciuc, *Organization and Functioning of Salt Extracting Industry in Bessarabia (1812–1850)*

Irina Cereș, *The Export of Salt from the Principality of Moldavia to the Russian Empire at the End of the 18th – Early 19th Century*

Valentin Tomuleț, *Salt Exports of Bessarabia to Ukrainian and Russian Guberniyas (1812–1850)*

Mircea-Cristian Ghenghea, *From Blessing to Punishment. The Salt Issue in the Romanian Space in the 19th Century as Seen by Foreign Travellers*

Valentin Arapu, *The Export of Salt from Moldavia to Poland (the Second Half of 18th Century – Beginning of 19th Century)*

Răzvan Victor Pantelimon, *Marine Salt Exploitation in the Coastal Area of Chile*

III. HALOTHERAPY

Chairmen: Iuri Simionca, Ioan-Sorin Stratulat

Roxana-Gabriela Curcă, *Halotherapy in Graeco-Roman Antiquity*

Iuri Simionca, *The Underground Salt Mine Environment and Therapeutic Properties*

Marius-Tiberiu Alexianu, *Houses Constructed of Salt in Herodotus and Strabo: the First Halo-Chambers?*

Roua Popescu, Cristina Nica, Mihaela Bertescu, Ovidiu Mera, Nicolae Țigănilă, Mădălina Necula, Iuri Simionca, Gheorghe Stoian, *New Serum Lipid Biomarkers Can Be Useful in Bronchial Asthma and Speleotherapy Treatment Monitoring*

Cristina Nica, Cristina Cercel, Mihaela Bertescu, Ovidiu Mera, Nicolae Țigănilă,

Rodica Rogojan, Iuri Simionca, Gheorghe Stoian, *Oxidative Stress Biomarkers Useful in Bronchial Asthma and Speleotherapy Treatment Monitoring*

Ioan-Sorin Stratulat, *Studies Regarding the Balneoclimatic Potential of Cacica Salt Mine, Suceava County*

Maria Canache, Ion Sandu, Dan Canache, Andrei-Victor Sandu, Viorica Vasilache, Ioan Gabriel Sandu, *Halotherapy and Sports*

Ștefana Andrei, *Salina Center Iași – 5 Years Since We Breathe Healthy*

IV. HERITAGE

Chairmen: Katia Hueso Kortekaas, Igor Lyman, Ramón Ojeda-Mestre, Ovidiu Mera

Gheorghe Romanescu, *The Distribution of Resources and Quality of Salt in Europe*

Ricardo N. Alonso, *Neogene and Quaternary Salt in the Central Andes (Perú, Bolivia, Chile and Argentina)*

Takamune Kawashima, *Ethnographical Perspective on Salt in Japan*

Andrea Chiricescu, *Traditional Salt Exploitation in South-East Transylvania*

Katia Hueso Kortekaas, *What Factors Contribute Best to Preserve the Heritage of Inland Salinas in Iberia?*

Arina Ceaușu, *Yām HaMélah, The Sea of Salt*

Martha Monzón Flores, *Huixtocihuatl. The Goddess of Salt*

Laurent Adopo Kouassi, Gheorghe Romanescu, *The Salt of Ivory Coast (Africa)*

Gustavo A. Ramírez Castilla, «*Salt of the Earth*». *Salt Extraction and Trade in Lomas del Real (Costa de Altamira, Tamaulipas, México). A 3,000 Year Old Tradition that is Becoming Extinct*

Ioan Nistor, Gheorghe Romanescu, *Salt in Canada-Distribution and Resources*

Ramón Ojeda-Mestre, Tamara Montalvo-Arce, Jesús Montaña-Avilés, Maribel Patiño, *Environmental Care in Modern Salt Production. An Experience in Mexico*

Jesús Montaña-Avilés, *Baja California Sur the Queen of Salt in Mexico*

Innocent Kouame Kouassi, Gheorghe Romanescu, *Salt Exploitation in Africa*

Oriol Beltran Costa, *The ‘Patrimonialization’ of the Maras Salt Mines (Cusco, Peru):*

Traditional Salt Production Systems and Their Use in Tourism

Igor Lyman, Viktoria Konstantinova, *Ukrainian Traditional Salt Traders (—Chumaks!) in the North of the Sea of Azov (Case Study of Berdyansk District)*

Ana Ilie, *Salt in Romanians’ Traditions. Notes for the Intangible Heritage in Dâmbovița County*

oxana Diaconu, Vasile Diaconu, *Wooden Recipients Used for Salt. An Ethnographic Approach*

Ovidiu Mera, Dan Tiberiu Mera, Tudor-Gabriel Bodea, *The Vertical Transportation of Salt in the Old Turda Salt Mine, Romania*

Ovidiu Mera, Dan Tiberiu Mera, Tudor-Gabriel Bodea, Iuri Simionca, *Mining and Tourism in the Turda Salt Mine*

V. LITERARY AND LINGUISTIC APPROACHES

Chairmen: Mihaela Paraschiv, Adrian Poruciuc

Mihaela Paraschiv, *Salt in the Opsartytique Ancient Literature*

Claudia Tărnauceanu, *Testimonies in Latin Regarding Salt Exploitation in Moldavia in the 17th and 18th Centuries*

Mihaela Asăndulesei, *Salt Symbolism in the Work of Elena Niculiță-Voronca*


Peter A. Dimitrov, *Indo-European Linguistics: IE Onomastics Related to Salt and Salt-Related Places*

Adrian Poruciuc, Norbert Poruciuc, *Salt Terminology in Germanic Languages*

Ileana Oana Macari, *The Grammar of Salt: Morphosyntactic and Morphosemantic Features of Salt Idioms in English and Romanian*

Mihaela Asăndulesei, *Salt-Related Toponyms in the Romanian Area between Carpathians and the Pruth*

ANNEX III



Ethnoarchaeology facing the challenges of globalisation:
Insights from Mali and Senegal

Dr Anne Mayor
Rome, 27.11.2015
Current ethnoarchaeology

APA Archéologie Peuplement de l'Afrique
FACULTÉ DES SCIENCES
FNSNF FONDS NATIONAL SUISSE SCHWEIZERISCHER NATIONALFONDS FONDO NAZIONALE SVIZZERO SWISS NATIONAL SCIENCE FOUNDATION
UNIVERSITÉ DE GENÈVE

Introduction : strategies

As an answer: combination of different strategies
(perfect "Ménage à trois" by Tencariu after Longacre "mariage parfait"...)

1. Ethnoarchaeology (with focus on oral memory, historical accounts or ethnographic collections → heritage studies)

→ Iron metallurgy in Mali
(documentary film by E. Huysecom)

→ Ethnographic pottery collection from Mali at UNIGE, collected 20 years ago
(studies on potter's tools, décors, functions...)



As in previous years, this report presents the progress of the activities associated with the objectives of the EthnosalRo project. The report is divided into:

- 1) Achievement of objectives;
- 2) Research directions, provided and additional;
- 3) Increased international visibility of the EthnosalRo project in general, and of the new results obtained within it;
- 4) Awards;
- 5) Synthetic assessment of publications and participations in international scientific events by EthnosalRo members;

The report is accompanied by 12 annexes.

ACHIEVEMENT OF OBJECTIVES

Objective no. 1/2016, establishing a data base concerning the salt springs and salt massifs in the Gorj county (80%) was achieved in full. All provided related activities were realized (toponymic research, field trips, ethnographic surveys, sampling and analysis of saltwater samples, ethnoarchaeological research around the saltwater springs, GPS locations). In addition, spring description sheets were made for the most important objectives of this type, aerial drone photos were taken and also the Roman fort from Săcelu was GPS located.

Objective no. 2/2016, Modeling the salt water distribution network (spatialization of the information on the distribution of salt from salt springs in the Gorj County) was fully achieved, which led to the consolidation of spatial analysis models of ethnoarchaeological character which confirmed, with some differences, previous modeling.

Objective no.3/2016, Final summary of research results undertaken within the project (50%), was achieved entirely based on the correlation of toponymic data with GPS data, archaeological findings, ethnographic data and literature data. We emphasize that the focus of ethnological research on the traditional exploitation of salt deposits led to the clarification for the first time of the relations between salt spring exploitation and surface exploitation of salt deposits within resilient communities in the extra-Carpathian area of Romania, mainly in the Vrancea, Buzau, and Prahova Counties. The thus obtained complex model is of great interest for a new approach in a comparative plan of salt resources from other archaeological points of reference for the exploitation of salt internationally. We

managed to point out a pre-mining phase (“quarry” type) of salt deposits, which necessarily preceded actual mining exploitations, the type of the Hallstatt mine.

Also, **objective no.4/2016, Making a summary on the social-economic implications of project results**, was achieved. The main conclusion underlines the existence of a high-value potential of natural and cultural (tangible and intangible) heritage of salt in the case of numerous objectives which have not been valued until now.

RESEARCH DIRECTION

The archaeological heritage of salt and its management

Marius Alexianu, Olivier Weller, Robin Brigand, Roxana-Gabriela Curca

At an international level, the archaeology of salt showed spectacular progress during the last three-four decades. However, works on the archaeological heritage of salt remained far behind the strict archaeological research.

That is why it is necessary that theoretical approaches of this type of heritage, with its specific peculiarities, to be initiated and developed. A number of issues that have been overlooked or poorly addressed to date are essential. In a preliminary list, they are:

- establishment of the inter-influences of the natural and archaeological heritage of salt,
- establishment of categories of artifacts, instruments, structures, etc. composing the sphere of the archaeological heritage of salt (AHS),
- establishment of the upper chronological limits of this heritage,
- defining the status of the AHS (technical or cultural heritage),
- defining the specific parameters needed to define best practices in the management of the heritage of salt,
- defining optimal methods for promoting AHS, given the lack of conventional,visual spectacle of its elements in most cases.

By means of theoretical deliberations, but with an implicit practical character, a holistic vision on this emerging management is necessary to be developed, one that could be applied to all forms of the archaeological heritage of salt.

Anthropology of Salt: towards a definition

Marius Alexianu

In order to understand the endeavour to build in a foundational manner the Anthropology of Salt, we must start, from a methodological point of view, with the issue of human diachronic reactions towards common salt (NaCl), the only non-metallic mineral that has strongly marked all sectors of human life (from nutrition, conservation, crafts and economy, to history, spirituality, language, and science and technology). A first tentative taxonomy of these reactions could be systematized as follows:

PRAGMATIC REACTIONS (which in the pre-industrial stage involve practical knowledge, and, starting with the industrial stage, intellectual knowledge): exploitation practices (the manufacturing of exploitation tools and of transportation and storage containers); **preindustrial uses**: alimentation, food preservation, artisanal activities, etc.; **modern industrial uses**: food industry, chemical industry, metallurgy, automotive industry, pharmaceutical industry, etc. — approx. 40 000 uses.

SOCIO-ECONOMIC REACTIONS: organizing the salt exploitations, exchange, trade; specialization of producers/groups of producers of salt, as well as of tools for exploiting salt; professions related to salt exploitations, distribution and uses; control of salt resources; touristic valorisation of the heritage of salt; etc.

REACTIONS TOWARDS THE NOCIVITY OF SALT: no building on and near salt lands; activities to desalinise cropland; avoiding the excessive consumption of salt by humans and animals; harmfulness to the natural environment; etc.

SPIRITUAL REACTIONS (POSITIVE AND NEGATIVE): reflexes in mythology, religions, cults, rituals, voodoo, curses, beliefs, superstitions, shamanism, magic, esotericism, witchcraft, cinema, music, visual arts, etc.

LANGUAGE REACTIONS: words, idioms, place names, family names, etc.

AXIOLOGIC REACTIONS: statements on the value of salt for human and animal life.

