

CHAPTER TWENTY The Astronomer's Cave

I continue here with Swift's text:

At the center of the island there is a chasm about fifty yards in diameter, from whence the astronomers descend into a large dome, which is therefore called Flandona Gagnole, or the Astronomers' Cave, situated at the depth of an hundred yards beneath the upper surface of the adamant...

Prominent among reports of objects in our skies today are descriptions of dome shapes. This central protrusion is found in many photographs, and is universally regarded as an inherent part of the objects.

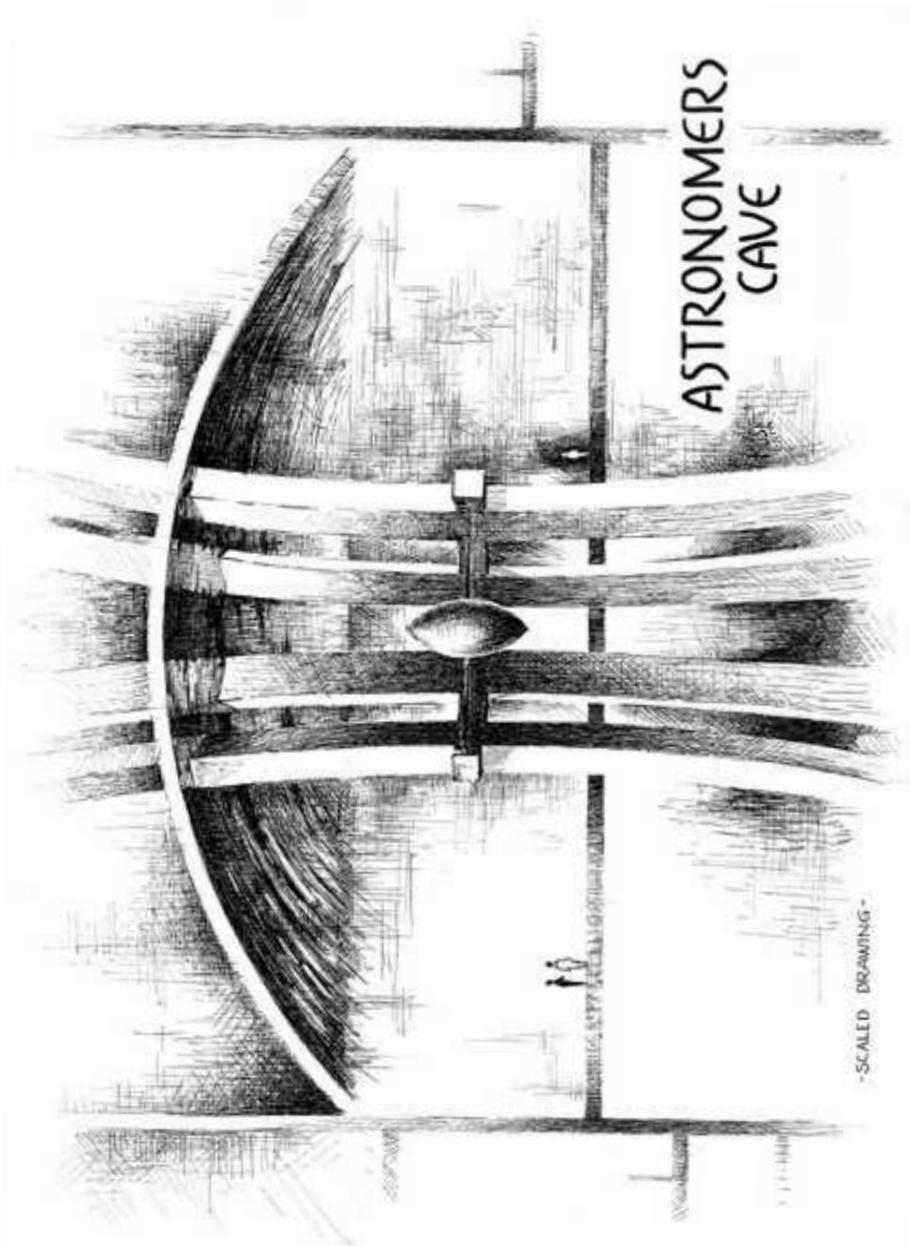
Swift includes this dome as part of the Flying Island.

