

Plant humanities and interdisciplinary collections-based research

Felix Driver

The Plant Humanities initiative at Dumbarton Oaks has inspired similar ventures in other parts of the world including the UK. Many of these projects seek to new find ways of telling stories about people-plant relationships from arts and humanities perspectives, while maintaining dialogue with the plant scientists and taxonomists. In the UK context, the discourse around Plant Humanities has been a productive way of opening up new questions about research in and with botanical collections – including herbaria, fungaria, economic botany collections, botanical libraries and of course living collections. In particular, the idea of the botanical garden as a space where research, learning and engagement comes together presents new opportunities for arts and humanities researchers.

In this talk, I reflect on collections-based research in Plant Humanities in the UK, especially at Kew Gardens. I will highlight a range of collections-based approaches to people-plant relationships across the humanities and creative arts; the different forms that interdisciplinarity can take; the importance of partnerships across academic and non-academic sectors; and the ways that Plant Humanities can engage with issues of profound public concern, including biodiversity loss, environmental justice and human health and well-being. If the managers of botanic gardens are increasingly drawn to research in the humanities it is not simply because they need new stories about their science; it is also because they are looking for more nuanced understandings of the history of their collections and the ways in which they can be reactivated today.

History of science in the garden between research and dissemination: designing the Botanical Museum of Padova

Elena Canadelli

The new Botanical Museum of the University of Padua was inaugurated on 13 February 2023. Located in the building that housed the Director's house until the mid-20th century, the Museum is part of the Botanical Garden. It enriches the visitors' itinerary with the history of this institution

and of botany. The museum focuses on the study of plants and the relationship between botany, medicine and pharmacopoeia and how they have changed through the centuries. The history of science played a fundamental role in the Museum's concept, demonstrating the great potential that the discipline could have in enriching the experience of a wide public. The Museum displays a selection of items from the historical herbarium (around 800,000 specimens of plants, algae, and fungi), seed collection, wall charts and mushroom models. The tour is completed by an early 19th century rural pharmacy donated to the University of Padova by pharmacist Giuseppe Maggioni some years ago. Visitors of the Museum discover the history of the Garden, its plants and the people who collected them, in a journey through the centuries that starts in 1545 and reaches the 20th century. The paper presents the concept of the Museum and emphasises the importance of interdisciplinary work and the potential of the history of science in this type of museums, with regard to research as well as to the dissemination of the results. Many collaborative projects, from digitization of the collections to the study of the herbaria, are on their way, showing the importance of studying botanical collections at the crossroad between science and history.

Reactivating the biocultural archive: the case of the Spruce collection

Luciana Martins

Seen from the perspective of Western science, the biocultural archive created in the course of European travel and exploration across the globe is a treasure trove of ecological and socio-cultural data. Ethnographic artefacts, plant and animal specimens, manuscript notes, drawings, letters and journals hold valuable information about the natural, cultural and social worlds through which naturalists and ethnographers travelled. Rather than reiterating heroic collection narratives, it is possible to explore these collections to recover social, cultural and ecological histories that too often remain dormant in the archives. European explorers typically 'walked together' in the field with Indigenous peoples, benefiting from their expert knowledge of the local environment, plant and animals. From their archives, it is possible to recover aspects of past ecological relationships between human and other species, enabling 'the environment' to assume a kind of agency. In this context, the biocultural archive presents a fundamental resource for Indigenous people seeking to re-establish their connection with entities

from the past and to reactivate ways of understanding and being in the world.

This paper reflects on a research programme dedicated to reactivating the biocultural archive amassed by British botanist Richard Spruce that I have been developing since 2015, in partnership with the Royal Botanic Gardens, Kew, the Botanical Garden of Rio de Janeiro, the Socio-Environmental Institute (ISA), and the Federation of the Indigenous Organizations of the Rio Negro (FOIRN), among other institutions. Spruce spent fifteen years (1849-1864) travelling in the Amazon and the Andes. His unique collections, housed mainly at Kew and the British Museum, incorporate Indigenous artefacts, samples of useful plant products, archival notes on the use of plants by local inhabitants, herbarium voucher collections, vocabularies, and drawings. In this paper, I focus specifically on the example of the caraipé bark, used to make fire-proof pottery. I hope to shed light on the relationships between humans and the non-human world that remain latent in the European biocultural archive. By revisiting this archive with renewed attention, we may be able to recover environmental conversations relevant to the challenges we face today.

