

Arcane ESF Programme
Marc Lebeau
Chairman

European Centre for Upper Mesopotamian Studies
41 Boulevard A. Reyers, Bte 6
B-1030 Bruxelles, Belgium
Tel.: +32.2.733.84.48

E-mail: marc.lebeau@telenet.be

- Transversal/Interregional ESF — ARCANE Workshop Meeting -

"At the Time of the City-States and Later
in Syria and Upper Mesopotamia.
Dating and Tuning Phases and Events (2600-2000 BC)"

Brussels, December 5th to 8th, 2008

Final Report



Sponsors: European Science Foundation, with the kind cooperation of the
Musées Royaux d'Art et d'Histoire / Koninklijke Musea voor Kunst en Geschiedenis,
Parc du Cinquantenaire 10, B-1000 Brussels.

Organization:

Organizers: Marc Lebeau (RG 08) & Marie-Eve Sténuit (Arcane Programme Coordinator, ECUMS, Brussels),

Co-Organizers: Elisabetta Boaretto (TG 03), Uwe Finkbeiner (RG 07), Stefania Mazzoni (RG 02) & Walther Sallaberger (TG 01).

Sponsors: European Science Foundation, Programme ARCANE,
With with the kind cooperation of the
Musées Royaux d'Art et d'Histoire / Koninklijke Musea voor Kunst en Geschiedenis,
Brussels (Pr. Eric Gubel).

Important requisite:

The archaeologists were asked to emphasize a presentation based on the Arcane site inventories. They were encouraged to accept the free communication of the detailed results of their site 3rd Millennium 14C /TL samplings, and a review of those by Arcane staff members. The 14C /TL sampling results have been made accessible during the meeting to the Arcane TG 03 members and to the Chairmen of the Programme. In counterpart the contributors will have the benefit of a harmonized review of their samplings, updated with the most recent calibration curve, following a common procedure, engaged technology, and presented in a way they can be easily compared with the samplings of their colleagues.

Hosting institution:

Musées Royaux d'Art et d'Histoire / Koninklijke Musea voor Kunst en Geschiedenis,
Parc du Cinquantenaire 10, B-1000 Brussels.

Nr. of participants / Origin of the Institution:

Country of the institution	Nr. of guests	Ratio
France	6	18.18 %
Germany	6	18.18 %
Italy	5	15.15 %
Belgium	4	12.12 %
United Kingdom	3	9.09 %
Austria	1	3.03 %
The Netherlands	1	3.03 %
<i>ESF Countries (sub-total)</i>	<i>26</i>	<i>78.78 %</i>
United States of America	6	18.18 %
Israel	1	3.03 %
<i>non-ESF Countries (sub-total)</i>	<i>7</i>	<i>21.21 %</i>
Grand Total	33	99.99 %

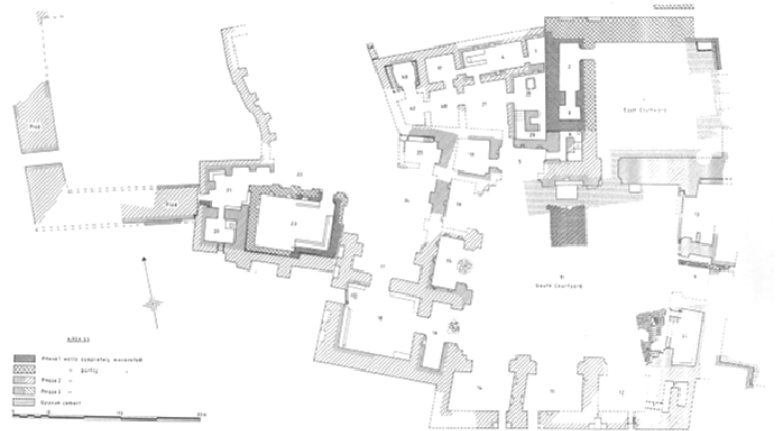
Scientific Context:

- 1°) Archaeology (Marc Lebeau)

There is an urgent need of reviewing the general and specific documentation concerning the Early Bronze Age, a crucial period in the evolution of the cultures and civilizations of the Ancient Near East and the Eastern Mediterranean. This constitutes the main aim of the ARCANE international Programme. Time has indeed come to cross-check and correlate data from different sources and horizons, to compare them in interdisciplinary and transregional perspectives.

