

Domesticated Landscapes of the Peloponnese (DoLP)

Annual report for 2016, including October-December 2015.

General overview

In November 2014 the project Domesticated Landscapes of the Peloponnese (DoLP) received a generous four-year grant from the Swedish Research Council (project no. 421-2014-1181). The project consists of the following researchers: Dr Anton Bonnier, Dr Martin Finné and Dr Erika Weiberg at Uppsala University, Sweden, Dr Jed Kaplan and Dr Ryan Hughes at University of Lausanne, Switzerland, and Prof. Karin Holmgren, Swedish University of Agricultural Sciences, Uppsala, Sweden.

We initiated the project in October/November 2015. During the end of 2015 and throughout 2016, the main focus has been on the compilation of variable datasets and on the promotion of the DoLP project within the research community. Two principal activities in the first category have been the digitizing of available survey records and the gathering of records for land use assessments. Outreach activities consisted of participation in conferences and workshops and our own arrangement of such activities.

Research

Anton has been leading the work with the survey datasets (with a break for parental leave February-July), establishing a database that now include a full record of all intensive surveys, classified according to chronology, geography, site size and function. In parallel he has been working to develop GIS-based kernel analyses to complement the traditional ways to present survey data as only site count per periods.

The other main component of work during 2016 has been related to the land cover modeling together with DoLP partners Jed Kaplan and Ryan Hughes of the ARVE group at the University of Lausanne. It has been a quite frustrating but at the same time very rewarding and educational work! Martin and Erika have been leading the compilation of the available archaeozoological, archaeobotanical and other related records from the Peloponnese, which was then used as a basis for establishing period specific averages of different land use components. 2016 have been a continuous discussion on land use issues and their visualization as idealized circle diagrams according a method introduced by Kay and Kaplan (2015) and further developed for DoLP by Ryan and Jed.

Outreach

DoLP has been responsible for three in-house seminars at the Department of Archaeology and Ancient History, outlining different aspects of the project: general presentation, LBA climate and society, and climate change discourse. DoLP participants have also presented the project at seminars in Lund, Stockholm and Umeå.

In February 2016, Martin gave a lecture within the series Human and Nature at Medelhavsmuseet (Museum of Mediterranean and Near Eastern Antiquities), Stockholm, and in April Erika featured along with Karin and Adam Izdebski in the Future Earth blog discussing interdisciplinary collaborations around past climate change and human societies.

Conferences (including sessions) and workshops arranged by DoLP

November 2015, DoLP organized a workshop at the Navarino Environmental Observatory (NEO) gathering a group of scholars involved in human interaction of the Peloponnese. Many of the participants met for the first time at NEO the year before, during a conference that resulted in the collective paper headed by Erika on 'The socio-environmental history of the Peloponnese during the Holocene: Towards an integrated understanding of the past', as well as 'Realising consilience: How better communication between archaeologists, historians and natural scientists can transform the study of past climate change in the Mediterranean' (Izdebski et al., including Erika and Karin), both published in the *Quaternary Science Reviews* special issue *Mediterranean Holocene Climate, Environment and Human Societies*. At NEO in November 2015, the PELOPS (Past Environment and Landscapes of the Peloponnese) group was formed to promote collaboration on that topic in the future.

The fall of 2016 was a busy time. In August, DoLP was involved in the organization of the Landscape Archaeology Conference (LAC2016) in Uppsala, including the convening of the session 'Cross-disciplinary and integrative approaches to human-environment interactions in Mediterranean landscape archaeology', which gathered a great group of scholars and ten interesting papers on topics ranging from Spain in the west to Mesopotamia in the east. In September Martin arranged a mini-workshop 'Stabile isotopes in precipitation and modern speleothems' with the aim of exploring the possibility to get a better understanding actual rainfall variability over the Peloponnese in the past, i.e. move from relative measures to absolute measures. This can potentially be achieved by developing transfer functions based on comparisons between $\delta^{18}\text{O}$ data from modern speleothems and precipitation. Finally, in October, DoLP welcomed a brave group of scholars to Uppsala for discussions on how to best and most realistically quantify various aspects of Peloponnesian land use from the Neolithic to the Roman period. We all agreed that it was a quite impossible task, but one we will attempt anyway and the results will appear in the form of two articles during 2017.

