

WOMEN IN THE HISTORY OF SCIENCE

A SOURCEBOOK



EDITED BY

HANNAH WILLS, SADIE HARRISON, ERIKA JONES,
FARRAH LAWRENCE-MACKEY AND REBECCA MARTIN

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Hannah Wills, Sadie Harrison, Erika Jones,
Farrah Lawrence-Mackey and Rebecca Martin

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For Rowan, and all the curious girls to come.

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Women in Portuguese archaeology: A photograph of the Vila Nova de São Pedro excavation team (early 1950s)

Dr Ana Cristina Martins

Introduction

This photograph was taken during one of numerous archaeological excavations at the Vila Nova de São Pedro (VNSP) site in the 1950s. The site itself is a chalcolithic (Copper Age) hillfort located near the town of Azambuja, north of Lisbon in Portugal.²⁰ The VNSP archaeological site has been studied intermittently since the 1930s. Some of the initial campaigns were directed and co-directed by Manuel Afonso do Paço (1895–1968), a member of the Association of Portuguese Archaeologists, founded in Lisbon in 1863. We see him pictured in this photograph together with the young archaeologist Maria de Lourdes Costa Arthur (1924–2003). Maria de Lourdes had a degree in Historical and Philosophical Sciences from the Faculty of Letters of the University of Lisbon and specialised in archaeology from the Roman period during her time as a scholarship holder of the Portuguese State in Madrid. Nothing, however, prevented her from taking an interest in and investigating sites and materials belonging to other chronologies, as was the case with VNSP. These archaeological campaigns were largely made possible by the participation of local workers, both men and women, hired seasonally to carry out specific tasks: a set of actors also present in this photograph.

Source



Figure 10.5 Vila Nova de São Pedro excavation team, early 1950s. Unknown photographer. Image credit: Ana Cristina Martins (IHC – Polo University of Évora & UNIARQ – University of Lisbon).

Analysis

Photography can play an extraordinary role in the comprehension of issues around gender in the history of science, especially if we apply the iconographic and iconological method of analysis.²¹ This image reveals the roles that women assumed in the excavation of the archaeological site of Vila Nova de São Pedro (VNSP) and suggests something of the social and economic backgrounds of those pictured. One can also establish a more direct relationship between archaeological fieldwork and the Portugal of the 1950s during a specific period of the totalitarian regime 'Estado Novo' (New State).²² This decade is particularly interesting as it includes the beginning of a period of transition, not only for the country but also for the production of archaeological knowledge and heritage itself, which began to absorb distinct foreign influences.²³

Contemporary monographs, journals and newspapers contain many images of women attending archaeological meetings, visiting museums, collecting archaeological artefacts, becoming members of archaeological societies, funding archaeological works, helping their fathers, brothers and husbands with field work, translating papers, and illustrating archaeological works. One discovers local female workers

(mostly peasants) hired by archaeologists and receiving (at least) half the money earned by their male colleagues. It is likewise possible to identify young and audacious women studying archaeology and becoming archaeologists, both in the field and in the lab. Women at this time struggled to reconcile archaeological work with their personal and family lives; at least while Portugal was dominated by a right-wing totalitarian political regime under which women's roles were confined to that of wives, mothers, daughters or sisters. This was especially true of middle- and upper-class women, who comprised the majority of women studying archaeology at university.²⁴ Women who had a professional career, particularly in science and technology, rarely had their own family and usually remained single and childless.²⁵ Only museums, archaeological museums, and museums with archaeological collections seemed to provide genuine spaces for women to be employed as archaeological experts: as curators, archivists, librarians, drawers and exhibition guides. As field archaeologists, in contrast, women were expected to have superior male support.