The guidelines propose to focus the research on the contexts with the highest depositional integrity that hopefully, though not always, can be linked to an absolute chronology.

Both absolute and relative chronology need to be considered.



Among the many crucial points that need to be addressed are:

- the secondary urban revolution process: its modalities, its appearance, is it comparable in every region or a more local phenomenon,
- the «Kranzhügel» question: myths and realities,
- the relative duration of the EB III/IVa — EJ III period in Syria, on the Middle Euphrates and in the Jezirah,
- Mari, Ebla, Nagar and other cities: to what extent the texts can provide chronological benchmarks,
- iconography, glyptic, and chronology: which degree of precision?
- the political events and warfare, the date of the destruction of major cities: Mari, Ebla and other,
- the dating of Sargon's reign, the dating of the Akkadian expansion to the North,
- the relative impact of the Akkadian control, the changes in the land administration and in the settlement pattern,
- Upper Mesopotamia and Southern Mesopotamia: contacts and discrepancies,
- the post-Akkadian period in the North, the « Gutu » period in the South: their duration, can we trust again the Sumerian King List?
- the end of the third Millennium BC : developments in the Middle Euphrates region, the rise of the Hurrians in the Jezirah, Ur III and the North,
- the Shakkanakku period in Mari: texts, seals, archaeological remains & chronological benchmarks,
- the « Amorrite » question, its early stages.

As concerns 14C and TL data, all sampling results should be reviewed and harmonized, using the same calibration curve and similar statistical analysis methods. That is why the organizers propose to the participants to send their 14C data six months in advance.

A basic point would be to enhance the contact between 14C analysts and archaeologists. Any date list is useless without a precise presentation of the archaeological context, its place in the site periodization and in the regional chronology.

- 2°) Epigraphy & History (Walther Sallaberger)

In Mesopotamia the third millennium is a historical period thanks to the preservation of clay tablets and other objects inscribed with cuneiform inscriptions. The textual evidence, however, is unevenly distributed and cannot easily be matched with the archeological record. First, textual documentation is rare before the mid of the third millennium, and secondly, the more varied documentation stems from Southern Mesopotamia, a region of restricted recent archaeological activities due to the political circumstances. The history and chronology of the third millennium is largely dominated by

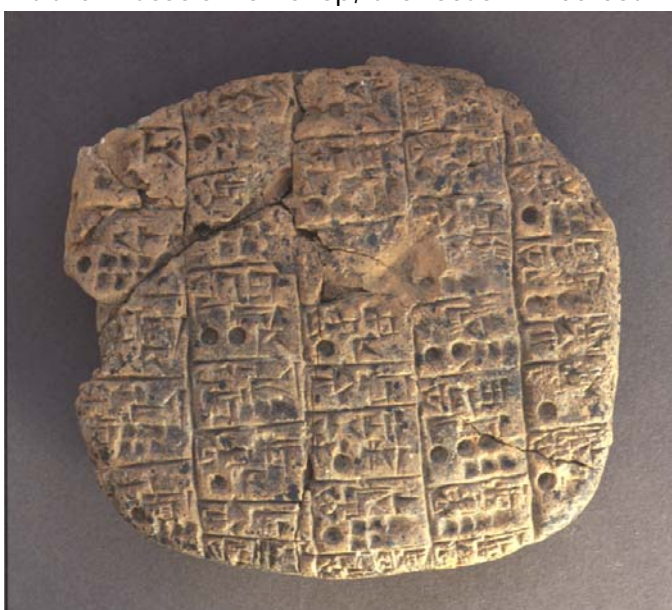
the dynasties of Southern Mesopotamia. However, after the excavation of the important archive of Ebla in Syria and the discovery of written documents in Upper Mesopotamia at sites like Mari, Tell Beydar, Tell Brak, Tell Mozan or Tell Leilan, textual evidence and the archaeological record of recent excavations can be used simultaneously to work on a chronology.