Participation in conferences and workshops

Martin and Anton participated with the talk 'East-west divides? Landscape narratives of the ancient Peloponnese and effects of local climate change in the late first millennium BC' at the conference *Anthropology, Weather and Climate Change*, in London in May. In September Erika and Martin participated in the MedClimar 2016 conference "Learning from the past, perceiving the present, engaging for the future" in Athens with two separate papers: 'Aridity and social change: A long-term perspective on human-environment interaction in the Late Bronze Age of the Peloponnese, Greece (1700-1050 BCE) (Erika, co-author Martin Finn  ), and 'Bronze Age precipitation variability recorded in a speleothem from Mavri Trypa Cave, Peloponnese, Greece' (Martin, co-authors Karin Holmgren, Chuan-Chou Shen, Hsun-Ming Hu). Erika also participated with a poster presenting DoLP at the AGRICURB workshop at Oxford University (arranged by Amy Bogaard).

Published papers

Izdebski, A., **Holmgren, K., Weiberg, E.**, Stocker, S.R., Buntgen, U., Florenzano, A., Gogou, A., Leroy, S.A.G., Luterbacher, J., Martrat, B., Masi, A., Mercuri, A.M., Montagna, P., Sadori, L., Schneider, A., Sicre, M.-A., Triantaphyllou, M., Xoplaki, E., 2016. Realising consilience: How better communication between archaeologists, historians and natural scientists can transform the study of past climate change in the Mediterranean. *Quat. Sci. Rev.*, Special Issue: Mediterranean Holocene Climate, Environment and Human Societies 136, 5–22. doi:10.1016/j.quascirev.2015.10.038, available with Open Access.

Weiberg, E., Unkel, I., Kouli, K., **Holmgren, K.**, Avramidis, P., **Bonnier, A.**, Dibble, F., **Finn  , M.**, Izdebski, A., Katrantsiotis, C., Stocker, S.R., Andwinge, M., Baika, K., Boyd, M., Heymann, C., 2016. The socio-environmental history of the Peloponnese during the Holocene: Towards an

integrated understanding of the past. *Quat. Sci. Rev.*, Special Issue: Mediterranean Holocene Climate, Environment and Human Societies 136, 40–65. doi:10.1016/j.quascirev.2015.10.042, available with Open Access.

Outlook

Papers in preparation include two papers related to the land use assessments and circle diagrams: a synthetic results paper headed by Erika and Martin and one outlining and testing the circle diagram method headed by Ryan. The work on kernel densities is being compiled into a paper by Anton and Martin. Martin is also preparing the publication of a new climate sequence from the Mavri Trypa Cave on Schiza Island, which will lead on also to an integrative paper on LBA phases of aridity and societal change by Erika and Martin. Erika and Martin have further deliberated on the issue of compatibility of archaeological and paleoenvironmental chronologies; a paper that will be published in a Festschrift during 2017.

The PELOPS group will organize the conference *Human-Environment Dynamics in the Peloponnese and Beyond: Ideas, Methods and Results*, to take place in Athens April 6-8. DoLP is coordinating the organization and did in December secure full funding from Riksbankens Jubileumsfond.

In May, DoLP will give the five-week, thematic course *Människa, miljö och klimat på Peloponnesos under 5000 år - en integrerad historia* in collaboration with the Swedish Institute at Athens, entailing three weeks in Athens, including a week touring the Peloponnese.

In collaboration with the project *Late Quaternary climate variability and vegetation dynamics in southern Greece* (PI: Karin Holmgren and Elin Norström), Department of Physical Geography, Stockholm University, DoLP is undertaking a project to enhance palaeoenvironmental records from NE Peloponnese. Elin Norström and colleagues did in December 2016 extract five new sediment cores from the former Lake Lerna, and Martin and Anton will in February sample speleothems from Andritsa Cave, roughly 13 km to the SW of Lake Lerna. The project is funded by the two main projects as well as by Enboms Jubileumsfond (The Royal Swedish Academy of Letters, History and Antiquities). Additional funding has been sought from National Geographic - Science & Exploration Program (not approved) and INSTAP (pending).

