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Damian Hughes: Picturing Ecology

With over twenty years of experience as a field ecologist and a Ph.D. in the history of photography, Damian Hughes is well-poised to address the central subject of this valuable book: the constitutive role that photography played in the development of the new science of ecology between 1895 and 1939. Across seven chapters and nearly 500 pages, he argues for early ecology as a profoundly visual science. Its practitioners adopted and integrated photography into their discipline as they sought to establish and promote a new way of understanding the natural world, one that focuses not on individual organisms, but on organisms' relations to each other and to their environment. They deployed photography in nearly every aspect of their work. It was central to their field practice, to their dissemination and publication of their findings, and to their efforts to create their own disciplinary community and institutions.

The book concentrates on emergent plant ecology in Britain, though scientists from Germany, Denmark, France, and the United States assume important roles. The author traces the development of the science as it emerged from nineteenth-century phytogeography (the study of the geographical distribution of plant species), particularly the work of Alexander von Humboldt. He follows it as its practitioners sought to separate it from traditional botany, an effort in which, he makes clear, photography played a prominent role.

In the eighteenth and nineteenth centuries, botany was "a science of collecting and naming" (53). Its focus was on individual species. Its well-developed visual culture centered on hand-drawn illustrations of single plants, generalized to emphasize those characteristics essential to the identification of the species. Even after the advent of photography, botanists continued to prefer artists' renderings to photographs which inevitably included the idiosyncratic variations of individual plants. This preference for the hand-drawn is still evident in many of today's botanical handbooks.

In contrast to taxonomic botanists, plant ecologists focused not on individual species but on vegetation *en masse* and *in situ* - particular stands of vegetation growing in particular places in response to particular environmental conditions. Ecologists' concern with observing and recording the particularities of a site made the camera not only an appropriate but an essential tool for their fieldwork. The photograph also became a vital means of sharing their experiences and discoveries. Damian Hughes argues that the adoption by these scientists of new visual strategies (which included not just photography but also other new methods such as quadrat mapping) was epistemological as well as graphical, marking "a disciplinary transition between nineteenth century botany and twentieth century ecology" (76). Ecological investigations required learning to see in new ways; photographs provided a material correlative to this new mode of vision, allowing it to be fixed and shared with others.

Not only did early ecologists readily incorporate photography into their disciplinary work, they experimented with a wide range of photographic practices and techniques. For example, they quickly embraced aerial photography when advances made during World War I opened its use to them. They found the resulting bird's eye views invaluable for surveying vegetation on a large scale. They tried out color photography when it was in its infancy, as well as infrared and motion pictures. As Damian Hughes notes, "Ecologists seem to have been particularly open to the possibilities of photographic innovation for visualizing their subjects, for new techniques of scientific record, and for making visual records of field experiences" (134).

Picturing Ecology is a thoroughly interdisciplinary study. It is situated at the intersection of anthropology, the history of science, and the history of photography. The author describes it as "an ethnographic history


of photography's permeation through the practices of early scientific ecology" (25). Approaching early ecology from the perspective of an ethnographer, he pays particular attention to the formation of a disciplinary community. He explores the new field's practices of sociability, particularly those in which photography played a part. He describes the scientists' efforts to form associations, establish journals, create shared archives of images, and organize field excursions (often documented in photographs). Such activities helped these men and women develop a shared identity as ecologists.

But what of the photographs themselves - those taken by or made for these pioneers of ecological science? Fortunately, the book includes many, though at small scale. While Damian Hughes is himself attentive to the subjective nature of photographic practice, he makes clear that the great majority of the scientists he addresses accepted unquestioningly the objectivity and transparency of the photographic image. To them, the camera was a tool of "objective record" (287) and photographs were "unmediated records of scientific witnessing" (201). This "objectivity" is expressed through a visual language that is "straightforwardly descriptive" and "appropriately scaled", with sharp focus, clear detail, and "maximum depth of field" (140). Most of the images represent broad views rather than individual plants.

To a non-ecologist like me, however, the value of these images as scientific documents is not readily apparent. What information do they convey to a viewer trained in ecology? How would such a viewer "read" these images? The book offers a few of such readings, but I would have benefited from more and more detailed explications. I know it is my training as an art historian that makes me wish for a deeper discussion of the individual photographs and a more complete illumination of their evidentiary value. On the other hand, I am also aware that a book traversing multiple disciplines, each with its own disciplinary questions and priorities, can hardly be expected to thoroughly address them all. The book thus leaves open fruitful avenues for others to investigate.

I wish that an editor had given *Picturing Ecology* a hard pruning to tighten its arguments, but it has much to offer as a deeply researched, broadly illuminating, wide-ranging account of the operations of photographs and photographic practice within the new science of ecology.

Rezension über:

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