robustly enthusiastic about this book? Certainly not because of its quality — the author, a theoretical physicist and well-known contributor to high-energy research, skates on the solid ice of his own discipline, and has diligently studied the biological literature, which is essential to understanding the book's first and fourth chapters, and used it accurately. And also not because the book is a chore to read, for it is well written, interesting and informative. And, needless to say, the book's big topic is about as fundamental, and hence as important, as it gets in studies of both the living and the inanimate Universe.

This may actually be the book's main problem. Books about longitude or dust have a huge area of reality to explore, and the topics lend themselves to pursuing some fascinating connections and consequences. Yet, as wide-ranging as they are, their scope is inherently limited. Enzymatic catalysis is unaffected by longitude, and Saharan dust is irrelevant to the radioactive decay in the Earth's crust. But what does not fall under the influence of temperature? What object or process can be seen and studied as devoid of it or unaffected by its change? So a book about temperature really aspires to be a book about everything.

This is clearly impossible, but Segrè cannot be faulted for not trying. He crams in a great deal yet, inevitably, even some fundamental realities get no mention at all: temperature's distribution on the Earth and its effect on the evolution of life and on the fate of ecosystems are among the most obvious omissions. (An important aside: Segrè uses almost exclusively annoying, antiquated units; of course, as this is a US book intended for a wide readership, the publisher may have insisted on Fahrenheit and feet, but I feel that the author should have resisted.)

And so the book opens with: "Ninety-eight point six. It is extraordinary how alike we are," and goes on to discuss thermoregulation in organisms and its problems. We are then offered chapters dealing with the history of temperature measurement, the origins of thermodynamics, temperature and the Earth (including the greenhouse effect) and life in extreme environments. Finally, there are brief excursions into astrophysics and studies of low-temperature and other superconductivity. Along the way the text encompasses mammalian scrotal sacs, the precession of the Earth's rotation axis, hydrothermal vents at the bottom of the Pacific Ocean, magnetic fields of rapidly rotating neutron stars, foraminifera (badly misspelled in the original) and superconducting using YBCO (yttrium barium copper oxide).

People who make a fleeting appearance include, predictably, many icons of twentieth-century physics, including the author's famous uncle Emilio; Subrahmanyan Chandrasekhar, puzzling out the death of stars; Leo Szilard, designing a better refrigerator with Einstein; and Arno Penzias and Robert Wilson, measuring background radiation. Additions to this *mélange* of topics and people can be made *ad libitum*, as there is nothing that qualifies for exclusion.

This book is being promoted in the United States by national print and radio interviews to show how such an everyday concept as temperature "underlies our understanding of how the Universe works". As I have no illusions about the scientific literacy of the US public, I doubt that they will appreciate some of the finer points from the book. Only those with a fairly solid grounding in several key scientific disciplines will appreciate this book for its brisk and wide-ranging treatment of many fundamental temperature-related concepts. Those less well equipped will see too many trees in such an infinite forest. ■

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Science in culture

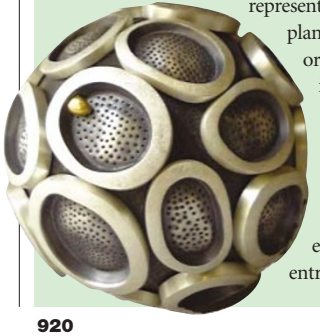
Life in a drop of water

A display of sculptures by Sarah Parker-Eaton and Louise Hibbert was inspired by plankton.

Liz Hoggard

For the past 18 months, jeweller Sarah Parker-Eaton and woodworker Louise Hibbert have been working together on a series of hand-sized sculptures and boxes inspired by the microscopic world of plankton. The works are mostly fashioned from sycamore, with decorative details in silver, resin and acrylic ink.

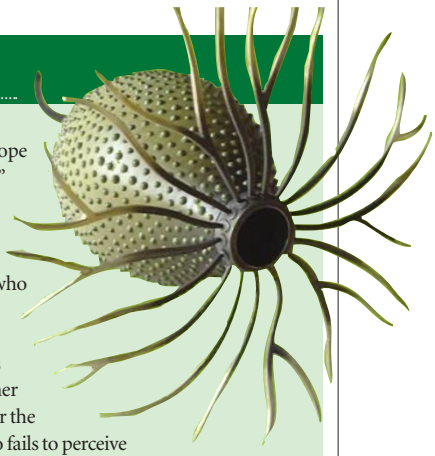
The two artists have been collaborating with biological oceanographer David Thomas of the University of Wales, Bangor, who shares their enthusiasm for plankton. All three acknowledge their debt to the nineteenth-century German zoologist Ernst Haeckel — in particular for the outstanding images in his book *Kunstformen der Natur*. Haeckel was both an accomplished artist and scientist, whose somewhat stylized representations of planktonic organisms informed part of the Art Nouveau movement. René Binet's design for the elaborate main entrance of the 1900 World Exposition in Paris, for example, made direct reference to Haeckel's drawings of radiolarians.



Thomas provided the two artists with the opportunity to explore under the microscope the shapes, forms and sublime movements of different types of living plankton, including diatoms and dinoflagellates, as well as radiolarians. Parker-Eaton says that this opened up for her "a miraculous underwater world. We never realized that a drop of water could contain such a variety of life."

Planktonic organisms have myriad forms. They can be multicoloured spheres or cubes, with sturdy spines or fine, elongated needles that deter predators. Some form delicate spiralling chains, whereas others, such as dinoflagellates, have whip-like flagella to help them move in the water. The artists try to reflect this richness in their work. In one sculpture, for example, they represent armour-plated dinoflagellates as tactile spheres made from ancient bog oak covered in heavy silver plates.

The vivid colour that Hibbert and Parker-Eaton use in their work highlights the extraordinary ability to refract light of planktonic organisms such as diatoms and radiolarians, whose cell walls are constructed from silicate. "The walls are basically glass," says Thomas. "And they are etched with intricate patterns, which under the microscope refract light, like crystal, into a kaleidoscope of colour." Thomas believes that a scientist who fails to see the aesthetics in his or her science, or the artist who fails to perceive (often without realizing it) the mathematical form in their subject, "will always fall short in their respective interpretations of nature's design".



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Plankton *can be seen at the Crafts Council Shop at the V&A Museum in London until 15 September, and will be at Chelsea Crafts Fair at Chelsea Old Town Hall in London on 15–20 October.*