Acknowledgements

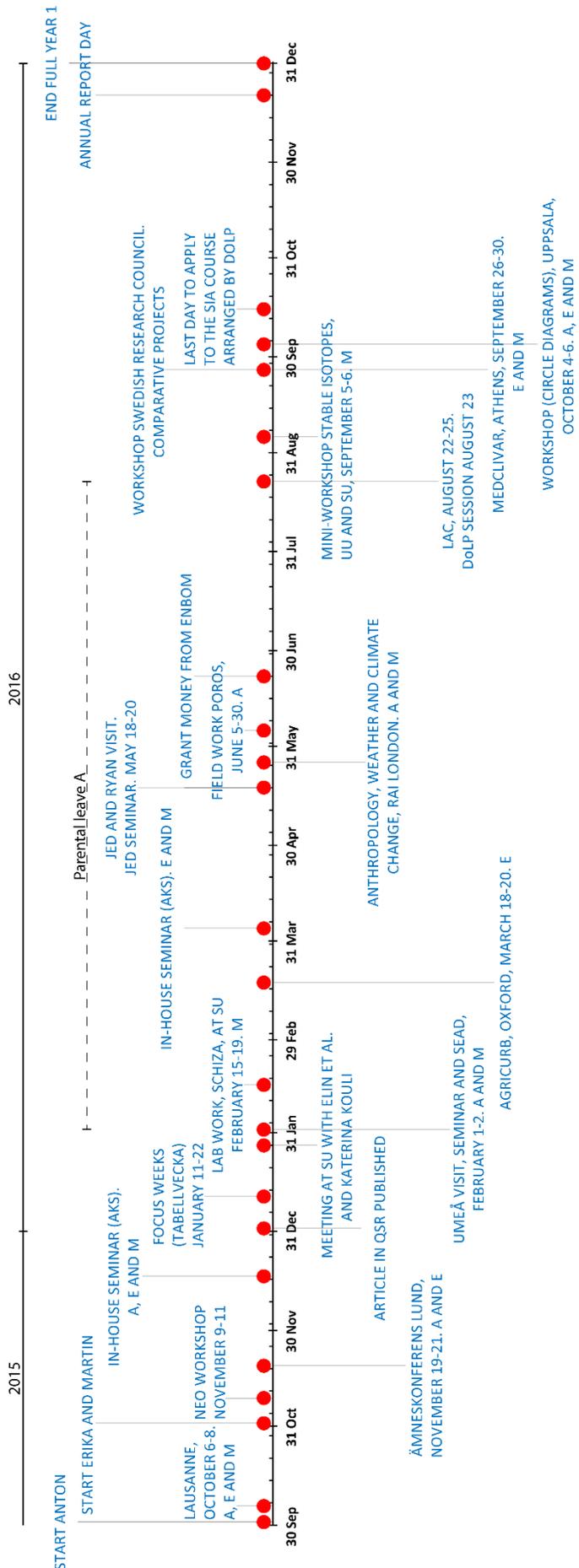
We would like to extend our thanks to several people and institutions for discussions, comments, advice and encouragement: the Navarino Environmental Observatory (NEO), the Department of Archaeology and Ancient History (Uppsala University), the Department of Physical Geography (Stockholm University), Phil Buckland (SEAD, Umeå University), Giorgos Maneas, as well as the following colleagues and collaborative partners:

PELOPS group: Pavlos Avramidis, Meighan Boyd, Mary Dabney, Flint Dibble, Karin Holmgren, Martina Hättstrand, Adam Izdebski, Christos Katrantsiotis, Panagiotis Karkanias, Katerina Kouli, Elin Norström, Sharon Stocker, Ingmar Unkel, James Wright

LAC session participants: Pavlos Avramidis, Francesca Chelazzi, Michael Given, Arthur Glais, Christian Heitz, Will M. Kennedy, Dan Lawrence, Bernhard Lucke, Hèctor A. Orenge, Maria Jesús Ortega, Josep Maria Palet, James C. Wright, Spyros Vassiliou, Martijn van Leusen, Mateo González Vázquez

Circle diagram workshop participants: Gunnel Ekroth, Angus Graham, Paul Halstead, Karin Holmgren, Ryan Hughes, Martina Hättstrand, Jed Kaplan, Christos Katrantsiotis, Michael Lindblom, Stella Macheridis, Gullög Nordquist, James Roy, Ingmar Unkel, Sultana Maria Valamoti

DoLP reference group: Catherine Morgan, James Roy, Kevin Walsh, Neil Roberts, Panagiotis Karkanias, Carole Crumley



We believe that the project has come to a great start; the first fourteen months have been productive, certainly eventful (see the timeline here to the left!), educational, frustrating, stressful, inspiring and very much fun, and we are looking forward to a similarly stimulating 2017!

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