EXHIBITION

Placing Climate Change

Deborah Dixon

The charitable organization Cape Farewell fosters collaborations among artists, scientists, and communicators that engage the public in the issue of anthropogenic climate change. Its current Sea Change program, launched in 2010, focuses on Scotland's western and northern isles. The program aims to produce creative responses to climate change and to involve local initiatives, concerns, and knowledge in the process. To do so, it has initiated partnerships with a range of community groups, cultural producers, research teams, and education sites across Scotland. The exhibition Sea Change now at the Royal Botanic Garden Edinburgh—combining films, glass, textiles, prints, and multimedia works—offers an opportunity to reflect on this complex engagement of people and place and to consider how climate change science can be undertaken, and communicated, in conjunction with an interpretive, rigorous artistic practice.

Sea Change (Tionndadh na Mara)

Elinor Gallant and Ruth Little, curators
Royal Botanic Garden Edinburgh. Through 26 January 2014. www.rbge.org.uk/whats-on/event-details/3091

The ground floor of the John Hope Gateway houses educational displays on plant diversity and the entangled ecologies of plant species. Sea Change uses simple partitions to carve out a long, narrow passage on one side of the ground floor that takes visitors past a series of image-based works before opening out into a busy, oval-shaped space that also holds sculptures. These include Anne Bevan and Ian Butler's *Ghost* (2012), a three-dimensional acrylic resin print that replicates and enlarges otherwise invisible foraminifera. Small enclosed areas lodging video installations punctuate the oval. One of the films shown, David Harradine/Fevered Sleep's *It's the Skin You're Living In* (2012), relocates the figure of the polar bear, that iconic image of climate change, from the High Arctic to the everyday space of the kitchen.

Also showing on the ground floor of the Gateway building is Andy Crabb and Peter Cutts's short film *Sea Changes*, which documents the project's summer 2013 expedition to the Orkney and Shetland islands. Photographs by Jennifer Wilcox displayed on the floor above provide another perspective on that voyage. Together, the film and photograph series provide glimpses of how scientists and artists began to share disciplinary practices (principally around data collection) as well as of the fragility of the northern isles' ecologies.

Near the entrance, Sea Change marks the site of the exhibition itself with pressed herbarium specimens of bog species collected during historical botanical expeditions to the Scottish Hebrides. These are placed alongside works from seven artists produced for the Sexy Peat/Tìr mo Rùin project, an ongoing Highland Print Studio–Cape Farewell partnership on the culture and ecology of the Isle of Lewis blanket bog. Alex Boyd's *Stacaiseal (Stacashal)* (2013), for example, is in part a response to the earlier documentation of the Scottish coastline by landscape photographer Thomas Joshua Cooper, who selected "peripheral" locations on a map, tracked them down, and photographed them using an antique field camera. Boyd's four-part series, by contrast, looks north, east, south, and west from the heart of the island, firmly placing it at the center of tectonic and climatic processes. A similar elemental focus can be found in Shona Illingworth's *Topologies of Air, Blueprint Series 1* (2013). Her images evoke a sense of the turbulence of north Atlantic weather systems and their uncanny power to frustrate various marine and aeronautical feats of engineering that promise some measure of control over the wind-blown landscape. *Topologies of Air* sits well alongside *Bird Score* (2013), which is part of Hanna Tuulikki's larger *Guth an Eòin/Voice of the Bird* project. This five-movement composition for nine female voices, woven together from fragments of Gaelic bird-themed songs, evokes the sounds, movements, and interactions of several species of waders, wildfowl, and seabirds found in the Hebrides. *Bird Score* shapes lyrics into various bird shapes that swoop, float, and flock across a white background.

The creative responses on show capture something of the scope of what has been reductively referred to as "climate change." A wealth of observable and measurable shifts in weather patterns, bird migrations, plant ranges, fishing stocks, soil erosion rates, and so on combine to aid our understanding of the interconnections among climate, ocean, landforms, botany, and biology as well as the myriad of human activities that have led to claims of an Anthropocene. In this vein, the works usefully highlight the range of scientific expertises—from ornithology to marine biology—that seek to make climate change knowable. They also, however, capture some-

CREDIT: ALEX BOYD/COURTESY HIGHLAND PRINT STUDIO/CAPE FAREWELL

Alex Boyd's *Stacashal—Summit Cairn (view East)*, from the Sexy Peat/Tìr mo Rùin series.

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thing of the intangible experience of living with climate change. Though Scotland's islands that form the exhibition's focus are important in part because they are "climate change hotspots," they are also, as several of the artworks intimate, harbingers of a world to come. In bringing home the impact of climate change on place, the Sea Change exhibition makes a persuasive case for climate change as a complex, ever-present problem that admits of no single, overarching solution but which can, nevertheless, be addressed in the everyday actions of local communities.