EPISTEMIC REACTIONS: knowing the physical-chemical parameters of the natural heritage of salt; the scientific explanations/theories on the appearance of salt on earth and the universe, of the characteristics of the different types of salt; geological and geographical knowledge of the saline waters and the salt deposits across the world; the role of salt in plant, animal and human life; exploitation and usage knowledge; etc.

HERITAGE REACTIONS: Recognising and protecting the heritage of salt, which includes the natural heritage and the cultural heritage of salt.

Thus, the Anthropology of Salt can be defined as a meta discipline that studies in principle the entirety of human reactions towards salt, in the context of the general relations between man and nature, wherein man, as a part of nature, avails himself, on multiple levels, of this essential component of nature.

Characteristics of salt heritage

Marius Alexianu

Meeting the needs for salt of human communities and of livestock dependent on it has had almost always and almost anywhere a central character in strategies of subsistence or developments of the humans. Appearing as salt water (oceans, seas, flowing waters and salt springs) or as deposits of salt, common salt (NaCl) is a natural heritage of prime importance for the major areas of civilization, but also for the subsistence cultures everywhere. Intensively exploited since the Neolithic, out of all minerals, salt has left the strongest imprint on the various aspects of human life, from artifacts to a refined symbolism and sometimes even mythology.

According to current thinking, salt heritage comprises two distinct entities: The natural heritage and cultural heritage, and the latter consists of tangible heritage and intangible heritage. The difficulties in understanding salt heritage begin with defining the natural heritage of this mineral. We believe that we can talk about natural heritage of salt in all cases where it has not started anthropogenic extraction actions. But when a natural heritage entity (e.g. a salt spring or a salt outcrop) begins to be exploited, it acquires ipso facto, but only for the intervention areas, a cultural character, as they represent traces of human behaviour. In these cases, areas of natural heritage change their status into cultural heritage areas, and the study of all parameters (natural and anthropogenic) of these areas becomes legitimate.

From this perspective, the tangible heritage of salt consists of tools and installations that caused the change of natural heritage, but also of traces of exploitations. All these elements must receive adequate attention. Obviously, the management of traces of exploitation and of the archaeological inventory requires very different approaches and practical solutions. A particular issue is the management of the artefacts called briquetage. Due to their unappealing appearance and their exclusively fragmentary condition, briquetages rarely enjoyed proper management, despite the fact that they represented *illu tempore*, a revolutionary cultural and technological response to the social need of

transforming brine into salt crystals and give them some shape, the so-called salt cakes. Another issue regarding tools and installation used in mining exploitation is the sometimes difficult differentiation made between archaeological heritage and “ethnographic” heritage.

The intangible heritage of salt was, in our view, totally insufficient valued until now in order to understand the multiple dimensions which salt and its exploitation in various forms have generated on the diatopic and diachronic plan worldwide. The study of this heritage can even cause the change of archaeological research strategies as, for example, in the case of extending the special parameters in case of salt/salt water distribution in archaeological time.

This triadic unit – natural heritage, tangible heritage, intangible heritage of salt – needs a holistic approach centred on the idea of intrinsic connections between the three heritage categories. And this is because the heritage of salt is the geometric place where the spirit and action of humans interfered with salt, this defining element of the environment, decisive for food, welfare and the civilization of human communities since forever and everywhere.

The natural heritage of salt in Romania, between geology and archaeology

Gheorghe Romanescu, Vasile Cotiugă, Ștefan Caliniuc

The interaction between man and the natural heritage of salt is most clearly evinced from the tools and systems employed for exploiting this mineral element, explaining the prevalence of anthropological (archaeological, linguistic, folkloric, etc.) studies concerning this topic. Irrespective of their aims, all these works rest on an implied geoscientific (earth science) foundation, which demands special consideration.

Drawing from the findings and conclusions of an extensive project on the ethno-archaeology of the salt springs and salt outcrops of Romania (*EthnosalRo*), the present paper analyses the geological aspects that are of critical relevance for research on the natural heritage of salt, with a foray into the issue of managing and presenting the heritage of salt in areas where there is evidence for salt exploitation during the archaeological time.

From Archaeological Past to Living Landscapes of Salt in Eastern Romania

Mihaela Asăndulesei

Salt, due to its diverse properties, is found in all the dimensions of the human communities. This has been proved over time by numerous archaeological findings, Greek and Latin ancient works, medieval and modern documents, as well as by current human behaviour determined by the above-mentioned natural resource.

Eastern Romania, a region rich in salt, has a privileged position in European landscape and even worldwide, due to the high quality of all the saline emergences. The most common are the salt springs, of a great value, first of all, because they were known, appreciated and exploited since Neolithic times. These springs came to be used progressively in various aspects, from their role as seasoning to the symbolic dimension of the product obtained by crystallization of liquid salt. A special situation is highlighted by the continuity of the traditional practices of exploitation of brine from salt springs in the rural world of Eastern Romania, still at a high level of intensity.

However, because the area determined by the presence of salt and his community are threatened by a rapid globalization and forced civilizing, it is necessary to draw attention to the risk of irreversible loss of many of these practices that make a unique intangible heritage.

This paper aims to highlight the human behaviour that is defined by the collective mindset of Eastern Romania rural societies, through a diachronic approach, under several aspects, for identifying some ethnoarchaeological paths for an archaeological interpretation.

The cultural significance of salt in rural Northeastern Romania: beliefs, superstitions, and customs

Asăndulesei Mihaela

The purpose of this paper is to analyze the symbolism of salt in the rural society of Northeastern Romania. The collection of beliefs, superstitions and customs over which the analysis was performed was elaborated on the basis of ethnographical works from late-19th and early-20th centuries, and of the present-day behaviors attested by ethnographic investigations conducted in the area during the last decade.

Man attributed over time to the surrounding reality many symbolic values based on the physical qualities of the natural elements. Salt, one of the most important elements of human life, was held to be by traditional societies, on account of its duality, on the one hand, a protecting and rewarding divine gift, and a destructive force on the other. The heritage of salt owns its variety and richness to this fortuity. The paper emphasizes the important role of the salt in the collective mindset, in the past and today, even if much of it has now been lost.

Archaeological Heritage of Salt: the French experience

Olivier Weller

The question is often asked of the origin of salt exploitation on ancient production sites. On historical or archaeological heritage sites, the answers often given are hypothetical

or commonplace, such as « Since Prehistoric times... » or « Ever since the Celt ». However, material evidence for such assertions is generally rare and, when there is any, very little is made of it.

To approach the history of the archaeological heritage of the prehistoric salt exploitation, we have chosen a symbolic site : the *Fontaines Salées* in Bourgogne (Saint-Père-sous-Vézelay, France). After almost a century of discoveries around these salt springs, we will show how the archaeological heritage has been redesigned : from traditional Gallo-Roman thermal baths to the unexpected discovery of wooden wells from Neolithic times (23rd century BC).

With this example, we will illustrate how the Prehistory of salt is integrated into the cultural heritage, following chance discoveries on historical sites, destructions or reorganizations of space. The supposedly ancient data of the origins of salt exploitation is generally integrated into current speeches and used to justify decisions involving tourism, ecology or health (spas).

Neolithic Territories and Salt Exploitation in Romanian Moldavia

Robin Brigand, Olivier Weller

This contribution features the outcomes of spatial analyses conducted in Romanian Moldavia on the dynamics of prehistoric salt exploitations on a long-term basis. We have conducted spatial and statistical analyses in order to explore the correlations between the distribution of salt sources and the background of Neolithic and Chalcolithic communities (6000-3500 BC). This work combines landscape archaeology methodologies with a powerful tool – Geographic Information Systems – in order to mobilize archaeological discoveries within a multi-scale approach, open to various topics. The general objective is to assess the way in which salt resources were generally integrated within the territories of the first agricultural communities in eastern Romania.

Halotherapy in Graeco-Roman sources and traditional behavior from Romania: variables and constants

Roxana-Gabriela Curcă

In this presentation is outlined the role of salt (solid or natural brine) in healing different diseases (such as dental pains, headaches, stomach pains, skin burns, frostbites, bleeding, etc.), as emphasized in ancient Greek and Latin literature and the ethnographic surveys in

the rural areas of Romania. The present paper examines, by a comparative study of the two types of sources, the correspondence and the difference between the halotherapeutic practices proposed by the ancient texts and the current ethnographic information, highlighting a real ethnoscience for a wide spectrum of diseases.

The issue of salt traces in the ceramics used for obtaining conical shaped salt cakes from brine of salt springs in the site of Cacica, Suceava County

Felix Adrian Tencariu, Viorica Vasilache, Ion Sandu

Salvage excavations carried out in the Cacica site, with the participation of a member of the EthnosolRo project (F.A. Tencariu) resulted in a significant number of briquetage fragments, artifacts which are extremely important for understanding the prehistoric techniques for obtaining commercial conical shaped salt cakes, recrystallized from brine that comes from salt springs. The analyzes performed on 12 samples of briquetage samples aimed to establish whether traces of salt are still present in the walls of the fragmented vessels. The near-absence of salt (NaCl) is explained by the process of soil washing, dissolution or contamination. These processes must be linked with rainwater or groundwater which „washed” salt away over time. Not only these processes but also the hypothetical separation of salt from the vessel walls stopped the infiltration of salt. More specifically, briquetages were used for the production of conical shaped salt caked using open fire, and in order to prevent adhesions of already crystallized salt to the conical shaped briquetage type vessels, an insulating layer was interposed.

Deeper research regarding archaeometric analyzes of briquetage fragments in the Minogahama site, Japan

Felix Adrian Tencariu, Takamune Kawashima, Viorica Vasilache, Ion Sandu

Locating Romanian briquetages in an as wide as possible comparative framework, in accordance with an identical research method, fully justifies studying briquetage fragments in an area representative of the use of this technique, namely Japan. Results of the first archaeometric analysis conducted in Iași within the Arheoinvest platform on briquetage fragments from the Minogahama site were presented in the First International Congress on the Anthropology of Salt (Iași, 1 to 5 August 2015). 2016 analyzes were focused on two samples of clay from the site area, on three algae samples and a small amount of salt obtained from seawater. Corroboration of results led to a new approach concerning the chaine opératoire for obtaining blocks of salt, which was previously of preeminently

hypothetical character. The general conclusion that can be drawn is that people, according to the different parameters of ecological niches, have resorted to different ingenious methods in order to give a conical shape to salt cakes obtained through the re-crystallization of the salt water from different sources.

Testing the radial model of brine supplying from salt springs in the extra-Carpathian area of Romania

Marius Alexianu, Andrei Asăndulesei, Felix-Adrian Tencariu

In 2015, the Director of the EthnosolRo project published an original model concerning the salt supply of human settlements based on ethnologic research conducted within the Ethnosol and EthnosolRo projects (cf. M. Alexianu, *The radial model of salt supplying. Preliminary remarks*. In: M. Alexianu, R.-G. Curcă, V. Cotiugă (eds), *Salt Effect. Second Arheoinvet symposium: From the ethnoarchaeology to the anthropology of salt*, Archaeopress, BAR International Series 2760, Oxford, p. 229-235). Whereas an ethnoarchaeological approach involves applying ethnologic models to archaeological times, through the collaboration with two other members of the project (A. Asăndulesei and F.-A. Tencariu), this phase of the research was initiated. The ethnologic model was tested for the archaeological settlements (from the Paleolithic to the 4th century including), which are located around the most important salt springs in the extra-Carpathian area of Romania: *Poiana Slatinei, Lunca-Vânători, jud. Neamț, Solca, and Cacica, jud. Suceava and Sărata-Monteoru, jud. Buzău*. Statistic analyzes were conducted on circular areas, from 5 to 5 km, up to a maximum of 30 km, as resulted from the ethnological investigations. This approach presents a high degree of credibility as ethnology analogies were applied to archaeological times in conditions of spatial unity and temporary continuity.