Most texts are administrative documents, and no historical records or royal inscriptions from Upper Mesopotamia are available. Therefore, the textual evidence has to be interpreted in various perspectives before it can be used for a historical and chronological evaluation.

The first aspect is the shape and size of the tablets, the display of the text on the tablet and its division in columns and lines, the form of signs and the reading of signs. This method of dating is largely related to an art-historical or typological dating of archaeological objects.

More interestingly, administrative documents also inform about a historical situation: names of persons and places are given, the language becomes known, deliveries inform about contacts with other cities, also political actions become known (especially in the Ebla archives). Thus in the last few years the understanding of the history of Upper Mesopotamia and Syria has unexpectedly improved and a new region for ancient Near Eastern history is emerging.

At the Brussels workshop, the focus will be both on the general historical frame of the third



millennium and on the finds from various Syrian sites. Despite much progress, vital points of the historical chronology of Mesopotamia are still unclear (e.g. the length of reign of various Akkadian kings or the duration of the GUTI period, which is estimated to last between 40 and 100 years). Therefore, the presentation has to include a representation of the actual state of knowledge of third millennium chronology (Gianni Marchesi, Piotr Steinkeller). After an overview on the history of Upper Mesopotamia and Syria (Walther Sallaberger), the focus will be on the evidence of various sites: Ebla (Alfonso Archi, Maria-Giovanna Biga), Tell Brak, and Mari (Jean-Marie Durand), Tell Beydar (Walther Sallaberger), Tell Mozan and Tell Leilan.

The historical perspective cannot be seen independently of the archeological evidence and the historical chronology has to be cross-checked

against the ¹⁴C data. The published ¹⁴C data, however, do not yet allow a direct correlation between archeological and historical evidence. Although general trends are discernible, fundamental matters remain unknown. Thus, for example, it is still impossible to relate exactly the decline of urban culture in Upper Mesopotamia to the extension of the Akkadian empire.

The workshop at Brussels for the first time allows to correlate epigraphic and historical data with the archeological contexts and the ¹⁴C datings of a larger region. The cooperation within the ARCANE project for the first time allows such a correlation of the third millennium material.

- 3^o) ¹⁴C, Thermoluminescence & Dendrochronology (Elisabetta Boaretto)

The process of building the chronologies in the ARCANE project is a step process starting with the selection of high quality dates and proceeding with their modeling, sorting out of outliers and remodeling. An important point regarding radiometric and dendro-dates is the probabilistic nature of these dates. For example radiocarbon dates provide a range of possible dates which have different probabilities and therefore statistical analysis is needed in order to define stratigraphic sequence, phase durations and relation to historical dates.

As the dates will become (and are) available in the database during 2007-2008, the TG3 group will start the analysis and the determination of regional and interregional chronologies.

First step: quality of the radiocarbon and dendro dates

Radiocarbon and dendro-dates of the 3rd Millennium in the Near East have been collected and selected during the 2007-2008. The dates have been filtered first by the archaeological context

according to ARCANE's project guidelines. Dates from specific sites will become available in the few next months as they are in the process of being published.

Further on radiocarbon dates will be analysed for their accuracy and precision based on the material and analytical quality (eg. charcoal vs seeds, high % of carbon against samples with unusual low carbon % or high material loss during the preparation). These types of information which are not usually available to the archaeologists will be retrieved, whenever possible, from the laboratories that have performed the ^{14}C determination. In cases where repeated measurements of the same context are performed, the average and standard deviation will be determined. The decision of using arithmetic or weighted average will be decided case by case. Any outliers will be sorted out and their inclusion or exclusion from the chronological sequence will be discussed case by case. Based on the analytical quality, dates will have different priority ratings in the modeling.