Again we have an item which matches modern reports but which is altogether too large. The chasm is fifty yards in diameter, or 150 feet across. It is located at a depth of an hundred yards beneath the upper surface. We do not know if the dome or the floor of the Astronomers Cave is one hundred yards down. Weighed against common sense, both in Swift's day, and in our's, that the occupants used this cave for astronomical observation, we should rightly conclude that the dome extended above the surface of the Island. This would agree with scholarly opinion discussed below.

The description points up another factor. Swift's astronomers occupy an area *inside* the flying island. In modern reports intelligent beings also occupy the inside of the flying objects. The large size of the cave matches the large size of the island, although we have not yet considered the total context of Swift's description and his gargantuan dimensions.

The following figure shows Swift's cave, scaled according to his numbers.

Notes on artist's interpretation: In 1968 I commissioned an artist to sketch both the Flying Island and the Astronomer's cave, according to the dimensions provided by Swift. He did well on the Island, except in attempt to show the "mould" which, being only 12 feet thick, is not visible according to scale. For the Cave he did not understand that the dome should be on the upper surface of the Island, and placed it inside. Also the human figures are extra large. When I queried him about them he said they were of heroic size. He was bothered by Swift's unique descriptions. In any case, the reader can get some grasp of the images Swift had in mind.



More From The Scholars

Nicolson and Mohler admitted the passing resemblance of historic descriptions to Swift's strange Island, but that other features of Swift's island are more interesting. As they said, one of those was the Astronomer's Cave as a large chasm located beneath the top surface of the island. They found that the Royal Observatory in Paris had similar architecture. A contemporary account stated that *there is, besides many other rooms for Philosophical uses and purposes, a very deep Cave, having an hundred and threescore and ten steps of descent; wherein many sorts of Experiments are intended to be made, being of that nature, that they require to be remote from the Sun-beams and the open Air.*

The professors failed to draw out the purposes of a deep cave. Men who have worked in deep shafts open to the sky have noted that they can see stars in broad daylight. This visual ability comes about because scattering of sunlight is inhibited in the shaft, making the sky appear darker when viewed straight up. Another benefit of caves in the ground is stability of temperature and humidity; unstable conditions can affect delicate instruments.

We see how Swift could draw upon contemporary sources.

Nicolson and Mohler go on to discuss the adamantine construction of the island, the means of locomotion from a great loadstone mounted in the Astronomer's Cave, and its magnetic properties. The professors used one aspect of the magnetic properties to explain their views of how Swift arrived at the idea of an island that contained such unusual properties.

William Gilbert, 1544-1603, made discoveries in electricity and magnetism he published in *De Magnete, Magneticisque Corporibus, et de Magno Magnete Tellure, Physiologia Nova* in 1600. His cardinal discovery was the magnetic field of the earth with its poles, equator and axis. He was led to this generalization by prolonged experiments with globular magnets, or terrellas as he called them, on which he poised small magnetic needles, finding that, no matter where he placed the needles, they always pointed to the poles. He also learned that the needles could dip, or incline, and thus discovered a property of the earth wherein the magnetic fields do not necessarily follow the surface but arise from the interior of the sphere. Gilbert's terrellas were miniature models of the earth, measuring four to five inches in diameter.

According to Gilbert's own words: *A Terrella, or an orbicular Loadstone, about four inches and 1/2 in Diametre, with the one half immersed in the Centre of a Plane and Horizontal Table; so as to be like a Globe with the Poles in the Horizon.* Seizing upon the parallel between the four and one-half inches diameter of Gilbert's terrellas with their magnetic properties, and Swift's four and one-half mile diameter of the flying island with its magnetic properties, the two professors proposed that Swift borrowed the idea from Gilbert, but merely magnified the inches to miles. However, they were not content with that suggestion but went on to suggest further that perhaps the 7,837 yards for the diameter of the island was

borrowed from current estimates for the diameter of the earth, calculated by Newton to be in the range of 7,832 to 7,846 miles. For this second possibility Swift reduced miles to yards to obtain his dimensions.

According to their theory, Nicolson and Mohler could have it both ways. Swift may have used Gilbert's terrellas as his model for magnetic properties, but Newton's calculated diameter of the earth for his size. In the first case he scaled up from inches to miles; in the second case he scaled down from miles to yards. Indeed, the two professors suggested that perhaps Swift had both sources in mind and merely found a happy coincidence in the numbers. Clearly, the two professors were scratching for explanations.