Chemical analyzes of brines from salt springs and salt deposits from the studied area

Viorica Vasilache, Ion Sandu, Marius Alexianu, Felix-Adrian Tencariu

Information obtained following the ethnologic investigations showed that the salt springs users know in detail the scope of the brine from each salt spring (preserving different types of cheese, bacon and meat preservation, conservation of vegetables, etc.). As for the lumps of salt, we found that there were very different behaviors of users, for lumps of salt that are white, dark or black. Thus, the white lumps are mainly used for human consumption, while the other two categories of lumps of salt are commonly used in animal feed. By performing

detailed chemical analysis, was aimed to formulate scientific explanations of these options which reflect a kind of ethno-scientific knowledge.

INCREASED INTERNATIONAL VISIBILITY

Preparatory meeting of the Organizing Committee and the Scientific Committee of the Second International Congress on the Anthropology of salt (Los Cabos)

At the invitation of and with the financial support from Mexico, dr. M.T. Alexianu, Project Director EthnosalRo, as supervisor, and R. G. Curcă, as organizer of the First International Congress on the Anthropology of Salt (Iași, 1-5 August 2015), attended the First Session (Los Cabos, 17-23 February 2016) of the Organizing Committee and the Scientific Committee of the Second International Congress on the Anthropology of Salt whose works will take place in the town of Los Cabos (Mexico) from the 1st to the 5th of November 2017.

On this occasion, based on the experience gained from the organization and development of the First Congress on the Anthropology of Salt, the two above mentioned members of the EthnosalRo Project presented concrete proposals on the composition of the two committees, on the implementation of the International Encyclopedia of Salt (project conducted by Dr. Ramon Ojeda Mestre, Mexico) and held daily conferences at this meeting, as well as at academic and research institutions in the area. In turn, Dr. Ramon Ojeda Mestre and Dr. Tamara Montalvo, organizers of this meeting, presented a comprehensive and detailed plan of organizational measures that will be taken to improve awareness and proper implementation of the Second International Congress on the Anthropology of Salt. Works of this meeting were reflected daily in the media at a national and local level.

All information regarding the program of the preparatory meeting in Los Cabos can be found in Annex 6.

Scientific meetings organized by members of the EthnosalRo Project

In 2016, several members of our project have made considerable efforts to organize special sessions devoted to the archaeology and heritage of salt within major international science meetings (see Annex 1), such as the 8th World Archaeological Congress (Kyoto) (see Annex 9) and International Conference Archaeological Park as World Heritage Site – Management Strategy for the Future (Salalah, Oman). The main lines of action consisted in

the identification of attractive themes, writing striking summaries, attracting prestigious international specialists, but also young researchers in the field, as well as providing, in cooperation with the organizers of international meetings, the necessary logistical conditions. Among the notable results of these participations. Among the notable results of these participations we note the high level of the presentations delivered by members of the EthnosalRo project, the fruitful contact of Romanian researchers with colleagues from other countries, extending to the establishment of future collaborations, and the proposal of the ICAHM President, Dr. Douglas Comer, to publish, at the Springer Publishing House, a volume containing papers delivered at the session on the management of the archaeological heritage of salt, volume dedicated to the 2nd International Congress on the Anthropology of Salt (Los Cabos, Mexico, November 1 to 5 2017). We note that in terms of number of participants, Romania was ranked the third, as stated in the opening speech of President Douglas Comer (see Annex 8).

Due consideration was also given to the bilateral meetings between Romania and Japan, in Iași being organized the second Romanian-Japanese seminar (see Annex 7), a continuation of the first seminar held at the Yamaguchi University in 2015. We also mention the fact that for the International Conference on Salt in Tokyo, EthnosalRo was coopted among the three organizers(see Annex 10).

Through the organization of sessions on salt by members of EthnosalRo at the Dead Sea (Jordan), in Pilsen, Kyoto and Salalah, and the status of co-organizer of the Conference in Tokyo, our project established itself as a significant international catalyst of the research on salt.

Participation in international scientific meetings

In 2016 also, EthnosalRo members had an intense participation at the most important scientific meetings in the field (see Annex 2)

GUEST CONFERENCES

Marius Alexianu and Roxana-Gabriela Curcă held guest conferences at the prestigious UCLA, workplace where Prof. Dr. Lothar von Falkenhausen, co-director (along with Prof. Chen Li Sui) of an important project of international attention on the archaeology of salt in China, at the University of Tuscaloosa, Alabama, workplace of Prof. Ian Brown, who opened a research direction on salt springs exploited by American Indians and at the University of West Alabama, workplace of Dr. Ashley Dumas, continuator of the research direction initiated by Prof. Ian Brown. During his visit in Los Angeles, reputed Giorgio Buccelatti, Professor Emeritus at UCLA, gave us a video-interview, and following his visit at Tuscaloosa,

Prof. Ian Brown also accepted to grant us a video-interview. Both interviews were posted on the EthnosalRo website, which increased the visibility of our project in the US (see Annex 3)

AWARDS

The volume *Salt Effect*, published in 2015 within the EthnosalRo project, has been awarded an important prize within the book Salon organized at EUROINVENT 2016 (see Annex 4).

PUBLICATIONS

EthnosalRo members' efforts were aimed at publishing a massive volume (564 pp.) which unites the most important publications of members of projects coordinated by Dr. Olivier Weller and funded by the Ministry of Foreign Affairs of France, and members of the Ethnosal and EthnosalRo project, funded through UEFISCDI – Romania, coordinated by M. Alexianu. This volume is a reflection of reference for the collaboration between Romanian and French experts which led, after several steps (from fieldwork to the construction of general models), to impressive scientific results, appreciated as such internationally (see Annex 5a).

Another success is the publication of a study on the role of the intangible heritage of salt in archaeological research in Romania in a volume published by the Springer Publishing House (see Annex 5b).

We mention the publication of a foreword written by the Director of the EthnosalRo project for the latest book on the archaeology and anthropology of salt in Mexico, whose author, Blas Roman Castellon Huerta is currently the best specialist in the field in this country (see Annex 12).

ETHNOSALRO WEBSITE

The EthnosalRo website was continually updated with information related to the status of results in all stages of the project, with publications, organization, and participation in international and national scientific meetings, with the echoes in the specialized press and media at home and abroad, the activities of land, etc. Permanent update of the site, to which a remarkable contribution was brought by an MA student, Ștefan Caliniuc, contributed greatly to increasing international visibility of the EthnosalRo project, as shown in Annex 11.

MOST RELEVANT RESULTS OF THE ETHNOSALRO PROJECT

-A worldwide unique (in terms of complexity and richness of data) ethno-archaeological referential concerning salt in traditional communities.

-For the first time in the world, the study of the relation between the exploitation of brine from salt springs and the exploitation of salt deposits was achieved.

-An original ethnologic model concerning salt supply of settlements located at a distance of maximum 30 km for the salt source was realized.

-Based on the ethnologic model for salt supply, ethno-archaeological spatial applications were realized for the most important salt springs in the extra-Carpathian area of Romania.

-An original linguistic model concerning the impact of salt springs on micro-toponymy was realized.

-A new research direction concerning the intrinsic relations between the natural and cultural (material and immaterial) heritage of salt was initiated.

-A new meta-discipline was established : the anthropology of salt.

ANNEX 1

Scientific meetings organized by members or the EthnosalRo Project.

-25.03.2016: *Japan-Romania Second Seminar on Salt Studies*, Iași, Romania. Organizers: M.Alexianu și Takamune Kawashima (Yamaguchi University, Japan. (see ANNEX 2).

-02-05.05.2016: *The Archaeological Heritage of Salt: Preserving and Interpreting*, session organized within the International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), Salalah, Oman. Organizers: R.G. Curcă, M.Alexianu, O.Weller, R. Brigand (see ANNEX 3).

-28.08-02.09.2016: *Archaeology of Salt between Local and Global*, session organized within the *World Archaeological Congress 8*, Kyoto, Japan, by Marius Alexianu, Takamune Kawashima, Olivier Weller and F.A. Tencariu (see ANNEX 4).

-03.09.2016: International Conference *History and Tradition of Exploiting Salt Resources*, Tobacco & Salt Museum, Tokyo, Japan. Organizers: Hiroki Takanashi (Tobacco & Salt Museum Tokyo), M.Alexianu (EthnosalRo Project/Universitatea "Al. I.Cuza" din Iasi), Takamune Kawashima (Yamaguchi University, Archaeological Museum) (see ANNEX 5).

ANNEX 2

Participations in international scientific meetings

Felix Adrian Tencariu, *The role of pottery within the prehistoric salt production in Romania*, Japan-Romania Second Seminar on Salt Studies, 25.03.2016, Iași, Romania.

Roxana Gabriela Curcă, *Perspectives on Salt Studies: Organization of the Second International Congress on the Anthropology of Salt (Los Cabos, Mexico, 1-5 November 2017) – Preparatory Meeting, chaired by Prof. dr. Ramon Ojeda-Mestre*, Japan-Romania Second Seminar on Salt Studies, 25.03.2016, Iași, Romania.

Marius-Tiberiu Alexianu, *Heritage of salt: intrinsic connections*, International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), 02-05.05.2016, Salalah, Oman.

Olivier Weller, *Archaeological Heritage of Salt: Chance or Necessity ? From a French archaeological site (Les Fontaines Salées, Yonne) to an European overview for the Prehistoric times*, International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), 02-05.05.2016, Salalah, Oman.

Robin Brigand, Olivier Weller, *Neolithic Territories and Salt Exploitation in Moldavia (Romania)*, International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), 02-05.05.2016, Salalah, Oman.

Gheorghe Romanescu, Roxana-Gabriela Curcă, Ștefan Caliniuc, *The natural heritage of salt in Romania, between geology and archaeology*, International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), 02-05.05.2016, Salalah, Oman.

Mihaela Asăndulesei, *From Archaeological Past to Living Landscapes of Salt in Eastern Romania*, International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), 02-05.05.2016, Salalah, Oman.

Olivier Weller, *Prehistory of Salt Production: from local to European perspective*, World Archaeological Congress 8, Kyoto, Japan.

Marius-Tiberiu Alexianu, *Ethnoarchaeology of salt attractors in Romania. A diachronic model*, World Archaeological Congress 8, Kyoto, Japan.

Felix Adrian Tencariu, Marius Alexianu, Andrei Asăndulesei, *'Rock Salt around the Clock'. Ethnoarchaeological Research in Romania Concerning Salt Extraction by Shepherds*, World Archaeological Congress 8, Kyoto, Japan.

Mihaela Asăndulesei, *Perceiving the past, assessing the present, mitigating the future. Archaeological evidences and intangible heritage of salt in Eastern Romania*, World Archaeological Congress 8, Kyoto, Japan.

Marius-Tiberiu Alexianu, *Anthropology of salt: towards a definition*, International Conference History and Tradition of Exploiting Salt Resources, Tobacco & Salt Museum, 03.09.2016, Tokyo, Japan.

Roxana-Gabriela Curcă, *Halotherapy in Graeco-Roman sources and traditional behavior from Romania: variables and constants*, International Conference History and Tradition of Exploiting Salt Resources, Tobacco & Salt Museum, 03.09.2016, Tokyo, Japan.

Felix-Adrian Tencariu, Andrei Asandulesei, Marius Alexianu, Diana Mariuca Vornicu, *Traditional use of natural brine: ethnoarchaeological research in the Subcarpathian area of Romania*, International Conference History and Tradition of Exploiting Salt Resources, Tobacco & Salt Museum, 03.09.2016, Tokyo, Japan.

Felix-Adrian Tencariu, Marius Alexianu, Andrei Asăndulesei, *'Rock salt around the clock': ethnoarchaeological research in Romania concerning salt lumps extraction by the shepherds*, International Conference History and Tradition of Exploiting Salt Resources, Tobacco & Salt Museum, 03.09.2016, Tokyo, Japan.