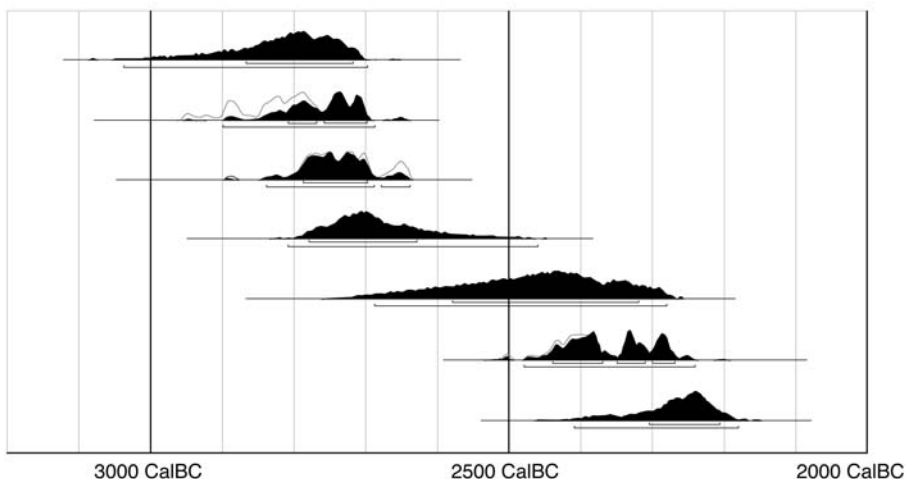
Second step: regional sequence

For each ARCANE region the new chronological sequence will be built based on the new-defined material scheme and associated ^{14}C dates calibrated and dendro-dates. Any outliers (e.g. inversion in the chrono-stratigraphy sequence in a specific site) will be singled out and rechecked with the team leader of the specific region.

All dates associated to a specific phase are examined to determine the length of the phase, or define its beginning and end. Since often in the archaeological record the dates are related to the end of a phase (e.g. destruction layer), the modeling will have to deal with this aspect. Particular attention will be given to the context definition provided in order to clarify as much as possible the association of the radiocarbon dates to the phase, strata and to its in-situ location respect the event to be dated.

All outliers, or misfits will be noted and if excluded from the analysis, they will be justified.

Between regions: the inter-regional step will aim to check the contemporaneity of different phases between regions. Phase contemporaneity will be based on radiocarbon and dendro-dates with the associated uncertainties. Disagreements with historical pegs will be discussed with the TG01 leader in order to assess the origin and the severity of the disagreement. Historical pegs should also be treated as other dates and have an uncertainty associated to them. If more than one scenario can be proposed, the probability of such a model will be assessed.



Modeling: The analysis of the data and the building of the chronologies will be based on the Bayesian analysis which helps to associate to the date additional knowledge which should be used about the archaeological context. The dates and the knowledge carry information about the calendar ages of the events of interest, and we capture the 'knowledge' in terms of a prior distribution of the dates. The posterior distribution is related to the prior distribution and the

probability of the data. Commonly used in dealing with phases, sequences and series is the OxCal program which will be adopted here. We can define quite complex models, although some care needs to be taken in the definition of the priors for the model.

Outliers and misfits: Outliers/misfits will appear during every one of these working sequence. The nature of these difficult dates might be different in different cases and this should be clearly identified when possible. In these cases the dates removed from the sequence have to be justified. More difficult are the cases where no obvious reason for the disagreement is recognized, but still the date is an outlier in the sequence. These cases will have to be discussed in more details.

