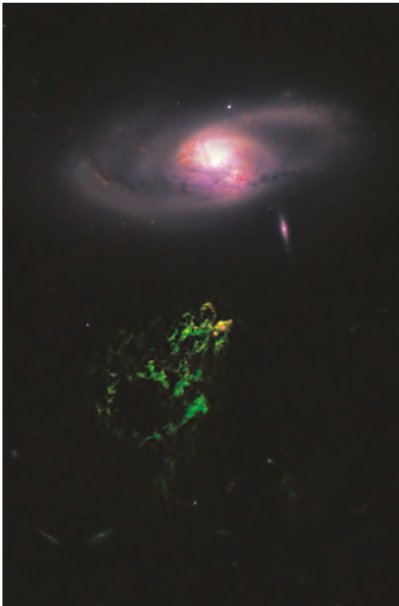


Constructing Scientific Communities

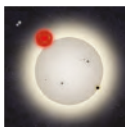
Citizen Science in the 19th and 21st Centuries

Professor Sally Shuttleworth UNIVERSITY OF OXFORD

SCIENCE IN CULTURE



The project will bring together historical and literary research in the nineteenth century with contemporary scientific practice, looking at the ways in which patterns of popular communication and engagement in nineteenth-century science can offer models for current practice.



“Constructing Scientific Communities’ is a wonderful opportunity for the Royal College of Surgeons to exploit its Designated historical collections. The interdisciplinary character of the project enhances our knowledge base, providing new perspectives on medical holdings and connecting past and present.”

Dr Samuel Alberti Director of Museums and Archives, Royal College of Surgeons

The project is based at Oxford University (Sally Shuttleworth and Dr Chris Lintott) and Leicester University (Dr Gowan Dawson), in partnership with three major scientific institutions: the Natural History Museum; the Hunterian Museum (Royal College of Surgeons), and the Royal Society.

When Darwin was developing his theories of evolution he read avidly in popular natural history magazines and sought out information from almost 2,000 correspondents. Such engagement with a wide public in the construction of science became increasingly difficult with the development of professional, highly specialised science, but the emergence of ‘citizen science’ projects has suggested a new way forward. With the creation of vast data sets in contemporary science, there is a need for a new army of volunteers to help classify and analyse the information. The Zooniverse platform, (www.zooniverse.org) has over 800,000 participants who contribute to projects from astrophysics to climate science. Significant discoveries have already been made by volunteers in the field of astronomy. Yet, the structures by which they might engage with professional science, and through which scientists might draw upon their findings, are not clear. Researchers on the project have been turning to nineteenth-century models of communication to find ways of harnessing this huge popular interest to increase the rate of scientific progress.

The research is timely since the digital revolution, and open-access publishing, are about to change forever the processes and forms of scientific communication and exchange. This has parallels in the nineteenth century which saw an explosion of print, and journal publishing: in 1800 there were around 100 science periodicals, by 1900 this had jumped to 10,000 worldwide. The project brings together historical and literary research in the nineteenth century with

contemporary scientific practice, looking at the ways in which patterns of popular communication and engagement in nineteenth-century science can offer models for current practice.

Researchers will draw on the historic collections of our partner institutions, uncovering the extraordinary range of largely forgotten science journals of the nineteenth century, from the *Magazine of Natural History* (one of Darwin’s favourites), to *Hardwicke’s Science Gossip: an Illustrated Medium of Interchange and Gossip for Students and Lovers of Nature*. They will work with these institutions’ science communities, addressing questions about the creation and circulation of knowledge in the digital age, and looking at innovative ways of breaking through the public/professional divide. Zooniverse will extend the range of its work, creating four new citizen science projects accelerating the rate of scientific growth and adding an estimated 100,000 to 300,000 to the ranks of citizen scientists. Drawing on the historical research, it will develop new tools to enable better systems of exchange between professional science, and the volunteers. The project plans a range of public lectures, exhibitions and symposia at the Natural History Museum, the Royal Society, and the Royal College of Surgeons.

The project will help to open new pathways into science for people of all ages, and will show how historical understanding of patterns of science communication can contribute to the development of science in the age of the internet.

Cover left: <http://hubblesite.org/newscenter/archive/releases/2011/01/full>.

Cover right: *The Crystal Gallery of the Hunterian Museum. Courtesy of the Royal College of Surgeons of England.*

Above: <http://blog.planethunters.org/2012/10/15/ph1-a-planet-in-a-four-star-system/>