Asăndulesei Mihaela, *The cultural significance of salt in rural Northeastern Romania: beliefs, superstitions and customs*, International Conference History and Tradition of Exploiting Salt Resources, Tobacco & Salt Museum, 03.09.2016, Tokyo, Japan.

ANNEX 3

GUEST CONFERENCES

February 2016 – Alexianu M. and Curcă R.-G., *Salt Springs and Salt Mountains: Ethnoarchaeological Investigations in Romania*, UCLA, Los Angeles (SUA);

February 2016 - Alexianu M. and Curcă R.-G., *Salt Springs Exploitation in Eastern Romania: an Ethnoarchaeological Approach*, University of Alabama, Tooscaloosa (SUA);

February 2016 – Alexianu M. and Curcă R.-G., *Salt Outcrops and Pastoral Mobility: ethnoarchaeological Research in Eastern Romania*: University of West Alabama, Livingston (SUA).

ANNEX 4

AWARDS

Gold medal at Euroinvent 2016 for the volume *Salt Effect. Second Arheoinvest Symposium – From the Ethnoarchaeology to the Anthropology of Salt, 20-21 April 2012*, 'Al .I. Cuza' University, Iași, Romania (M.Alexianu, R.-G. Curcă, V. Cotiugă eds.), British Archaeological Reports, International Series 2760, Oxford, Archaeopress.

ANNEX 5

PUBLICATIONS

Volumes

-M. Alexianu, O.Weller, R.-G. Curcă, R.Brigand, M.Asăndulesei(eds.), *White Gold. French and Romanian Projects on Salt in the Extra-Carpathian Areas of Romania*, Archaeologica et Anthropologica III series, Parthenon Verlag, Kaiserslautern, 2016.

Book chapters

-M. Alexianu, O. Weller, R. Brigand, Romanian Salt Springs, Intangible Cultural Heritage, Archaeological Reconstruction: a Variable Geometry. In S. Biagetti and F. Lugli (eds.), *The Intangible Elements of Culture in Ethnoarchaeological Research*, 231-240, Milan – New York, Springer.

-M. Alexianu, O. Weller, R. Brigand, Romanian Salt Springs, Intangible Cultural Heritage, Archaeological Reconstruction: a Variable Geometry, in S. Biagetti and F. Lugli (eds.), *The Intangible Elements of Culture in Ethnoarchaeological Research*, 2016, 231-240, Milan – New York, Springer.

-M. Alexianu, *Anthropology of Salt: challenges of a new discipline*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

-F.-A. Tencariu, A. Asăndulesei, M. Alexianu, *Traditional use of natural brine. Ethnoarchaeological research in the Subcarpathian area of Romania*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

-R. Brigand, O. Weller, *Neolithic territories and salt exploitation in Moldavia (Romania)*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

-A. Asăndulesei, *Settlement density around salt springs from Solca and Cacica (Northeastern Romania) during the Neolithic and Chalcolithic*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

-R.-G. Curcă, *Mentions of salt in D. Livingstone's work, Missionary travels and researches in South Africa*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

-M. Asăndulesei, *Salt Symbolism in the Work of Elena Niculiță-Voronca*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

-M. Asăndulesei, *Morphonyms related to 'slatină' and 'slătioara' in Eastern Romania*, in M. Alexianu, R.-G. Curcă, O. Weller, A. Dumas (eds.), *Mirrors of Salt*. Proceedings of the First International Congress on the Anthropology of Salt, 20-24 August 2015, "Al. I. Cuza" University, Iași, Romania, Archaeopress, Oxford, 2016 (in press).

ANNEX 6


CONGRESO INTERNACIONAL
DE ANTROPOLOGÍA DE LA SAL




International Congress Anthropology of Salt

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LOS CABOS,
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UNIVERSITATEA
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CALIFORNIA
UNIVERSIDAD PARA EL DESARROLLO



UNIVERSIDAD DE GUADALAJARA



ES
EXPORTADORA DE SAL S.A. DE CV



Asociación Mexicana
de la Industria Salinera A.C.

Centro de Estudios Integrales de Innovación y el Territorio, S.C



LOS CABOS

Los Cabos is made up of the two towns of Cabo San Lucas and San José del Cabo. The first of the two towns was founded in the mid-16th Century by Spanish navigator, Francisco de Ulloa, who had once worked for Hernan Cortez. Cabo San Lucas, because of its location, was constantly under attack by pirates, and was slow to grow and prosper. Los Cabos' second town, San José del Cabo, was founded in the mid-18th Century by Jesuits as a Catholic mission.

The area was largely uninhabited and undeveloped until the middle of the 20th Century when the first luxury resorts and vacation homes began to be built there. The ocean surrounding Los Cabos, the Sea of Cortez, is also today of great interest to marine biologists who consider it to be one of the most diverse and richest ocean environments on the planet. The Sea is home to whales, several species of birds, and literally hundreds of types of fish, sharks, dolphins and sea turtles.

There is a strong effort put forth by the Mexican government and environmentalists to preserve and protect the wild areas surrounding Los Cabos. Travelers who are interested in experiencing the area's wildlife will find many ecotourism excursions available in the area.

As of 2010, the city had a population of 68,463. Today is more than 200,000



ANTECEDENTES

La sal es el mineral con mayor trascendencia en la vida humana.

En agosto del 2015 Presidida por el Dr. Marius Tiberius Alexianu, en la Universidad más antigua de Rumanía, la Alexandru Ioan Cuzá, en la ciudad de Iasi de la región de Moldavia, Rumanía se llevó a cabo el Primer Congreso de Antropología de la Sal en donde se presentaron aproximadamente más de 130 inscripciones, participando más de 25 académicos representando a diferentes países del mundo.

Dicho congreso se organizó en el marco del proyecto de investigación “The ethno-archaeology of the salt springs and salt mountains from the extra-Carpathian areas of Romania” (code PN-II-ID-PCE-2011-3-0825 no.219/5.10.2011). Donde se ha demostrado que la Antropología de la Sal en su sentido estricto (arqueología, historia, etnología y la lingüística) tiene fuertes posibilidades para establecerse como una disciplina reconocida, al grado que en dicho Congreso se realizó por parte del Dr. Ramón Ojeda Mestre Presidente del Centro de Estudios Integrales de Innovación y el Territorio, la propuesta de realizar la Enciclopedia Internacional de la Sal.

Los temas del congreso se concentraron en los siguientes rubros:

- Antropología y Arqueología (Parte 1 u Parte 2)
- Historia
- Haloterapia
- Patrimonio
- Enfoques literarios y lingüísticos

En la sala de Rectores sitio solemne de la Clausura de los trabajos del Congreso Internacional de Antropología de la Sal, se aprobó por unanimidad la propuesta de la

delegación mexicana para que Los Cabos, Baja California Sur, México, sea oficialmente la sede de su próximo Congreso Internacional.

BACKGROUND

Salt is the mineral with the greatest significance in human life. In August 2015 Presided by Dr. Marius Tiberius Alexianu, at the oldest university in Romania, Alexandru Ioan Cuza, in the city of Iasi in the region of Moldavia, Romania, the first International Congress on the Anthropology of Salt was held, with more than 130 entries and participation of more than 25 scientists representing different countries of the world. The Congress was organized within the framework of the research project "The ethno-archaeology of the salt springs and salt mountains from the extra-Carpathian areas of Romania" (PN-II-ID-PCE-2011-3-0825 code no.219/5.10.2011). Here it has been shown that the anthropology of salt in its strict sense (archaeology, history, Ethnology and linguistics) has a strong chance to establish itself as a recognized discipline, in so much that in the Congress was attended by Dr. Ramon Ojeda Mestre, President of the center of integrated studies of innovation and territory, who made the proposal for the International Encyclopedia of Salt.

The themes of the Congress focused on the following areas:

Anthropology and Archaeology (part 1/ part 2)

History

Halotherapy

Heritage

Literary and linguistic approaches

In the Hall of Presidents, solemn site of the closing ceremony of the International Congress of anthropology of the salt works, unanimously approved the proposal by the Mexican delegation to Los Cabos, Baja California Sur , Mexico, is officially the place of the next International Congress.

Arrière-plan Background

Sel de fond est le minéral avec une plus grande importance dans la vie humaine. En août 2015 Presidé par Dr. Marius Tiberius Alexianu, à la plus ancienne université en Roumanie,

Alexandru Ioan Cuza, dans la ville de Iasi, dans la région de Moldavie, la Roumanie a eu lieu le premier Congrès de sel anthropologie lorsque présentée environ plus de 130 entrées, participant à plus de 25 académiciens représentant différents pays du monde. Le Congrès a été organisé dans le cadre du projet de recherche « L'ethno-archéologie des ressorts sels et sels montagnes des zones extra-Carpates de Roumanie » (PN-II-ID-PCE-2011-3-0825 code no.219/5.10.2011). Où il démontre que l'anthropologie du sel dans son sens strict (archéologie, histoire, ethnologie et la linguistique) a une forte chance de s'imposer comme une discipline reconnue, de sorte que le Congrès a été réalisée par le Dr Ramon Ojeda Mestre Président du Centre d'Études Intégrées de l'Innovation et le Territoire, la proposition de l'Encyclopédie Internationale de Sel. Les thèmes du Congrès portent sur les domaines suivants : anthropologie et archéologie (partie 1 ou partie 2) histoire Halotherapy du patrimoine littéraires et linguistiques des approches dans le Hall des présidents de site solennel de la cérémonie de clôture du Congrès International d'anthropologie de la salines, approuvé à l'unanimité la proposition de la délégation mexicaine à Los Cabos, Baja California Sur, Le Mexique, est officiellement le prochain Congrès de l'International.

PARTICIPANTES



Marius-Tiberiu Alexianu

Rumania

Dr. en Historia y en Filología Clásica

Director Ethnoarchaeology de la "Alexandru Ioan Cuza" University of Iasi



Gustavo Cruz Chávez

México

Doctor en Desarrollo Económico y Sectorial Estratégico

Rector Universidad Autónoma de B.C.S.



Xavier Lazcano Díaz

México

Contador Público

Director General de Exportadora de Sal, S.A.



Gabriela Curcă

Rumania

Dra. En Historia

Investigadora de la "Alexandru Ioan Cuza" University of Iasi



Katia Kortekaas Hueso

Holanda

Master en Ingeniería y Gestión Ambiental

Presidente del Instituto del Patrimonio y los Paisajes de la Sal (IPAISAL)



Javier Orozco Alvarado

México

Doctor en Desarrollo Económico y Sectorial Estratégico

Ex Rector de la Universidad de Guadalajara Campus Vallarta



Sergio Huitrón Moreno México Licenciado en Administración Gerente
Asociación Mexicana de la Industria Salinera



Yolanda Razo Abundis

México

Doctoranda en Educación

Rectora Universidad del Golfo de California



Juan de Jesús Pérez Agúndez

México

Maestro en Ciencias Director Universidad Autónoma de B.C.S., Los Cabos



Adalberto Pérez Pérez

México

Maestro en Ciencias

Director Instituto Tecnológico de Estudios Superiores Los Cabos



Tamara Montalvo Arce

México

Maestra en Ingeniería

Directora del Centro de Estudios Integrales de Innovación y el Territorio, S.C.