In this image, the economic, social and political context of daily survival explains the presence of so many women amongst these precarious workers.²⁶ Economic difficulties are evident in some faces, facial expressions, body language and clothing fixed by the photographic lens. These local people were conducting seasonal activities like this archaeological excavation to complement otherwise meagre household incomes. In this rural environment, the coexistence of men and women in working spaces outside the home would have been necessary. Nevertheless, the body language and gestures of these men and women indicates a relationship with the archaeological field as a space and moment of some individual freedom from social norms and conventions. This image depicts women shoulder to shoulder with men, almost as equals. However, they shared the space, but not the tasks. As in the case of mining companies, men in these contexts were responsible for the most physically demanding work, while women were responsible for sorting through the material excavated. As this task demanded meticulous attention to detail, women were hired in greater numbers than men. Both of these aspects of the division of labour are reflected in this image, which simultaneously depicts a greater number of women, but also the men holding picks used for labour-intensive excavation work. The men of course were paid twice as much, not only for fulfilling harder tasks, but simply because of their gender, as was the norm in 1950s Portugal.

Looking instead towards the leading figures of this excavation, we can see that Maria de Lourdes Costa Arthur stands to the right of Afonso

do Paço in this image, occupying the second most important place in the photograph. This positioning may have been arranged by Paço, however it could also have been organised by Costa Arthur herself. Costa Arthur was a woman with a strong personality, empowered by an open-minded family; a combination which facilitated her university studies and allowed her to fulfil her wish of studying archaeology abroad.²⁷ It was as a scholarship holder during her time in Madrid that Costa Arthur joined this excavation team, coordinating fieldwork. This is perhaps why we see her standing with one knee raised, the very image of a team leader, with her hands in her trouser pockets; a gesture barely accepted as feminine within the prevailing cultural norms of the time.²⁸ This dynamic raises questions about the ways in which women accessed or were able to access scientific power and prestige during the early twentieth century.

Questions

1. Is a picture worth a thousand words? Do pictures accurately represent reality? As a result, how can we use images as sources for the history of science?
2. How might one discuss this source in the context of the history of archaeology, the history of women, and the history of visual arts?
3. What does this source reveal about women's access to scientific education and scientific professions during the mid-twentieth century?
4. Which intersectionalities does this source encourage us to consider in relation to women in the history of science?
5. How does this source demonstrate the dangers of extrapolating women's experiences of science in general from the experience of one woman?