The cecidological herbarium as a boundary collection: interspecies relationships for thinking about biodiversity

Tiziana Beltrame

As part of a research project on the enhancement of natural history collections for the National Biodiversity Future Centre (NBFC) in Italy, an interdisciplinary group (history, anthropology, genetics, botany) is collaborating to study and catalogue a collection held at the Botanical Museum of Padova. It is the personal collection of galls or cecidia of Alessandro Trotter (1874-1967) - outgrowths of plant tissue formed when a plant interacts with an insect, mite, bacterium or fungus, on the boundary between the plant and animal worlds. As a result, the galls conserved in European museums find different places (physical and classificatory) in the collections of botany and entomology laboratories. The current situation is that collections of galls are for the most part dispersed and, to some extent, marginalised.

Studying Trotter's collection therefore opens up the possibility of rethinking these objects of nature: on the one hand, it allows us to understand our relationship with the heritage of biodiversity, from both a

cultural and a natural point of view. The cecidium is an archive of scientific, social and cultural knowledge and sensibilities that are mutable: from a vision of plant pathology to a relational approach to living beings. On the other hand, this case study highlights the interdisciplinary nature of research and conservation practices of these samples, which are interdisciplinary by nature because they are interspecific.

An early database for cecidology: Alessandro Trotter's Sinossi as a research tool between herbaria and printed sources

Luca Tonetti

As part of Alessandro Trotter's donation to the University of Padua in 1954, his cecidological herbarium and personal library were accompanied by an unpublished manuscript called Sinossi. This manuscript is a draft of a compendium of cecidology that was completed in 1946 but never published. It provides information on each host plant and its corresponding gall inducers, including habitat and references to relevant scientific sources. Exsiccata samples, including those from the *Cecidotheca italica*—a gall collection compiled by Trotter and Giacomo Cecconi between 1900 and 1918—are also provided. Trotter's Sinossi is an early database for the study of galls, providing a material and scholarly infrastructure for the development of 'cecidology' by linking secondary literature with physical specimens. This tradition was likely initiated by Pier Andrea Saccardo's *Sylloge fungorum*.

Beyond taxonomy: botanical encounters in herbaria and archives

Diego Molina

The study of interactions between humanity and plants over time and space has taken a variety of forms. For example, archaeologists and palaeobotanists, using direct evidence in the guise of phytoliths, pollen and charred seeds, have shed light on prehistoric processes of domestication and migrations of certain species. In contrast, the study of plants as historical subjects (or the role of plants in history) relies on more diffuse methodologies, often based on archives. In this talk, I propose to expand the relatively narrow horizon of standard archival methodologies in the study of modern human-plant relationships.

In this talk, I examine the possibilities offered by botanical collections and photographic archives as sources of historical evidence about historic human-plant interactions. Using examples from Colombia and the UK, I present how, through a historian's eyes, herbaria can be considered an archive, homologous to archives of human history. Beyond taxonomic information, plants in botanical collections are endowed with information (and silences) about collectors, places and institutions, all of which are capable of shedding light on the social life of certain species. Thus, while herbaria specimen vouchers fix previously pressed plants samples in paper sheets, photography fix moments. When approached with a botanical eye, the presence or absence of plants in these moments captured in images can reveal situated botanical encounter. This talk proposes a hybrid methodological approach to plant history based on the cross-pollination of diverse types of botanic and non-botanic knowledge.

The Algae Herbarium of Achille Forti (1878-1937): mobility and circulation of a botanic collection

Claudia Addabbo

Natural history collections are interdisciplinary objects. The humanities and the sciences can cooperate in order to read and re-read them. Scientific objects are relevant for both natural sciences and history: interpreted thanks to archival sources, texts and other sources they provide interesting insights to history of science, anthropology, ecology.

The talk aims to consider the algae herbarium of Achille Forti (1878-1937) as an interdisciplinary subject of study, in the framework of botanical and environmental studies, history of botany and science, but also as a case study focused on collecting practices, preparation, conservation and cataloguing of the samples, as well as on the management of museum collections. The Algae Herbarium of Forti is a stratified algological collection: more than 100 folders, for a total of about 30,000 specimens, dated 1850-1936 and coming from all over the world, collected by Forti, some other colleagues, and gathered by Forti from other herbaria or from scientific expeditions of the time.

The study of this herbarium currently underway is part of the projects promoted by the Botanical Garden of Padua, that aim to study the botanists of the school of Pier Andrea Saccardo (1845-1920), their collections and contributions to botany. The research is based on an integrated use of different sources: Forti's collection of algae, his

publications, his correspondence, and other documentation. It aims firstly to reconstruct the history of the Algae Herbarium, from the gathering of samples to their entry in the collection of Forti, until today with the ongoing digitization of the collection; secondly, it aims to consider the collection as a result of the networks and relations between botanists of the time, but also as a product of scientific expeditions, thanks to the work of scientists on board of ships, collecting and storing samples. Thirdly, historical and scientific research are intertwined in considering the algae herbarium as an archive of information on biodiversity, in a fruitful comparison between past and present. The ongoing digitization of the collection told another story of mobility of the specimens.