Roberto Cuétara González

México

Museógrafo Coordinador del Museo de Historia Natural de Cabo San Lucas



Ramón Ojeda Mestre

México

Doctor en Administración Pública

Presidente del Centro de Estudios Integrales de Innovación y el Territorio

AGENDA

MIÉRCOLES 17 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
12:00-14:00	Primera Sesión Comité Científico y Organizador	Museo Historia Natural C.S.L.	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Tamara Montalvo, Roberto Cuétara, Yolanda Razo, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda
14:00-16:00	Comida	Así y asado	
18:00-20:00	Congreso y Enciclopedia Planeación	Ofna Tezal	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Tamara Montalvo, Ramón Ojeda
20:00-22:00	Cena		

JUEVES 18 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
12:00-14:00	Congreso y Enciclopedia Planeación	Ofna el Tezal	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Tamara Montalvo, Ramón Ojeda
14:00-16:00	Comida	Puerta Vieja	
17:00-20:00	Segunda Sesión Comité Científico y Organizador	Santa Carmela	Rector Gustavo R. Cruz, Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Roberto Castañeda, Tamara Montalvo, Yolanda Razo, Javier Orozco, Roberto Cuétara, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda

20:00- 22:00	Cena	Cabo Bello	Comité Científico e Invitados Especiales
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VIERNES 19 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
10:00- 12:00	Conferencia de Marius Alexianu y Katia Kortakaas	ITES SJC y UABCS	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Tamara Montalvo, Yolanda Razo, Javier Orozco, Roberto Cuétara, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda
14:00- 16:00	Comida	Toro Güero	
18:00- 20:00	Conferencia de Roxana Curca y Javier Orozco	UABCS Ites Los Cabos	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Tamara Montalvo, Yolanda Razo, Javier Orozco, Roberto Cuétara, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda
20:00- 22:00	Cena		

SABADO 20 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
10:00- 14:00	Congreso y Enciclopedia Planeación	Galería Yandi Monardo Puerto Paraíso	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Tamara Montalvo, Javier Orozco, Ramón Ojeda
14:00- 16:00	Comida	Villa Serena	
18:00- 20:00	Cuarta Sesión Comité Científico y Organizador	UGC Los Cabos	Marius Alexianu, Roxana Curca, Katia Hueso, Xavier Lazcano o Representante, Sergio Moreno, Yolanda Razo, Javier Orozco, Tamara Montalvo, Roberto Cuétara, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda

20:00- 22:00	Cena		
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DOMINGO 21 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
09:00- 11:00	Quinta Sesión Comité Científico y Organizador	Ejido La Ribera	Marius Alexianu, Roxana Curca, Xavier Lazcano o Representante, Sergio Moreno, Yolanda Razo, Javier Orozco, Tamara Montalvo, Roberto Cuétara, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda
14:00- 16:00	Comida	Fonda Doña Vicky	
18:00- 20:00	Congreso y Enciclopedia Planeación	Casa Cultura Miraflores	Marius Alexianu, Roxana Curca, Tamara Montalvo, Ramón Ojeda
20:00- 22:00	Cena		

LUNES 22 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
12:00- 14:00	Congreso y Enciclopedia Planeación	Asudístico	Marius Alexianu, Roxana Curca, Tamara Montalvo, Ramón Ojeda
14:00- 16:00	Comida	Puerta Vieja	
18:00- 20:00	Sexta Sesión Comité Científico y Organizador	Puerta Vieja	Marius Alexianu, Roxana Curca, Xavier Lazcano o Representante, Sergio Moreno, Yolanda Razo, Tamara Montalvo, Roberto Cuétara, Juan de Jesús Pérez, Adalberto Pérez, Ramón Ojeda
20:00- 22:00	Cena		

MARTES 23 DE FEBRERO 2016

	ACTIVIDAD	LUGAR	PARTICIPANTES
12:00-14:00	Congreso y Enciclopedia Planeación	Ofna el Tezal	Marius Alexianu, Roxana Curca, Tamara Montalvo, Ramón Ojeda
14:00-16:00	Comida		

OBJETIVOS

- Integrar el Comité Organizador.
- Integrar el Comité Científico.
- Definir las características de la enciclopedia de la sal.

METAS

- Integrar durante el mes de Marzo del 2016 el Comité Organizador.
- Integrar durante el mes de Abril del 2016 el Comité Científico.
- Contar para el mes de Mayo del 2016 con el programa preliminar de las actividades académico- científico.
- Establecer para el mes de Junio del 2016 el programa preliminar de las actividades socio-culturales.
- Tener en el mes de Julio del 2016 el programa integral Académico-Científico y Socio Cultural.
- Obtener para el mes de Agosto 2016 toda la información concerniente a transportación, hospedaje, alimentación, etc.
- Reunir para el mes de Febrero del 2017 el 50% de los recursos necesarios para el financiamiento del congreso.
- Contar para el mes de Junio del 2017 con todos los trabajos de investigación, ponencias, videos, etc, que se presentaran en el Congreso.
- Obtener para el mes de Julio del 2016 todos los gráficos para la promoción y publicidad del evento.

ORGANIZACIÓN

Para cumplir con los objetivos y las metas propuestas se requiere que el Comité Organizador se integre como sigue:

- Presidentes Honorarios
- Presidente Ejecutivo
- Vicepresidentes Honorarios
- Secretario del Congreso
- Tesorero del Congreso

Para que los trabajos de investigación que se inscriban se evalúen y se divulguen se requiere que el Comité Científico se integre como sigue:

- Presidente Honorario
- Consejo Científico
- Consejo Divulgación
- Comisión de Inscripción, Ponencias, Moderadores y Relatoría

Para la logística del evento se requieren las siguientes Comisiones con sus Subcomisiones

- De Logística
 - Recinto
 - Servicios tecnológicos
 - Edecanes
 - Hospedaje
 - Transporte
- De Comunicación
 - Relaciones Públicas
 - Protocolo
 - Prensa y Difusión
 - Impresos
- De Actividades Socio-Culturales
 - Eventos Turísticos
 - Eventos Artísticos

- Eventos Culturales

FUNCIONES

Del Presidente Ejecutivo del Comité Organizador

- Coordinar las acciones del programa para la organización del evento
- Dar a conocer a todos los integrantes del Comité el presente documento para su desarrollo
- Exponer a las autoridades de los tres niveles el programa resaltando la trascendencia del evento
- Dirigir las reuniones de planeación
- Coordinar las actividades relacionadas al apoyo financiero
- Coordinar las actividades de los integrantes de las comisiones
- Integrar el programa académico, científico y socio cultural
- Decidir el recinto del Congreso

Del Secretario del Comité Organizador

- Apoyar al Presidente en sus funciones
- Llevar las actas de cada reunión, registrando los acuerdos y compromisos de cada uno de los integrantes de los Comités y Comisiones
- Revisar toda la correspondencia relacionada con el evento y dar respuesta
- Convocar las reuniones ordinarias y extraordinarias

Del Tesorero del Comité Organizador

- Realizar el presupuesto del evento junto con el Presidente Ejecutivo
- Coordinar la distribución de los recursos económicos
- Dar informe sobre el control presupuestal del evento

Del Comité Científico

- Fungir como asesor académico- científico del evento
- Estructurar el programa académico
- Proponer al Comité Organizador el programa general del evento, asegurando la más alta calidad del Congreso

- Proponer candidatos para las conferencias, así como los temas más convenientes
- Realizar la revisión de los resúmenes de las ponencias con el fin de ordenarlas durante la elaboración del programa y en su caso rechazar las que no se apeguen a los requisitos mínimos relacionados con los objetivos del tema
- Revisar los trabajos de investigación determinando su aceptación dentro del programa del evento
- Llevar a cabo las traducciones de los resúmenes al idioma inglés
- Nombrar a los moderadores cuya responsabilidad será que cada trabajo se apegue al tiempo estipulado para el buen desarrollo del programa
- Nombrar a los relatores que se encargarán de registrar lo más sobresaliente de las reuniones con el fin de dar a conocer al término del evento las conclusiones de cada trabajo
- Elaborar el resumen, con las conclusiones finales del Congreso

De la Comisión Coordinadora de Inscripciones, Ponencias, Moderadores y Relatores

- Llevar el registro de las inscripciones de los asistentes y acompañantes y organizar las inscripciones de última hora, determinar, desarrollar y coordinar el procedimiento para la entrega del material correspondiente a cada congresista
- Durante del desarrollo del Congreso corroborar que cada salón o auditorio se encuentren disponibles y que como todo el equipo tecnológico necesario; así como que cada ponente, moderador y relator se encuentren en tiempo para su presentación.

De la Comisión de Comunicación

Relaciones Públicas

- PROTOCOLO. Recepción de autoridades, determinación de sitios de honor durante las ceremonias de Inauguración y Clausura
- Elaborar el programa de las ceremonias de Inauguración y Clausura

Prensa y Difusión

- Realizar acciones para que se dé a conocer el evento a nivel nacional e internacional utilizando todos los medios de comunicación masiva
- Supervisar el diseño para la impresión de carteles, trípticos, diplomas, mantas, distintivos, etc.

De la Comisión de Actividades Socio-Culturales

- Elaborar el programa de visitas turísticas a los lugares más significativos de Los Cabos
- Elaborar el programa para los eventos artísticos y culturales que se incluirán en el programa, considerar una Cena-Baile

De la Comisión de Logística

- Supervisar que el recinto cuente con todo lo necesario para el desarrollo del Congreso
- Supervisar todos los apoyos tecnológicos necesarios
- Gestionar los transportes necesarios, para los desplazamientos al Congreso, visitas turísticas y eventos programados
- Llevar el registro de los participantes con alojamiento en las distintas sedes, vigilando la buena atención a los participantes
- Realizar las gestiones necesarias para obtener los recursos y organizar las comidas programadas dentro del Congreso
- Organizar las actividades de edecanes, dándole las instrucciones necesarias y claras para cumplir sus funciones.

ANNEX 7

Japan-Romania Second Seminar on Salt Studies, 25.03.2016, Iași, Romania

第2回ルーマニア・日本製塩国際研究交流会 Japan-Romania Second Seminar on Salt Studies
2016年3月25日(金) Friday, March 25, 2016
EthnosolRo プロジェクト, EthnosolRo Project, Faculty of History,
アレクサンドル・ヨアン・クーザ大学文学部 "Alexandru Ioan Cuza" University of Iasi, Romania
(ヤシ, ルーマニア)

1. 開会の挨拶 1. Opening and Greetings
胸当て銃ゼカリヤ (歴史学部の学部長) Prof. Dr Petronel ZAHARIUC (Dean of the Faculty of History).
マリウス・アレクシアヌ Assoc. Prof. Dr Marius ALEXIANU (EthnosolRo project manager)
(アレクサンドル・ヨアン・クーザ大学, ルーマニア) ("Alexandru Ioan Cuza" University of Iasi, Romania)

2. ルーマニア先史時代製塩における土器の役割 2. The role of pottery within the prehistoric salt production in Romania
フェリックス・アドリアン・テンカリウ Dr Felix Adrian TENCARIU ("Al. I. Cuza" University of Iasi, Romania)
(アレクサンドル・ヨアン・クーザ大学, ルーマニア)

3. 日本における土器製塩の歴史的展開 3. The history of salt making by pottery in Japan
川島 尚宗 (山口大学, 日本) Dr Takamune KAWASHIMA (Yamaguchi University, Japan)

4. クラカウ・ピストリツァ盆地 4. Field survey, archaeological landscape and salt sources
における考古学的景観と塩資源に関する踏査 within the Cracău-Bistrița basin
ニクライ・ボロハン Assist. Prof. Dr Neculai BOLOHAN ("Al. I. Cuza" University of Iasi)

5. 美濃ヶ浜遺跡出土土器の胎土分析について 5. The study of some pottery fragments from Minogahama site, Japan
ヴィオリカ・ヴァシラケ、ヨン・サンドゥ、フェリックス・テンカリウ Dr Viorica VASILACHE, Prof. Dr Ion SANDU, Dr Felix Adrian TENCARIU
(アレクサンドル・ヨアン・クーザ大学, ルーマニア) ("Alexandru Ioan Cuza" University of Iasi, Romania)