Participants:

14C, TL and Dendrochronology

- 01- Elisabetta Boaretto (14C), Rehovot, Ramat Gan, Israel (elisa@wisemail.weizmann.ac.il)
- 02- Otto Cichocki (Dendrochronology), Vienna, Austria (otto.cichocki@univie.ac.at)
- 03- Marian Scott (Statistical Analysis), Glasgow, United Kingdom (marian@stats.gla.ac.uk)

History and Epigraphy

- 04- Alfonso Archi (Tell Mardikh/Ebla), Rome, Italy (alfonso.archi@libero.it)
- 05- Maria-Giovanna Biga (Tell Mardikh/Ebla), Rome, Italy (vanna@nettuno.it)
- 06- Giorgio Buccellati (Tell Mozan/Urkes), Los Angeles, USA (buccella@ucla.edu)
- 07- Jean-Marie Durand (Tell Hariri/Mari), Paris, France (jean-marie.durand@college-de-france.fr)
- 08- Gianni Marchesi (General), Bologna, Italy (gianni.marchesi@unibo.it)
- 09- David Owen (General), Ithaca, USA (dio1@postoffice8.mail.cornell.edu)
- 10- Walther Sallaberger (Tell Beydar/Nabada), Munich, Germany (WaSa@assyfak12.uni-muenchen.de)
- 11- Ingo Schrakamp (General), Munich, Germany (schrakamp@gmx.de)
- 12- Piotr Steinkeller (General), Harvard, USA (steinkel@fas.harvard.edu)

Archaeology and Iconography

- 13- Pascal Butterlin (Tell Hariri/Mari), Paris, France (ipb@noos.fr)
- 14- Béatrice Muller (Tell Hariri/Mari), Paris, France (j_c_marg@club-internet.fr)
- 15- Uwe Finkbeiner (TL of RG 07), Tübingen, Germany (uwe.finkbeiner@wanadoo.fr)
- 16- Eric Gubel (MRAH-KMKG), Brussels, Belgium
- 17- Denyse Homès-Fredericq, Brussels, Belgium (denysehomes@yahoo.com)
- 18- Marilyn Kelly-Buccellati (Tell Mozan/Urkes), Los Angeles, USA (buccella@ucla.edu)
- 19- Marc Lebeau (Tell Beydar/Nabada), Brussels, Belgium (marc.lebeau@telenet.be)
- 20- Nicolò Marchetti (Art History), Bologna, Italy (nmarchetti@alma.unibo.it)
- 21- Jean-Claude Margueron (Tell Hariri/Mari), Paris, France (j_c_marg@club-internet.fr)
- 22- Roger Matthews (Tell Brak/Nagar), London, United Kingdom (tcnrom@ucl.ac.uk)
- 23- Stefania Mazzoni (TL of RG 02), Florence, Italy (afisproj@sta.unipi.it)
- 24- Diederik Meijer (Tell Hammam et-Turkman/Zalpah[?]), Leiden, The Netherlands (d.j.w.meijer@arch.leidenuniv.nl)
- 25- Jan-Waalke Meyer (Tell Khuera/Abarsal[?]), Frankfurt, Germany (j.w.meyer@em.uni-frankfurt.de)
- 26- Joan Oates (Tell Brak/Nagar), Cambridge, United Kingdom (jlo29@cam.ac.uk)
- 27- Winfried Orthmann (Tell Khuera/Abarsal[?]), Halle, Germany (winfriedorthmann@yahoo.com)
- 28- Adelheid Otto (Tell Bazi/Armanum[?], Tell Bi'a/Tuttul, Art History), Munich, Germany (a.otto@vaa.fak12.uni-muenchen.de)
- 29- Jean-Paul Thalmann (TL of RG 02, Arcane DB), Paris, France (jp.thalmann@wanadoo.fr)
- 30- Harvey Weiss (Tell Leilan/Shehna), Yale, USA (harvey.weiss@yale.edu)
- 31- Lauren Ristvet (Tell Leilan/Shehna), Philadelphia, USA (Iristvet@sas.upenn.edu)

Co-Chairman, Programme Coordinator and Secretary of the Meeting

- 32- Pierre de Miroshedji, Paris, France (pierre.de-miroshedji@mae.u-paris10.fr)
- 33- Marie-Eve Sténuît, Brussels, Belgium (marieeve.stenuit@telenet.be)

A few students of the Université Libre de Bruxelles, Vrije Universiteit Brussel and Université de Paris I (Panthéon-Sorbonne) joined the audience.