Further reading

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Part X notes

- 1 See Rossiter, *Women Scientists in America*, 125–126.
- 2 Muka, 'Portrait of an Outsider', 2014, 30–31.
- 3 Fara, 'Women, science and suffrage in World War I', 2015, 11–24.
- 4 Goldin, 'The Role of World War II in the Rise in Women's Employment', 1991, 741.
- 5 Secord, 'Science in the Pub', 1994, 269.
- 6 Affiliation: CIUHCT, Centro Interuniversitário de História das Ciências e Tecnologia, Departamento de História e Filosofia das Ciências, Faculdade de Ciências, Universidade de Lisboa, 1749-016 Lisboa, Portugal. Funding by Fundação para a Ciência e a Tecnologia (FCT, IP), Portugal. Grants: UIDB/00286/2020 to CIUHCT. Researcher contract: Norma Transitória - DL57/2016/CP1479/CT0070.
- 7 In 1865, the pebrine disease hit the French silkworm industry hard. Pasteur identified it as a microbiological disease and devised a procedure to prevent its spread within breeding houses. For more see 'Silkworm diseases' in Institut Pasteur, 'The Middle Years 1862–1877'.
- 8 Pimentel, 'Geração do bicho da seda e meios de reconstituir a industria sericícola em Hespanha por Don Fernando Ortiz Cañavate', 1894, 553–554; and Pimentel, 'La sericulture', 758–761.
- 9 Pasteur, *Études sur la maladie des vers à soie*; and Pimentel, 'Tentativa de um plano de regeneração da sericultura portuguesa', 1892, 134.
- 10 Pimentel, 'Tentativa de um plano de regeneração da sericultura portuguesa', 1892, 134. English translation by Isabel Zilhão.
- 11 For example, see Lee, *Shanghai Modern*, 47.
- 12 Many collections of *The Ladies' Journal* in libraries have been digitised. Two open access databases that provide full-page graphic scans of the magazine's contents are: Chinese Women's Magazines in the Late Qing and Early Republican Period (WoMag), Heidelberg University, Germany <https://uni-heidelberg.de/womag/> (English, accessed 16 December 2022), and *The Ladies' Journal* database, Institute of Modern History, Academia Sinica, Taiwan <http://mhdb.mh.sinica.edu.tw/fnz/> (Chinese, accessed 16 December 2022). These are good stepping stones for researchers looking to access the rich resources of *The Ladies' Journal*. All of the images in this source are taken from these two databases.
- 13 Nivard, 'Women and the Women's Press', 1984, 37–55.
- 14 Chiang, 'Womanhood, Motherhood and Biology', 2006, 519–545; Suzuki, 'Shimoda's Program for Japanese and Chinese Women's Education', 2013.
- 15 Judge also discusses a wider scope of Chinese women's periodicals in this era. See Judge, *Republican Lens*.
- 16 Taylor, 'Goddess of the skies'.
- 17 Women were first admitted to the Institute of Radio Engineers in 1927, see: 'Letting The Women In – When did engineering organisations first admit women?'.
- 18 Eccles and Leyshon, 'Some new methods of linking mechanical and electrical vibrations'. 229.
- 19 For cooperative associations popularising electric lighting and appliances see Worden, 'Powerful Women: Electricity in the Home, 1919–1940', 131–150. For women's associations see Symons, 'The Electrical Association for Women, 1924–1986', 1993, 215–220; Reece and Roberts, "'This electric age is woman's opportunity'", 1998, 94–107; Pursell, 'Domesticating modernity', 1999, 47–67. For re-engineering housewife programmes see Graham, 'Domesticating Efficiency', 1999, 633–675. For training on how to use domestic appliances see Goldstein, 'From Service to Sales', 1997, 121–152.
- 20 With reference to our comments in the introduction it is important to critically evaluate terms such as 'Copper Age' or 'Chalcolithic'. The British Museum notes: 'The term is used in various

cultural and geographical contexts to define the period between the Neolithic and the Bronze Age, for instance in Cyprus, the Middle East, and Britain and Ireland, where well-defined cultural developments differentiate the period from the preceding Late Neolithic. It is not used everywhere. In parts of Northern Europe including Russia, there are only rare copper and gold artefacts in Late Neolithic contexts transitional to the Early Bronze Age, and these do not constitute a well-defined Chalcolithic (Copper Age) culture.’ (The British Museum, ‘Chalcolithic’). ‘Copper Age’ is therefore not a universal term and readers should consider how this periodisation has, like others, been influenced by Euro-centric conceptions of the past.

- 21 Alatalo, ‘Reading Pictures, constructing narratives’, 2015; Ruck and Sluneccko, ‘A portrait of a dialogical self’, 2008, 261–290; McFadyen and Hicks, *Archaeology and photography*; Panofsky, *Studies in iconology*; Serrão, *A trans-memória das imagens*.
- 22 Torgal, *Estados Novos*.
- 23 Martins, ‘“Mission”: *modernize!*’, 179–186.
- 24 Vicente, ‘Mulheres’, 565–571 and Vaquinhas, ‘A família, essa “pátria” em miniatura’, 118–151.
- 25 Martins, ‘Pioneiras da Arqueologia em Portugal’, 2016, 77–100.
- 26 Graça, ‘Agrícola’, 563 and Luís, ‘Pobreza’, 102–107.
- 27 Martins, ‘Women in the field’, 41–62.
- 28 Vicente, ‘Mulheres’, 565–571 and Vaquinhas, ‘A família, essa “pátria” em miniatura’, 118–151.

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