6. 製塩研究の展望: 第2回塩人類学国際会議 6. Perspectives on Salt Studies: Organization of the
(2017年11月1~5日, ロス・カボス, メキシコ) Second International Congress on the Anthropology of Salt
の運営をめぐって (ラモン・オヘダ・メストレ博士による開催準備会議より) (Los Cabos, Mexico, 1-5 November 2017)
ロクサナ・ガブリエラ・クルカ - Preparatory Meeting, chaired by Prof. Dr Ramon Ojeda-Mestre
(アレクサンドル・ヨアン・クーザ大学, ルーマニア) Assist. Prof. Dr Roxana Gabriela CURCĂ
("Alexandru Ioan Cuza" University of Iasi, Romania)

YAMAGUCHI UNIVERSITY

Vineri, 25 martie 2016, ora 10:00
Sala H1, corpul H UAIC,
<http://ethnosalro.uaic.ro>



Program

- Felix Adrian Tencariu, *The role of pottery within the prehistoric salt production in Romania*
Takamune Kawashima, *The study of some pottery fragments from Minogahama site, Japan*
Neculai Bolohan, *Field survey, archaeological landscape and salt sources within the Cracău-Bistrița basin*
Viorica Vasilache, *The role of pottery within the prehistoric salt production in Romania*
Roxana Gabriela Curcă, *Perspectives on Salt Studies: Organization of the Second International Congress on the Anthropology of Salt (Los Cabos, Mexico, 1-5 November 2017) – Preparatory Meeting, chaired by Prof. dr. Ramon Ojeda-Mestre*

ANNEX 8

The Archaeological Heritage of Salt: Preserving and Interpreting, sesiune organizată în cadrul conferinței International Conference Archaeological Park as World Heritage Site - Management Strategy for the Future (ICAHM), 02-05.05.2016, Salalah, Oman



2016 ICAHM CONFERENCE
مؤتمر اللجنة العلمية الدولية لإدارة التراث الأثري ٢٠١٦ م

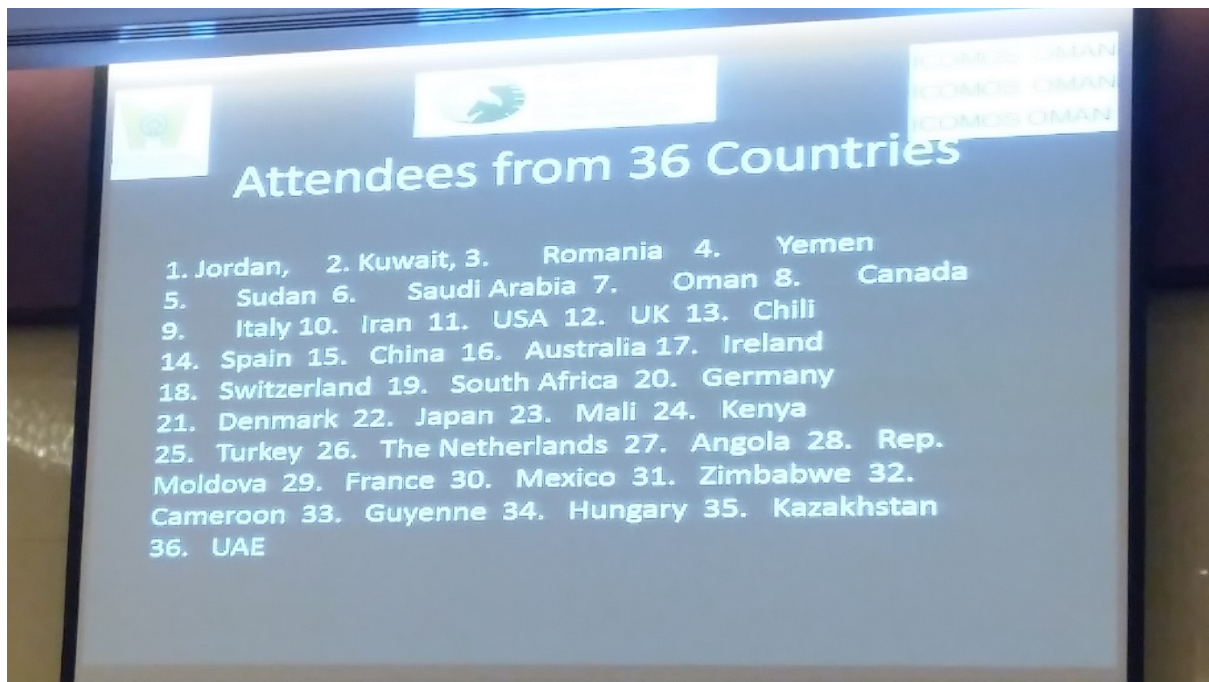
Archaeological Park as World Heritage Site - A Management Strategy for the Future
المنتزه الأثري كموقع تراث عالمي - استراتيجية الإدارة للمستقبل

Salalah, Oman | 2 - 5 May 2016
صلالة، سلطنة عُمان | ٢-٥ مايو ٢٠١٦ م



Attendees from 36 Countries

1. Jordan
2. Kuwait
3. Romania
4. Yemen
5. Sudan
6. Saudi Arabia
7. Oman
8. Canada
9. Italy
10. Iran
11. USA
12. UK
13. Chili
14. Spain
15. China
16. Australia
17. Ireland
18. Switzerland
19. South Africa
20. Germany
21. Denmark
22. Japan
23. Mali
24. Kenya
25. Turkey
26. The Netherlands
27. Angola
28. Rep. Moldova
29. France
30. Mexico
31. Zimbabwe
32. Cameroon
33. Guyenne
34. Hungary
35. Kazakhstan
36. UAE



Program

Marius-Tiberiu Alexianu, *Heritage of salt: intrinsic connections*

Olivier Weller, *Archaeological Heritage of Salt: Chance or Necessity ? From a French archaeological site (Les Fontaines Salées, Yonne) to an European overview for the Prehistoric times*

Ning Jia, Lijuan Huo, Xiaowei Liu, *Research on Interpreting the Information of Shuangwangcheng Archaeological Site of Salt-Production*

Robin Brigand, Olivier Weller, *Neolithic Territories and Salt Exploitation in Moldavia (Romania),*

Valerii Kavruk, *Archaeological Saltscapes in Transylvania (Romania)*

Gheorghe Romanescu, Roxana-Gabriela Curcă, Ștefan Caliniuc, *The natural heritage of salt in Romania, between geology and archaeology*

Katia Hueso Kortekaas, *Artisanal saltscapes in Europe: A window into the past?*

Alazne Ochandiano, Mikel Landa, *Keeping to authenticity in saltmaking to secure a sustainable future for living cultural landscapes; the case of Añana Salt Valley*

Ulises Cárdenas Hidalgo, *"Las Salinas" of Valley of the Moon: Settlement of a forgotten history contemporary mining in the Puna de Atacama, Antofagasta region, Chile*

Takamune Kawashima, Tinka Delakorda Kawashima, *Preserving traditional salt production in Japan*

Mihaela Asăndulesei, *From Archaeological Past to Living Landscapes of Salt in Eastern Romania*

ANNEX 9

Archaeology of Salt between Local and Global, sesiune organizată în cadrul *World Archaeological Congress 8*, 28.08-02.09.2016, Kyoto, Japan, în cooperare cu Takamune Kawashima de la Yamaguchi University, Japan și Olivier Weller, CNRS, Franța



Program

Qiaowei Wei, *Made locally or Long-distance transportation? New evidence on ceramic vessels from Salt production sites of Late Shang period in North Shandong*

Wes Forsythe, *The Archaeology of Salt Production in Ireland*

Akira Ichikawa, Hiroaki Yagi, *Ancient Pottery Salt Production in the Pacific Coast of Southeastern Mesoamerica*

Takamune Kawashima, *Archaeology of salt in Japan – an international comparative study*

Felix Adrian Tencariu, *'Rock Salt around the Clock'. Ethnoarchaeological Research in Romania Concerning Salt Extraction by Shepherds*

Flora Vilches, *Rock salt mining in San Pedro de Atacama, northern Chile, during the 20th century: between artisan and industrialized exploitation*

Mihaela Asăndulesei, *Perceiving the past, assessing the present, mitigating the future. Archaeological evidences and intangible heritage of salt in Eastern Romania*

David Bloch, *Global salt source monopolies: the primary social influence upon civilizations for many centuries as a direct cause and effect linked to fluctuating eustatic sea levels*

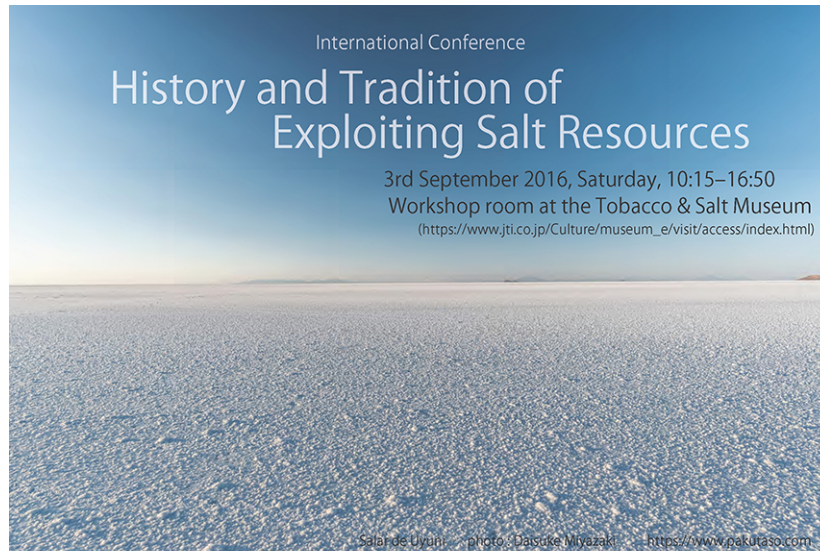
Olivier Weller, *Prehistory of Salt Production: from local to European perspective*

Kerstin Kowarik, *The prehistoric salt mines of Hallstatt: provisioning processes and economic structures*

Marius Alexianu, *Ethnoarchaeology of salt attractors in Romania. A diachronic model*

ANNEX 10

International Conference History and Tradition of Exploiting Salt Resources, Tobacco & Salt Museum, 03.09.2016, Tokyo, Japan



- Hiroki Takanashi, Tobacco & Salt Museum
Greetings
- Marius-Tiberiu Alexianu
Anthropology of salt: towards a definition
- Roxana-Gabriela Curcă
Halotherapy in Graeco-Roman sources and traditional behavior from Romania: variables and constants
- Niu Yingbin
Development and evolvement of salt production by pouring brine on earth (lintufa) in ancient China
- Edoardo Vanni
Searching for salt in Italy: mobility and exploitation of salt from the Bronze Age to the Early Middle Age
- Akira Ichikawa
Prehispanic pottery saltmaking in Mesoamerica:
an archaeological perspective
- Takamune Kawashima
Pottery salt production and experimental archaeology
- Felix-Adrian Tencariu, Andrei Asandulesei, Marius Alexianu, Diana Mariuca Vornicu
Traditional use of natural brine: ethnoarchaeological research in the Subcarpathian area of Romania
- Felix-Adrian Tencariu, Marius Alexianu, Andrei Asandulesei
'Rock salt around the clock' : ethnoarchaeological research in Romania
concerning salt lumps extraction by the shepherds
- Asăndulesei Mihaela
The cultural significance of salt in rural Northeastern Romania: beliefs, superstitions and customs
- Flora Vilches
Rock salt mining in San Pedro de Atacama, northern Chile, during the 20th century:
between artisan and industrialized exploitation

Tobacco & Salt Museum / EthnosolRo Project, "Alexandru Ioan Cuza" University of Iasi, Romania /
Yamaguchi University Archaeological Museum



Program

Hiroki Takanashi, Tobacco & Salt Museum Greetings

Marius-Tiberiu Alexianu, *Anthropology of salt: towards a definition*

Roxana-Gabriela Curcă, *Halotherapy in Graeco-Roman sources and traditional behavior from Romania: variables and constants*

Niu Yingbin, *Development and evolvement of salt production by pouring brine on earth (lintufa) in ancient China*

Edoardo Vanni, *Searching for salt in Italy: mobility and exploitation of salt from the Bronze Age to the Early Middle Age*

Akira Ichikawa, *Prehispanic pottery salting in Mesoamerica: an archaeological perspective*

Takamune Kawashima, *Pottery salt production and experimental archaeology*

Felix-Adrian Tencariu, Andrei Asandulesei, Marius Alexianu, Diana Mariuca Vornicu, *Traditional use of natural brine: ethnoarchaeological research in the Subcarpathian area of Romania*

Felix-Adrian Tencariu, Marius Alexianu, Andrei Asandulesei, *'Rock salt around the clock': ethnoarchaeological research in Romania concerning salt lumps extraction by the shepherds*

Asandulesei Mihaela, *The cultural significance of salt in rural Northeastern Romania: beliefs, superstitions and customs*

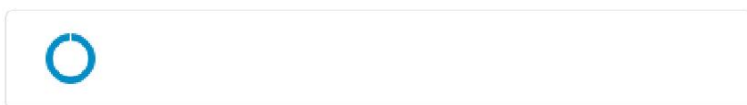
Flora Vilches, *Rock salt mining in San Pedro de Atacama, northern Chile, during the 20th century: between artisan and industrialized exploitation*

ANNEX 11

ethnosalro.

