Panel I2

Sala delle Colonne 1

Science and Animation II

Alison Reiko Loader

The astronomical pre-animated moving picture show

Having been inspired by its homage to Galileo Galilei and the doctoral research I am presently completing, for the 2017 Society of Animation Studies conference in Padova, Italy, I propose a panel presentation that connects astronomy to cinematic media through the history of the camera obscura as an observatory-based optical device that displayed the moving image before animation. Extending and enriching a genealogy of cinema that generally draws that line indirectly, my talk presents direct connections as alternatives that supplement the centuries-long ellipsis that succeeds the wondrous projections of the camera obscura by Della Porta, and the epistemological and phenomenological linkages of photography and the magic lantern as intermediary technologies. Such workarounds emerge from histories of the camera obscura that rarely consider deployments after the invention of photography, and remain tied to debates about its usage in old master paintings and drawings. Canaletto's *vedute* of Padova are rarities as well-documented examples of fine art being made with a camera obscura. However, as drawing devices best suited to rapid tracings, cameras obscura are akin to light tables for animation and rotoscopic projections that cannot be stopped. "And yet it moves!" denotes an inconvenience for still image production, and a quality of camera obscura projections, that much of its scholarship seems to forget. However, as a Galileo's utterance that refuted geocentrism, as a similarly myopic point of view "And yet it moves…" recalls that astronomy is a field where motion is meaningful and therefore subject to careful observation.

In my presentation I plan to examine two observatory-based deployments of the camera obscura that predate but correlate to animated motion and film projection. The first draws connections to the SAS conference and its location, by exploring the apparatus for solar observation used and promoted by Galileo. Soon after the invention of the telescope near the beginning of the seventeenth century, he and rival Christopher Scheiner observed and recorded sunspots, their movement and changes with telescopic projections and *tabula* screens. As I will demonstrate in my talk, this instance is significant to animation history as an early form of sequential imaging and a kind of precursor to chronophotography. I will then jump forward two centuries later to consider the role of the camera obscura in the popularization of science in the early nineteenth century and conversely, the role of observatory instruments in the development of popular media. Drawing on my archival study of the founding of the Edinburgh Camera Obscura, I explore the emergence of walk-in cameras obscura as scientific spectacles at astronomical and popular observatories. Their development was concurrent to persistence of vision research and the invention of photography, but is mostly overlooked in histories of media despite the ongoing operation of extant devices and later reproductions. Even though their application as popular attractions continued into the early years of cinema, as shared forms of screen-based entertainment that began to draw spectators in the first decades of the nineteenth century, in their shift from observatories to sites of leisure, they may be classified as another spectacular pre-cinematic technology.

“And yet it moves…” characterizes applications of the camera obscura within a history of observatory practices. Collectively-speaking, I describe these deployments as “the astronomical pre-animated moving picture show” and they require no intermediary technologies to mark then as pre-cinematic and pre-animatic. “To give life to inanimate things has been the dream of philosophers for ages, but to paint pictures and imbue them with animation is the ambition of more practical investigators…” are the opening words to *Animated Pictures*, the 1898 text on the development of film technologies by Charles Francis Jenkins. Though Jenkins invented a film projector and cited persistence of vision devices and chronophotography in his chronology, he makes no inclusion of observatory cameras obscura. My talk attempts to redress that ongoing omission and presents, as one of animation’s earliest practical investigators, the seventeenth-century heliocentric astronomer who said...

Biography

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Alison Reiko Loader is a lapsed National Film Board of Canada filmmaker who specializes in digital animation and extends her interests in old optical media technologies and scientific visual culture to making short animated films and media installations. Reimagining connections between apparatuses, representation and embodied spectatorship, she applies research-creation, feminist objectivity and posthumanist concerns to media history and media archaeology. Installations such as *The Inquest of Mary Gallagher* and *Possible Movements* use anamorphic and stereoscopic imagery to re-present local histories of madwomen and nuns, while the caterpillar choreography of *En Masse* re-visions the spectacular nature of natural philosophy and etymology through interdisciplinary and interspecies collaborations that feature chronophotography. Funded by the Social Sciences and Humanities Research Council of Canada to pursue a terminal degree in Communications Studies, her doctoral research, on the founding of the Edinburgh Camera Obscura by a mysterious woman known as Maria Theresa Short in the early nineteenth century, brings together her interests in optical media history, scientific spectacle, and women and technology. A long time instructor in the Computation Arts, Design and Film Animation programs at Concordia University, and the 3D Animation and CGI program at Dawson College in Montreal, Alison teaches classes in digital media, animation production and collaborative research. In addition to her busy teaching schedule and growing exhibition practice, she has published and presented peer-reviewed papers on the camera obscura and her own work as a critical maker, as well as studies on Norman McLaren, and race and animation.