Natural/Unnatural

PROFESSOR ROALD HOFFMANN
Department of Chemistry, Cornell University, Ithaca, NY, USA

A beautiful fountain near Stockholm leads the author to analyse what is natural and unnatural about a sculpture. The dichotomy is undermined by a careful examination of every work of art, every social construction, every harmful or useful molecule synthesised. So, if the natural and the synthetic are intertwined, why do we scientists and others alike favour the work of Nature? Some of the reasons derive from romance, status alienation, pretence, scale and spirit. Scientists, appalled by seemingly irrational and fearful responses to the synthetic, would be well advised to ponder the ways to deal with fear – not only with reason, but also with compassion and empowerment.

At Millesgården, on the island of Lidingö near Stockholm, the work of the great Swedish sculptor Carl Milles is splendidly displayed. During a recent visit there I saw one sculpture group, the Aganippe fountain, in a new light. Its theme is classical in origin, but Milles' interpretation is idiosyncratic. The spring of Aganippe, on the slopes of Mount Helicon in Greece, was said to inspire artists and poets. Milles portrays Aganippe as a female figure, recumbent but in motion at the edge of the pool, and reflected in it. From the pool rise several dolphins, arched in mid-leap. Three of the dolphins carry men on their back, who symbolise music, painting, and sculpture. Water rises from the beaks of the dolphins; this is after all a fountain, and Milles was a master designer of fountains. The Aganippe sculpture group always gave me pleasure when it graced a courtyard in the Metropolitan Museum of Art in New York. It has now been moved to Brookgreen Gardens outside Charleston, South Carolina. At Millesgården one sees a replica, containing somewhat fewer figures. It remains lovely.

A fountain's symbolism

Fountains are about water, its motions, divisibility and reunion in flow. They are also about artifice, the real and the imagined, the natural and the unnatural. It is this last distinction that I want to explore in this review, first by showing how the artist and scientist may confound this distinction for good reasons, and then by arguing that the distinction has some warrant after all.

One of the mounted figures that rises from the fountain represents sculpture. It is a man, balanced on the dolphin's back. He is life size, much larger than the stylised, diminished dolphin, and yet this disproportion does not matter. The man is dancing, and gravity's pull is light on him. Milles' art, his recurrent aim, was to defeat gravity. In bronze sculpture! The water, which emerges as several thin jets from the dolphin's snout, is angled upwards; it falls back, under the natural force of gravity, and sprays the young man. He reaches backwards, and on one outstretched hand rests (that is not the proper word for Milles' sculpture; more precisely 'is balanced') a horse. The horse is small, the size of the man's forearm, but it is real, and galloping in the air. On the horse's head, in final defiance of gravity, another, smaller man is balanced; flying, falling, flying.

Water and bronze

What is natural and what is unnatural about this work, which is both a fountain and a sculpture? Like all fountains, it is patently synthetic, artificial and unnatural. Someone has thought up a clever device, combining art and hydraulic engineering, to manipulate for aesthetic purposes one of the essentials of life and the Earth, water. Fountains are sculpture with the unique feature that water is used as a sculptural element. And a substantial part of their interest derives from that they overcome the tension of opposites between solid bronze or stone and moving, seemingly free water. How could these elements possibly be integrated? And yet in this kinetic sculpture they are.

The artifice is that the water does not 'want' to run up, nor does it want to run in controlled channels, much less through dolphin beaks. We conspire to manufacture elaborate mechanisms to channel water, pump it up, so that it can flow down naturally, and in seeking its own level, in some places, even run straight up. Pumps, meters, gates, valves – God, all those hidden mechanics of the artificial! What could be more synthetic than a fountain?

The fountain's figures are cast in bronze, their mechanical elements made from other metals. The bronze itself is artificial. Or is it? Bronze is an alloy of copper and tin, perhaps with a little lead and zinc, an alloy of sufficient importance in the history of mankind to have an age named after it. The alloy is both harder and more fusible than its component elements, which in turn are smelted from their ores, refined in a remarkable metallurgical process by men and machines. The ores of copper and tin – covellite,

General view and detail of one figure of the replica of Carl Milles' Aganippe Fountain on the island of Lidingö, near Stockholm, Sweden: the original fountain is now at Brookgreen Gardens, outside Charleston, South Carolina (author's photographs)