Location

Sep 1, 2012 - Se



Summary



1

2,048

Country	Acquisition			Behavior		
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration
	4,498 % of Total: 100.00% (4,498)	59.32% Avg for View: 59.25% (0.11%)	2,668 % of Total: 100.11% (2,665)	62.09% Avg for View: 62.09% (0.00%)	2.15 Avg for View: 2.15 (0.00%)	00:01:50 Avg for View: 00:01:50 (0.00%)
1. Romania	2,048 (45.53%)	46.00%	942 (35.31%)	49.17%	2.73	00:02:43
2. United States	421 (9.36%)	82.42%	347 (13.01%)	81.47%	1.51	00:00:37
3. France	382 (8.49%)	58.64%	224 (8.40%)	57.85%	1.96	00:01:08
4. Mexico	312 (6.94%)	37.82%	118 (4.42%)	74.36%	1.54	00:01:34
5. Spain	160 (3.56%)	64.38%	103 (3.86%)	66.88%	1.81	00:01:09
6. Italy	109 (2.42%)	84.40%	92 (3.45%)	56.88%	1.90	00:01:23
7. United Kingdom	102 (2.27%)	97.06%	99 (3.71%)	90.20%	1.24	00:00:08
8. Germany	98 (2.18%)	85.71%	84 (3.15%)	57.14%	2.57	00:02:02
9. Russia	79 (1.76%)	96.20%	76 (2.85%)	97.47%	1.05	00:00:02
10. Japan	73 (1.62%)	46.58%	34 (1.27%)	61.64%	2.18	00:01:33
11. Croatia	67 (1.49%)	10.45%	7 (0.26%)	92.54%	1.13	00:00:09
12. India	50 (1.11%)	96.00%	48 (1.80%)	84.00%	1.76	00:00:44
13. China	47 (1.04%)	89.36%	42 (1.57%)	87.23%	1.28	00:00:35
14. Austria	40 (0.89%)	45.00%	18 (0.67%)	45.00%	2.85	00:02:41
15. Brazil	37 (0.82%)	100.00%	37 (1.39%)	100.00%	1.00	00:00:00
16. Moldova	33 (0.73%)	90.91%	30 (1.12%)	72.73%	1.45	00:02:56
17. (not set)	28 (0.62%)	75.00%	21 (0.79%)	67.86%	1.57	00:00:34
18. Greece	27 (0.60%)	59.26%	16 (0.60%)	48.15%	1.78	00:00:13
19. Turkey	26 (0.58%)	84.62%	22 (0.82%)	73.08%	1.38	00:00:30
20. Poland	20 (0.44%)	85.00%	17 (0.64%)	80.00%	1.40	00:00:42
21. Argentina	18 (0.40%)	88.89%	16 (0.60%)	88.89%	1.22	00:01:36
22. Chile	18 (0.40%)	66.67%	12 (0.45%)	66.67%	1.83	00:02:39

23.	Ukraine	17 (0.38%)	47.06%	8 (0.30%)	52.94%	1.82	00:01:33
24.	Belgium	15 (0.33%)	73.33%	11 (0.41%)	93.33%	2.40	00:03:00
25.	Portugal	15 (0.33%)	93.33%	14 (0.52%)	46.67%	1.73	00:01:08
26.	Australia	14 (0.31%)	92.86%	13 (0.49%)	85.71%	1.43	00:00:31
27.	Netherlands	14 (0.31%)	100.00%	14 (0.52%)	78.57%	1.57	00:00:49
28.	Serbia	14 (0.31%)	64.29%	9 (0.34%)	71.43%	1.79	00:01:20
29.	Switzerland	12 (0.27%)	75.00%	9 (0.34%)	66.67%	1.75	00:03:27
30.	Czech Republic	11 (0.24%)	81.82%	9 (0.34%)	90.91%	1.82	00:05:42
31.	Canada	10 (0.22%)	100.00%	10 (0.37%)	80.00%	1.30	00:00:06
32.	Finland	10 (0.22%)	80.00%	8 (0.30%)	40.00%	2.00	00:02:57
33.	Indonesia	10 (0.22%)	90.00%	9 (0.34%)	100.00%	1.00	00:00:00
34.	Morocco	10 (0.22%)	100.00%	10 (0.37%)	100.00%	1.00	00:00:00
35.	Ireland	9 (0.20%)	77.78%	7 (0.26%)	88.89%	1.11	00:00:01
36.	Sweden	9 (0.20%)	100.00%	9 (0.34%)	66.67%	1.33	00:00:04
37.	Hungary	8 (0.18%)	75.00%	6 (0.22%)	75.00%	1.38	00:00:22
38.	Philippines	8 (0.18%)	100.00%	8 (0.30%)	75.00%	2.25	00:01:59
39.	Bulgaria	7 (0.16%)	100.00%	7 (0.26%)	100.00%	1.00	00:00:00
40.	Slovakia	7 (0.16%)	100.00%	7 (0.26%)	85.71%	1.43	00:00:17
41.	Israel	6 (0.13%)	100.00%	6 (0.22%)	66.67%	1.83	00:00:42
42.	Iran	6 (0.13%)	83.33%	5 (0.19%)	83.33%	1.33	00:00:21
43.	Bosnia & Herzegovina	4 (0.09%)	75.00%	3 (0.11%)	0.00%	6.75	00:09:06
44.	Guatemala	4 (0.09%)	75.00%	3 (0.11%)	100.00%	1.00	00:00:00
45.	Malaysia	4 (0.09%)	100.00%	4 (0.15%)	50.00%	2.00	00:01:28
46.	Peru	4 (0.09%)	100.00%	4 (0.15%)	75.00%	1.25	00:00:00
47.	Slovenia	4 (0.09%)	100.00%	4 (0.15%)	75.00%	1.25	00:00:19
48.	South Africa	4 (0.09%)	100.00%	4 (0.15%)	100.00%	1.00	00:00:00
49.	Algeria	3 (0.07%)	100.00%	3 (0.11%)	66.67%	2.00	00:00:41

50.	Egypt	3 (0.07%)	100.00%	3 (0.11%)	100.00%	1.00	00:00:00
51.	Nigeria	3 (0.07%)	66.67%	2 (0.07%)	100.00%	1.00	00:00:00
52.	Norway	3 (0.07%)	100.00%	3 (0.11%)	66.67%	1.67	00:00:18
53.	Pakistan	3 (0.07%)	100.00%	3 (0.11%)	100.00%	1.00	00:00:00
54.	Thailand	3 (0.07%)	100.00%	3 (0.11%)	100.00%	1.00	00:00:00
55.	United Arab Emirates	2 (0.04%)	100.00%	2 (0.07%)	50.00%	1.50	00:00:41
56.	Albania	2 (0.04%)	100.00%	2 (0.07%)	100.00%	1.00	00:00:00
57.	Belarus	2 (0.04%)	100.00%	2 (0.07%)	50.00%	3.00	00:01:05
58.	Georgia	2 (0.04%)	100.00%	2 (0.07%)	100.00%	1.00	00:00:00
59.	Jordan	2 (0.04%)	0.00%	0 (0.00%)	0.00%	3.50	00:11:03
60.	Macedonia (FYROM)	2 (0.04%)	100.00%	2 (0.07%)	100.00%	1.00	00:00:00
61.	Mongolia	2 (0.04%)	50.00%	1 (0.04%)	50.00%	1.50	00:00:04
62.	New Zealand	2 (0.04%)	100.00%	2 (0.07%)	100.00%	1.00	00:00:00
63.	Oman	2 (0.04%)	50.00%	1 (0.04%)	100.00%	1.00	00:00:00
64.	Qatar	2 (0.04%)	100.00%	2 (0.07%)	100.00%	1.00	00:00:00
65.	Uruguay	2 (0.04%)	100.00%	2 (0.07%)	100.00%	1.00	00:00:00
66.	Azerbaijan	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
67.	Bahrain	1 (0.02%)	100.00%	1 (0.04%)	0.00%	2.00	00:00:00
68.	Bermuda	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
69.	Bolivia	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
70.	Colombia	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
71.	Denmark	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
72.	Ecuador	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
73.	Estonia	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
74.	French Guiana	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00
75.	Gambia	1 (0.02%)	100.00%	1 (0.04%)	0.00%	3.00	00:00:32