Detailed Programme:

Day 1 (Friday, December 5th), at the MRAH, Salle Antiquité.

Sessions I and II: Art, Historical and palaeographical presentations, synchronisms.

- 14.00 **E. Gubel**
Welcome speech
- 14.10 **M.-E. Sténuît**
Practical informations
Chair: J.-M. Durand
- 14.15 **W. Sallaberger & I. Schrakamp**
History, Epigraphy and Chronology: What we have and what we need.
- 15.00 **G. Marchesi**
Towards a Chronology of Early Dynastic Rulers in Mesopotamia and Syria: an Update.
- 15.30 **N. Marchetti**
Stratigraphy and the dating of visual and epigraphic documents in Early Dynastic Mesopotamia.
- 16.00 **Coffee Break.**
Chair: P. Steinkeller
- 16.30 **A. Archi**
Synchronisms between Ebla and Abarsal (Tell Chuera), Tuttul, Nagar, Mari, Kish.
- 17.00 **M.-G. Biga**
Dating the Fall of Ebla once again. The Geopolitical Context at the Time of the Fall of Ebla.
- 17.30 **D. Charpin**
Mari, de la fin du DA III à la période d'Akkad : approche épigraphique.
- 18.00 **J.-M. Durand**
Sargon a-t-il ou non attaqué Mari?

Day 2 (Saturday, December 6th), at the MRAH, Salle Antiquité.

Session III: Historical and epigraphical presentations, with special reference to chronology,

Chair: G. Buccellati

- 10.00 **W. Sallaberger**
Tell Beydar/Nabada: an archeological and historical summary, facts and datings. Part I: Epigraphy.
- 10.30 **P. Steinkeller**
The Gutian Period in Chronological Perspective.
- 11.00 **Coffee Break.**
- 11.30 **J.-P. Thalmann**
Integrating textual and 'Art History' data into the ARCANE Database
- 12.00 Discussion.

Session IV: Technological and methodological presentations on 14C, TL and dendrochronology, with special reference to the ARCANE Programme,

Chair: D. Homès-Fredericq

- 14.00 **M. Scott**
Age estimates: precision and accuracy and why these matter for ARCANE.
- 14.45 **E. Boaretto**
Modelling of radiocarbon dates for ARCANE: integrating all the information.
- 15.30 **O. Cichocki**
Charcoals from Early Bronze Age strata at Tell Arqa and other Lebanese and Syrian sites.
- 16.00 **Coffee Break.**

Session V: Archaeological site presentations, with special reference to phases, assemblages and datings, Part 1: Egypt, Levant.

Chair: J.-C. Margueron

- 16.30 **P. de Miroschedji & K. Sowada**
Egypt and the Near East in the Third Millennium BC: Elements for a Comparative Chronology.
- 17.00 **S. Mazzone**
Linking sites across the regions : documents and questions.
- 17.30 **Visit of the exhibition « From Gilgamesh to Zenobia », guided by E. Gubel.**

Day 3 (Sunday, December 7th), at the MRAH, Salle Antiquité.

Session VI: Archaeological site presentations, with special reference to phases, assemblages and datings, Part 2: Middle Euphrates.

Chair: W. Orthmann

- 10.00 **J.-C. Margueron**
Stratigraphie à Mari: ruptures et continuités.
- 10.30 **P. Butterlin**
Mari. Données chronologiques nouvelles.
- 11.00 **Coffee Break.**
- 11.30 **A. Otto**
Thoughts about the historical setting of EBA Tall Bazi.
- 12.00 **U. Finkbeiner**
Benchmarks for the Early Bronze Age at Emar and Tell el-Abd.

Sessions VII and VIII: Archaeological site presentations, with special reference to phases, assemblages and datings, Part 3: Syrian Jezirah.

