

## Charles and Ray Eames's *Powers of Ten* as Memento Mori

In a pantheon of potential documentaries to discuss as memento mori, *Powers of Ten* (1968/1977) stands out as one of the most prominent among them. As one of the definitive works of Charles and Ray Eames's many successes, *Powers* reveals the Eameses as masterful designers of experiences that communicate compelling ideas. Perhaps unexpectedly even for many familiar with their work, one of those ideas has to do with memento mori.

The film *Powers of Ten: A Film Dealing with the Relative Size of Things in the Universe and the Effect of Adding Another Zero* (1977) is a revised and updated version of an earlier film, *Rough Sketch of a Proposed Film Dealing with the Powers of Ten and the Relative Size of Things in the Universe* (1968). Both were made in the United States, produced by the Eames Office, and are widely available on DVD as *Volume 1: Powers of Ten* through the collection entitled *The Films of Charles & Ray Eames*, which includes several volumes and many short films and also online through the Eames Office and on YouTube (<http://www.eamesoffice.com/the-work/powers-of-ten/> accessed 27 May 2016). The 1977 version of *Powers* is in color and runs about nine minutes and is the primary focus for the discussion that follows.<sup>1</sup>

Ralph Caplan (1976) writes that “[*Powers of Ten*] is an ‘idea film’ in which the idea is so compellingly objectified as to be palpably understood in some way by almost everyone” (36). The film was, in part, “inspired by Kees Boeke’s 1957 book *Cosmic View: The Universe in Forty Jumps* [Haarlem 1957] and originally commissioned to be shown at a conference of 1000 American physicists” (Kirkham 1995a, 350). (The film was originally “[m]ade under the auspices of the Commission on College Physics” [Caplan 1976, 36]). The images for the film were first jotted out in pencil or taken from photographs or photographs of models and manually cut and pasted in to sequence on paper that folds out several meters long. Some of the early story boards and images for *Powers of Ten* (LC Prints and Photographs Division LOT 13385 (H): Box 1) show both

1 Executive producer, Lucia Eames; producers, Eames Demetrios and Shelley Mills; introduction narrated by Gregory Peck; Pyramid, Image Entertainment, and Eames Office, Lucia Eames, 1989. The narration is given by Philip Morrison of *Scientific American* magazine and the Massachusetts Institute of Technology (MIT), and the music is by Elmer Bernstein.

its homeliness and, at the same time, the singularity of the idea: starting at “home” or some mundane place, first, in this case, Earth and, second, the park on the Chicago lakeshore (for the 1977 version) not far from Soldier Field (the 1968 version took place on Miami Beach) – and articulating our remarkable place in nature, huge and small. Many Chicagoans or anyone who has spent time there during the summertime will recognize the spot and know the atmosphere. The cityscape lies to the northwest and Lake Michigan to the east with a narrow strip of park running along the lakeshore, meeting place for thousands of people everyday for walking, running, and biking, for pick-up soccer and volleyball, for concerts, boating, barbeques, and picnics.

In this chapter, I suggest that in *Powers of Ten*, the Eameses compose for viewers a transformative experience of the definitive place of mortals in the vast expanse of the universe. The explicit concept of the film, as the subtitle indicates, *A Film Dealing with the Relative Size of Things in the Universe and the Effect of Adding Another Zero*, is as compelling as it is singular. Moving from ground level first to a distance of 10 meters, then 100 meters, and so on by powers of ten, the “camera zooms” backwards from a picnic scene on the Chicago lakeshore to outer space and back again. (In fact, the scene is a *simulation* of a reverse track/dolly shot, not a “zoom”, technically speaking.) In seemingly one continuous shot, it starts at the picnic scene and, then, in a style not unlike what one may find today on Google Earth or in a planetarium show, the perspective pulls back to a birds-eye view and continues traveling outward to beyond the Milky Way Galaxy, then turns around and speeds forward, returning to the lakeshore. Instead of stopping with the picnic scene, however, the camera proceeds “through” the skin of the sleeping picnicker into the interior universe of his body, focusing in at increasingly smaller scale to conclude beyond the infinitesimal space of the nucleus of an atom.

In the first moments of the film, a sense of vertigo takes hold of some viewers as they begin to “fly”. As years go by and audiences get more sophisticated in their visual experience, perhaps some of the immediacy of *Powers*'s effect is lost, though perhaps less than one might expect. Even after approximately four decades of progress in film and computer imaging, *Powers of Ten* still invokes awe from its viewers. This sensation still takes place even at a time when almost anyone with a computer and internet connection can view satellite images of their neighborhood on Google Earth and “fly” around the earth. In the midst of viewing *Powers* and afterwards, many people have had the sensation of having “really” made the voyage. They continue to think about the film or, even after many years, recall the film and a particular image, idea, or experience directly referencing it. As Eames Demetrios (2001) puts it, “Tens of millions of people – students, teachers, poets, businessmen, gurus – all around the world, many of