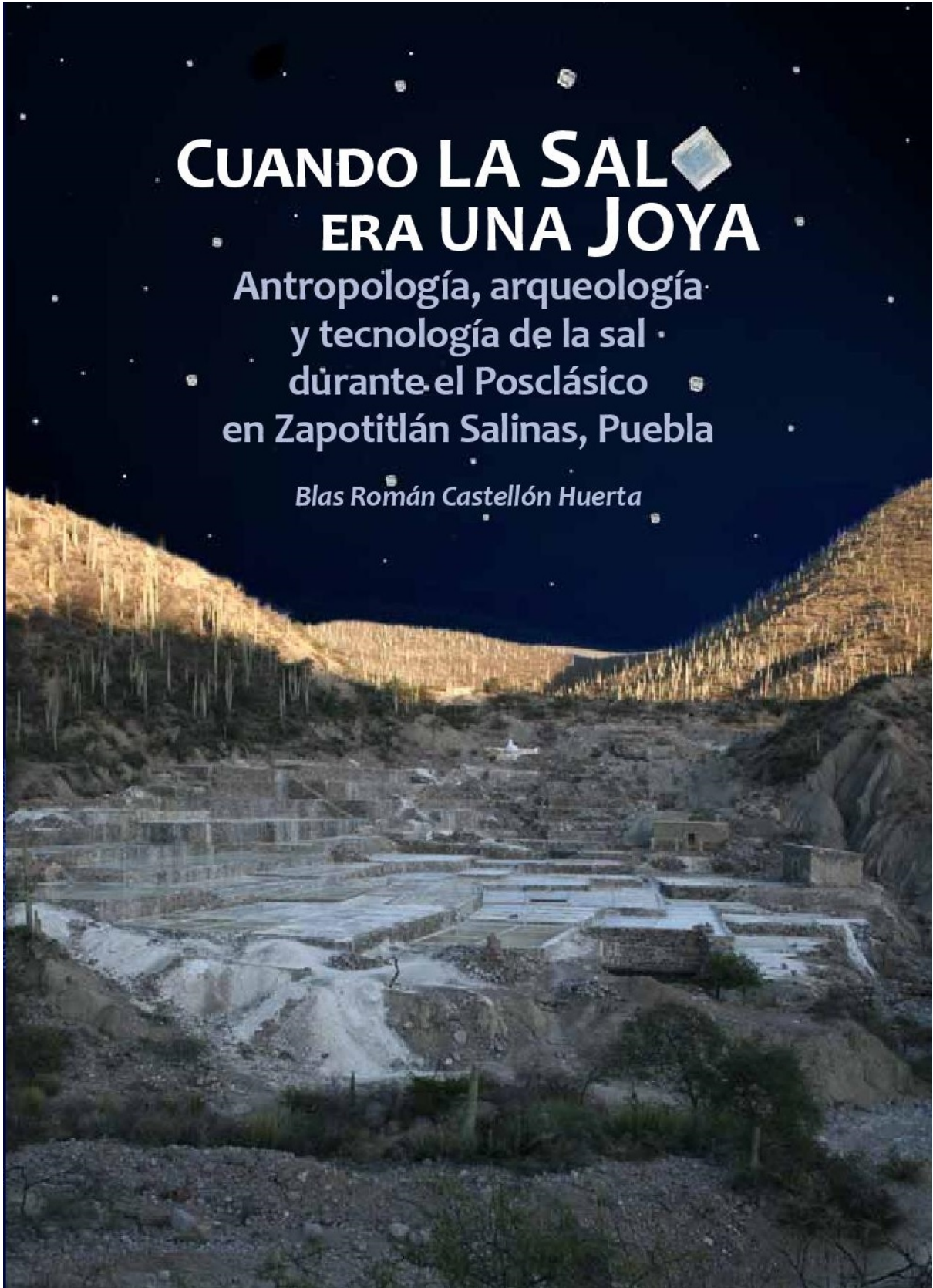
76.	Guinea	1 (0.02%)	100.00%	1 (0.04%)	0.00%	2.00	00:24:44	
77.	Hong Kong	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
78.	Kenya	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
79.	Malawi	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
80.	Mozambique	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
81.	Panama	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
82.	Palestine	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
83.	Réunion	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
84.	Saudi Arabia	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
85.	Sudan	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
86.	Senegal	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
87.	El Salvador	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
88.	Togo	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
89.	Tunisia	1 (0.02%)	100.00%	1 (0.04%)	0.00%	3.00	00:02:26	0.00%
90.	Taiwan	1 (0.02%)	100.00%	1 (0.04%)	0.00%	2.00	00:28:11	0.00%
91.	Venezuela	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%
92.	Zimbabwe	1 (0.02%)	100.00%	1 (0.04%)	100.00%	1.00	00:00:00	0.00%

Rows 1 - 92

CUANDO LA SAL ERA UNA JOYA

Antropología, arqueología
y tecnología de la sal
durante el Posclásico
en Zapotitlán Salinas, Puebla

Blas Román Castellón Huerta



PRÓLOGO¹

En términos actuales, las palabras clave para la arqueología de la sal en el comienzo del siglo XX fueron pocas; geográficamente eran: Hallstatt, Vallée de la Seille, Halle/Saale, y técnicamente: minería y *briquetage* (palabra francesa creada en 1740 derivada de *brique* [ladrillo], y la cual fue usada para nombrar los restos de alfarería resultantes de hervir la salmuera natural a fin de obtener sal recristalizada). Con el paso del tiempo, estas palabras clave se han multiplicado, permaneciendo concentradas geográficamente en Europa principalmente. Sin embargo, las últimas tres o cuatro décadas, han estado marcadas por un desarrollo casi imposible de predecir de lo que ha venido a consolidar un sintagma: la arqueología de la sal. En una lista desprovista de cualquier pretensión de ser completa, se hicieron hallazgos de referencia de varios segmentos cronológicos en Asia (especialmente en Japón y China), Norteamérica, Centroamérica y Sudamérica. Comenzando la década de 1970, el sureste de Europa también vino al primer plano de atención en los círculos internacionales, ya que fue aquí donde fueron descubiertas las huellas más antiguas de obtención de sal a partir de salmueras de manantiales salinos (Bosnia y Herzegovina, Rumania, Bulgaria,). Los encuentros científicos enfocados sobre el tema de la sal en la arqueología se han vuelto ahora más comunes. Para limitarnos solo a los años más recientes, podemos mencionar algunas sesiones especiales en el séptimo World Archaeological Congress 2013, Mar Muerto, Jordania, y en el Encuentro de la European Association of Archaeologists, Pilsen 2014. En 2015, en Iași (Rumania), se organizó el First International Congress on the Anthropology of Salt, en el cual la sección sobre arqueología de la sal fue la más prolífica. Este último encuentro reveló que los participantes de México, hecho significativo, fueron los más numerosos. Incluso este año, en el octavo World Archaeological Congress en Kyoto y en Encuentro del International Committee on Archaeological Heritage, en Salalah (Sultanato de Omán), también hay sesiones

¹ Traducción del inglés: Ignacio Castellón Rivera

relacionadas con la arqueología y patrimonio de la sal. El mismo ritmo acelerado es notable también en términos de publicaciones científicas. Hace tres años, la primera monografía sobre la prehistoria de la sal en un continente (Europa) fue publicada (Harding 2013), la cual también menciona las investigaciones más representativas en México. El año pasado en Europa se publicaron dos colecciones de estudios relacionadas con la arqueología y antropología de la sal (Brigand y Weller 2015; Alexianu *et al.* 2015) y para este año está programada la publicación de las Memorias del First International Congress on the Anthropology of Salt.

¿Cómo fue que esta tendencia real de las humanidades se manifestó internacionalmente en términos de la arqueología y la antropología de la sal en México? ¡Un país donde la sal ha jugado un papel tan crucial que vino a reflejarse en la mitológica de la Diosa de la Sal! Una respuesta puede hallarse en la colección de estudios coordinados por el autor de este mismo volumen (Castellón Huerta 2008). La primera pieza pertenece a un clásico de la antropología mexicana, que fue publicada en la tercera década del siglo pasado (Mendizábal 1946). Paradójicamente, desde 1929 hasta 1980, únicamente aparecieron tres artículos sobre arqueología de la sal, de los cuales solo uno fue publicado en México.

Pero como resultado del interés cada vez más acentuado por la investigación sobre el papel de la sal en la historia de Europa, después de los 80's los estudios sobre este mineral, esencial para una vida próspera, también han aumentado en México, incluso cuando el número de especialistas dedicados exclusivamente a este tema es comparativamente muy reducido. Algunos pocos libros prestigiosos han llamado la atención de los círculos científicos hacia este tema: así, fueron tratados temas tales como el comercio y la producción de sal entre los mayas (Andrews 1983), y la Industria Mexicana de la sal (1560-1980) (Ewald 1985).

En este contexto también debemos señalar dos Coloquios mexicanos sobre la sal, cuyas memorias fueron publicadas en los años finales del siglo pasado (Reyes Garza 1995, 1998). Publicadas en los dos primeros años del siglo XXI, hay tres trabajos interdisciplinarios que

muestran un notable valor anticipado en relación al desarrollo de estos estudios en México, con un impacto internacional sobresaliente. Estos son una monografía dedicada a las salinas prehispánicas (Liot 2000), otra más dedicada a los últimos salineros de Nexquipayac (Parsons 2001), y un libro sobre la sal entre los antiguos mayas (McKillop 2002).

Luego de esta breve reseña del contexto internacional y mexicano en el que aparecen estos libros, son necesarias ahora algunas pocas palabras sobre el autor, un científico y humanista de personalidad compleja que valora pero también analiza críticamente (en los casos donde aplica) las visiones teóricas que emplea. Se entiende que la mera enumeración de algunas cualidades constituye un verdadero elogio *sui generis*.

Primero que nada queremos llamar la atención al hecho de que Blas Román Castellón Huerta es parte del limitado grupo de investigadores de México que resisten a la tentación natural de dedicarse [solo] a la arqueología monumental, un camino obviamente más seguro para adquirir prestigio profesional. El hecho de que la suya sea una opción consistente resulta de un texto publicado hace diez años (Castellón Huerta 2006). Él también es parte de la elite de arqueólogos que igualmente muestran una vocación teórica (con todos sus rasgos) pero a la vez una pasión por el trabajo de campo. Su sólido entrenamiento teórico y conformidad con los requerimientos de la disciplina no suprime en nada su espíritu crítico que también se manifiesta hacia algunas de las llamadas “verdades” indiscutibles. Esta conducta, nos complace notar, es también aplicada a las distintas etapas de su investigación. De manera cuidadosa tanto en el detalle revelador como en la arquitectura del libro, esta personalidad ha logrado algo inusual: hacer complementario *l'esprit geometrique* (el espíritu geométrico) con *l'esprit de finesse* (el espíritu de refinamiento). Este autor sabe cómo manejar con gran destreza diferentes registros estilísticos (del descriptivo al narrativo) dependiendo del contexto, y para comunicar todo lo que es puramente técnico (algunas veces poco atractivo) en un lenguaje accesible. Escrito algunas veces con un arrojo teórico, otras veces con un ánimo exploratorio, este libro lo mantiene a uno sin aliento mientras se

lee, cualquier lector se convierte imperceptiblemente en copartícipe de esta fascinante aventura del conocimiento sobre la explotación de la sal en un área específica de México.

Desde un punto de vista metodológico, creemos que la idea más importante es que el acercamiento estrictamente arqueológico muestra límites intrínsecos y por eso es imperativo el recurso a los acercamientos antropológicos.

Por otra parte, al declarar que cualquier acercamiento que contribuye a un mejor entendimiento de un fenómeno o proceso es bienvenido, Castellón Huerta defiende implícitamente una visión holística. El resultado es un discurso multifacético del más alto nivel teórico y con la base de información más amplia que maneja de manera brillante en los nueve capítulos del libro, para presentar y proveer un riguroso conocimiento de los principales aspectos de la producción de sal en Zapotitlán. Los acercamientos propuestos se suceden en una lógica firme, intrínseca al análisis de los fenómenos estudiados, que son claramente presentados y argumentados por el autor en las páginas 10-11, de las cuales sería superfluo hacer aquí un posible resumen. En nuestra opinión es necesario hacer énfasis adicional en el marco teórico adoptado por Castellón Huerta quien considera “la tecnología como un sistema de comunicación con implicaciones simbólicas importantes”.

Este libro marca un éxito doble; por una parte proporciona un referente mexicano extremadamente valioso en los temas controversiales globales concernientes a la sal ígnea, incluyendo el discutido tema de los *briquetages*, y por otra parte, un modelo de análisis y conocimiento de los fenómenos estudiados que, reconociendo los méritos del diseño “autonomista” del acercamiento arqueológico, insiste en la necesidad de recurrir a otras disciplinas o ciencias.

La calidad de este libro lo impulsa –no tenemos la menor duda- a la posición más alta entre los libros de referencia en todo el mundo sobre arqueología y antropología de la sal. Con la publicación de este libro cualquier persona a través del mundo que busque la palabra clave *briquetage* necesariamente estará familiarizada con el importante sitio arqueológico de

Zapotitlán. Estamos convencidos de que una versión al inglés de este texto aumentará substancialmente su visibilidad internacional.

La publicación de este libro, representativo del nivel alcanzado por las humanidades en México, y que marca un punto de inflexión en este campo, es un excelente argumento para la organización del Second International Congress on Anthropology of Salt en el país de la Diosa de la Sal.

Marius Alexianu
Iași, Rumania
Enero de 2016

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**SYNTHETIC BALANCE SHEET OF THE RESULTS OF THE ETHNOSALRO PROJECT
(2011-2016)**

- 11 author and edited volumes published by members of the project**
- 31 book chapters and proceedings**
- 15 ISI (Web of Knowledge) papers**
- 12 BDI articles**
- 77 participations at international scientific events**
- 25 participations at national scientific events**
- 17 scientific events organised in the framework of the project**
- 6 guest lectures delivered at prestigious universities abroad**

**Project Director,
Conf. univ. dr. Marius-Tiberiu Alexianu**