Chair: A. Archi

- 14.00 **D. Meijer**
Between Selenkahiye and Hamidiya lies Hammam: Dating Archaeological Contexts.
- 14.30 **J.-W. Meyer**
Tell Chuera: Stratigraphy and Chronology.
- 15.00 **M. Lebeau**
Tell Beydar/Nabada: an archeological and historical summary, facts and datings. Part II: Archaeology and C14.
- 15.30 **J. Oates**
Chronology at Brak, EJ III to EJ V.
- 16.00 **Coffee Break.**
Chair: J. Oates
- 16.30 **R. Matthews**
Tell Brak 1994-1996 third-millennium excavations: phases, assemblages, datings.
- 17.00 **M. Kelly-Buccellati**
The Intersection of Chronology and Typology at Urkesh: The Third Millennium and Beyond.
- 17.30 **G. Buccellati**
From ED II to Naram-Sin at Urkesh: The Temple Terrace and the Turkish Palace.
- 18.00 **H. Weiss, T. Guilderson, S. Manning, L. Ristvet, L. Mori & J. Kosslyn**
« ...seven generations since the Fall of Akkad »: High-precision dating of social collapse and the 4.2kaBP abrupt climate change in Western Asia.
- 18.30 **L. Ristvet**
Tell Leilan During the Third Millennium: Stratigraphy, Ceramics and Chronology.

Day 4 (Monday, December 8th, at the Park Hotel, Meeting Room.

Session IX (09.00—10.30): Common evaluation of the 14C /TL site datings,
Chair: J.-W. Meyer.

Session X and final (10.45—12.00): General discussion, attempt to a synthesis, agreement on a common modus operandi, proposals for the next future, conclusions.
Chair: D. Meijer.

Summary:

It has been decided that the contributions and their illustrations (without copyright), or extensive summaries of these, will be reproduced soon (before February 28th, 2009) in a new and specific section of the Arcane website (<http://www.arcane.uni-tuebingen.de/>) in a special menu accessible from the home page (« Resources for Research and Meeting Results »). The papers read by epigraphers and historians will be added to the contributions of the Munich Arcane meeting (History and Epigraphy) to constitute a volume published in the Arcane Programme framework (edited by W. Sallaberger and I. Schrakamp). This will most probably be the first Arcane series volume.

Conclusions:

The results of the meeting were extremely profitable on several plans, and will most probably lead to further developments:

- epistemology and methodology (J.-C. Margueron, M. Scott, W. Sallaberger & I. Schrakamp, M. Kelly-Buccellati, G. Buccellati, M. Lebeau),
- interdisciplinary review of all the current evidence: historical chronology (W. Sallaberger & I. Schrakamp, G. Marchesi, P. Steinkeller), historical events (M.-G. Biga, J.-M. Durand, P. Steinkeller), synchronisms (A. Archi), 14C datings (E. Baretto), dendrochronology (O. Cichocki), art history and iconography (N. Marchetti),
- local site periodizations, field phasings, sequences, in the Northern Levant (S. Mazzoni), in the Middle Euphrates (U. Finkbeiner, D. Meijer, P. Butterlin, A. Otto), and in the Jezirah, (J.-W. Meyer, M. Lebeau, J. Oates, R. Matthews, G. Buccellati, M. Kelly-Buccellati, L. Ristvet),
- concordance of the site periodizations with the regional periodizations (Northern Levant, Middle Euphrates, Jezirah) (contributors quoted in the former paragraph),
- concordance between Egyptian, Levant and Mesopotamian periodizations (P. de Miroschedji & K. Sowada),
- dialogue between historians/epigraphers, archaeologists and dating technologies specialists, for further accuracy in the datings (Session IX),
- availability of new 14C documentation (J.-W. Meyer, M. Lebeau, J. Oates, H. Weiss),
- incorporation of textual data into the Arcane Data Base (J.-P. Thalmann),
- proposal of a new way to propose datings in the framework of the Arcane Programme, implying the systematic use of (date) cal. BC, when dealing with 14C assisted datings, and other designations, when using historical chronology [for instance MC 2334 BC, as for 2334 BC according to middle chronology (historical, based on textual evidence)] (M. Lebeau, W. Sallaberger, discussed in Session X).