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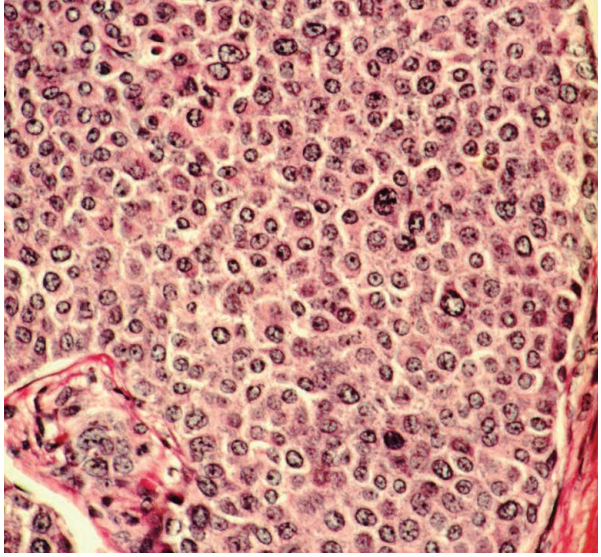

Photomicrograph of breast tissue with cancer cells.

MEDICINE

Up Close and Personal with Cancer

Mary L. Disis

A cancer diagnosis can be emotionally devastating, and people respond to the bad news in many different ways. Some people become mentally debilitated by the information and have difficulty making decisions about treatment. Others seem to take a cancer diagnosis in stride and overtly show no changes in the activities of their daily lives. Commonly, when scientists are diagnosed with a particular cancer, their response is to learn everything possible about the disease in an effort to feel some sort of control over the situation. George Johnson's *The Cancer Chronicles* recounts his attempt to harness the vast amount of information concerning the origins and pathways of cancer growth in an effort to understand what is happening to loved ones affected by cancer. The task is overwhelming. As the author notes at the book's start, "I imagined the expanse [of information] before me as a boundless rain forest whose breadth and diversity could never be captured within a single book or even a single mind." But Johnson, an award-winning science writer with the *New York Times*, is no scientific neophyte. His labor has produced a fascinating compilation of selected discoveries in cancer research that helped shape his deeper understanding of the disease process.

The Cancer Chronicles
Unlocking Medicine's Deepest Mystery

by George Johnson
Alfred A. Knopf, New York, 2013. 299 pp. $27.95, C$32. ISBN 9780307595140. Bodley Head, London. £18.99. ISBN 9781847921666.

The Cancer Chronicles comprises two distinct narratives. The first, reflecting the impetus for the book, recounts the personal story of how cancer has affected the lives of the author's family. Both his wife and, later, his brother were diagnosed with advanced-stage cancers, which carry grim prognoses. Johnson takes the reader step by step through diagnosis, treatment, and disease outcomes. His account highlights how difficult and chaotic the process of receiving an accurate cancer diagnosis and initiating therapy can be. As Johnson's wife and brother progress through treatment—and, in one case, relapse—his search for information follows the unfolding development of the cancers.

The second, interwoven, chronicle tells the story of cancer cells themselves. Johnson details the documentation of cancer in dinosaurs, prehistoric humans, Greek and Roman civilizations, and bodies from medieval times. He follows his epidemiologic review of ancient cases with a well-annotated progression through key discoveries that have shaped our understanding and treatment of cancer. Johnson discusses complex issues in cancer etiology, cancer biology, and even cancer politics. The examples and discoveries he presents have specific meaning for what is happening in the lives of his family members as they confront their illnesses. In addition, the studies considered address important questions the author has posed: "[H]ow much [about cancer] is timeless and inevitable … and how much has been brought on by pollution, industrial chemicals, and other devices of man?" "Why do some cancers metastasize?" These and other queries broached by Johnson illuminate issues that are crucial for anyone who has been touched by cancer.

The book succeeds on many levels. Johnson alternates between the two chronicles from chapter to chapter. The device of using his personal experience to select the breakthroughs or topics he discusses works well. He tells his personal story with an emotional distance that allows a smooth transition from technically oriented material to the family thread and back again. The author has deftly organized and presented vast amounts of scientific information so that they support the personal chronicle; every example seems to fit. In addition, the book is artfully written. Throughout it, Johnson's use of metaphor provides novel descriptions that are interesting to any reader, whether seasoned in the science of cancer or a novice. For example, when describing the process of metastasis, he writes, "cancer cells wandering the corridors of the circulatory system are looking for … a molecular 'zip code' identifying the organ where they are likely to thrive." An extended description of the blight of Russian thistle destroying the beauty of Johnson's garden in New Mexico is literal as well as metaphorical, describing what damage cancer was inflicting on his wife's body and, potentially, their relationship. Lastly, the book succeeds because Johnson's writing conveys his passion about the science. His presentations of pivotal discoveries are rich not only with scientific detail but also with insights into the personalities of the researchers and the importance of their findings in the context of their particular time periods.

Despite the author's goal of putting together some pieces of the puzzle, by the end of *The Cancer Chronicles*, one has far more questions than answers. Attending a conference to learn about the most recent research, Johnson observes that there are "[s]o many little subcultures even in the cancer world." The reader gets a sense of the current difficulty in sorting through and making sense of the recent explosion of data in cancer biology. Johnson deftly states, "the curse of this age of microspecialization and the proliferation of ''omics' is to separate the ridiculome from the relevantome." We are left questioning whether the beast of cancer can ever be tamed.

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