

Semiconductor: artist statement

Semiconductor is UK artists Ruth Jarman and Joe Gerhardt. Over the past fifteen years of collaboration they have become known for a unique and innovative body of moving image works, which explore the material nature of our world, how we experience it and how we create an understanding of it – questioning our place in the physical universe.

Man's experience of the physical world is central to the work of Semiconductor; it takes us beyond the everyday rigid, static matter bound by the limits of human perception. By extending vision, hearing, time and scale through the use of technologies, by transcending physical constraints Semiconductor creates first person experiences. These disrupt our everyday assumptions about reality and encourage us to step outside our fixed vantage points in space and time, to experience places that are in a constant state of flux. Through a contemporary reworking of the sublime the work is at once both humbling and captivating.

Each work employs a specific technical approach, whether it's developing custom tools and processes to expand on space, time and matter, or adopting the scientific tools, language and philosophies that study them. For *Heliocentric* (2009) Semiconductor developed a custom-made apparatus to track the trajectory of the Sun. These time-lapse sequences of entire days reverse the illusion that the Sun moves across the sky, confirming that we really are on a rotating globe. When making *Black Rain* (2009) Semiconductor worked with scientists to access and process image data from STEREO, the satellite mission that stares at the space between the Sun and the Earth, capturing matter ejected from our nearest star in the form of solar wind. Semiconductor actively encourages the errors and artefacts inherent in these technologies. The introduction of a human signature into the observation process is a device that emphasises the presence of the observer, allowing us to reflect upon our place in the universe, and question how technology mediates our experiences of the natural world. Equally, through a unique application of technologies, Semiconductor has formed a distinct aesthetic. This aesthetic transcends tools, creating new forms of expression that challenge the language of screen-based work and inspires others.

Sound plays an important role in Semiconductor's work. The artists have developed a unique approach to working with it as a physical material, whereby it becomes a sculptural tool, introducing time and motion to the seemingly static world around us. In works such as *Earth Moves* (2005) and *Worlds in the Making* (2011) seismic data converted to sound waves literally re-animates photographs of landscapes, realising the geological time and motion that has gone into to creating it within a human time frame. Whereas computer generated animations, such as *200 Nanowebbers* (2005) and *20 Hz* (2011), are produced solely from the sound to create sculptural, animated forms that explore the possible material nature of invisible worlds. Conversely, image has also been used to create sound; *Brilliant Noise* (2006) sampled the luminescence of the image to produce the sound. These techniques have made sound synonymous with image, and part of the very fabric of the world.

In recent years individual works have developed from fellowship opportunities with NASA Space Sciences Laboratory, UC Berkeley, California (2005); Mineral Sciences Laboratory, Smithsonian National Museum of Natural History (2010); and the Charles Darwin Research Station, Galapagos (2010), which have taken Semiconductor into science laboratories for intensive research periods. The artists have thrived in these environments, producing work that reinterprets how man can experience the material universe through the language of science. The award-winning works *Magnetic Movie* (2007) and *Brilliant Noise* (2006) have been lauded, not just in the art world, but within the scientific community and mass media too, where they have been influential in redefining the application and aesthetics of scientific visualisations. The BBC's *Wonders of the Solar System*, *Men of Rock*, and *Wonders of the Universe* all incorporated works and adopted techniques developed by Semiconductor.

Semiconductor has always sought to redefine how moving image work can be distributed and seen beyond the gallery. At the heart of this is a desire to create new dialogues between audiences for screen-based works. In 2001 Semiconductor self-released the first ever artist compilation DVD, *Hi-Fi Rise*, and followed this up in 2007 with the DVD, *Worlds in Flux*. Truly multi-platform, Semiconductor will often make multiple versions of one work distinct to each platform: single channel, installation or live performance. These works straddle the divide of genres, and are exhibited and performed across galleries, film festivals, digital arts festivals, institutions, animation festivals, music festivals, online galleries, motion graphics events and science museums.

A selection of recent and upcoming exhibitions include their most ambitious project to date *Worlds in the Making*(2010), a three channel HD work which formed part of their solo exhibition at FACT, UK (2011).

Semiconductor, Hirshhorn Museum, Smithsonian Institute, USA (2012);*Star Voyager*, Australian Centre for the Moving Image (2011);*Earth: Art of a Changing Word*, Royal Academy of Arts, UK (2010);*Wild Sky*, Edith Russ Haus Fur Media Kunst, Germany (2011);*Our Origins*, Museum of Contemporary Photography, Chicago USA (2011).

Solo and festival screenings include: 'International Tribute Guests', Vienna Independent Shorts, Austria; Premiere of 20 Hz, Rotterdam International Film Festival (2012); Premiere of Indefatigable, Venice Film Festival (2010); EMAF Germany; 27th Kassel Documentary Film and Video Festival, Germany; Ann Arbor Film Festival, USA; Sundance Film Festival, USA; Prix Ars Electronica, Austria; Annecy International Animated Film Festival, France; TED Conference, Long Beach, CA, USA.

Awards include: Samsung Art + Prize (2012); Imagine Science Film Festival, New York; Nature Magazine Scientific Merit Award (2009); British Animation Awards, London, Best Film at the Cutting Edge (2008); Prix Ars Electronica Animation, Honorary Mention (2011).

International collections: Hirshhorn Museum, Washington DC USA; Centre Pompidou, Paris, France; Maison Europeenne de la Photographie, Paris, France.

www.semiconductorfilms.com