Their important point was that Swift was visualizing a sphere, and not a disk. As they stated, *In any case, his is a number that points unmistakably to his conception of the Flying Island as a "little earth"*.

How unfortunate the results when erudite scholars get their imaginations into high gear.

Here we have an example of how preconceptions determine understanding (or misunderstanding). They quote his phrase *exactly circular* to demonstrate his intent, neglecting the fact that a disk also is *exactly circular*. They used Swift's illustration of the Flying Island moving in tacking motion around Balnibarbi, the homeland of the Laputans. (This illustration was included in early editions of the Travels as Plate III, Part III, Page 39.) When viewed from above the disk appears circular. They believed Swift was showing a globe, when actually he was showing the circular disk viewed from above. Certainly, the physics professor could not have been too well trained in mathematics.

The two professors illustrate their theory further from drawings made for later editions of the Travels, showing an island flying in the air, almost globular in appearance, built up of many layers of minerals, terraces, grasses, trees, houses and palaces. From these several factors they believe Swift intended to show a globe, a miniature earth.

Indeed, we admit to a curiosity about Swift's large dimensions of 7,837 yards. We can accept that Swift would choose numbers from contemporary science to arrive at his dimensions. But we cannot accept those numbers as implying a structure that violates his explicit descriptions.

Literary Traditions

The scholarly assessment of Swift's *Voyage to Laputa* would not be complete without some examination of possible literary sources. Nicolson and Mohler review the literary traditions of *cosmic voyages*, and flights of space fancy they feel could have influenced Swift. Traditions of moon voyages can be traced back to the Greek poet Orpheus, and to Lucian, c. AD 150, a Greek rhetorician and satirist, who conceived of the possibility of an inhabited world on the moon. Johannes Kepler may have started the modern trend when his cosmic voyage, *Somnium, seu de Atronomia Lunari*, was published posthumously in 1634. Francis Godwin increased public interest with *The Man in the Moon: Or A Discourse of a*

Voyage Thither, by Domingo Gonsales, published in London in 1638. Also that year John Wilkins published *Discovery of a New World in the Moone*, in which he conceived of a *flying chariot*. As he wrote: *I doe seriously, and upon good grounds affirme it possible to make a flying Chariot, in which a man may sit, and give such a motion unto it, as shall convey him through the aire. And this perhaps might bee made large enough to carry divers men at the same time, together with foode for their viaticum, and commodities for traffic.*

The range of the popular imagination can be seen in the interest displayed by scientists like Robert Hooke and Sir Christopher Wren who made models of “wings” and “chariots” and who kept up lively intercourse with the ornithologist Francis Willughby and also with Robert Boyle on the nature of the air. Impetus to this popular dream may have been enlivened by the writings of Savinien Cyrano de Bergerac, the famous French soldier and brilliant satirist, (1619-1655). He invented a number of stories of flight to the moon and the sun, satirizing the popular fancy, in which he included irreverent references to biblical tradition. He suggested that Eve accompanied Adam upon his “translation” from this earth by *the Sympathy which still united the half to the whole . . . as the Amber attracts the Straw and the Load-stone turns toward the North*. He developed his ideas in a description of a Flying Horse in which the prophet Elijah made his ascent into heaven. As Cyrano wrote:

Elijah took a piece of Load-stone about two Foot square, which had been melted in a furnace until it became the size of a bowl. “After these preparations,” Elijah states, “I got a very light Machine of Iron made, into which I went — and when I was well seated in my place, I threw this Magnetic Bowl as high as I could into the Air. Now the Iron Machine, which I had purposely made more massive in the middle than at the ends, was presently elevated, and in a just Poise, because the middle received the greatest force of Attraction. So then, as I arrived at the place whither my Load-stone had attracted me, I presently threw up my Bowl in the Air over me.

In 1703 David Russen of Hythe published his *Iter Lunare: A Voyage to the Moon*, in which he examined Cyrano more seriously. He insisted that Cyrano’s work should not be called a *Comical History* but rather a *Rational History*. In 1709 Bartholomeu Lourenco de Gusmao proposed a device he called the Passarola. He received honor and financial reward when a small model of the proposed machine maintained itself in the air before an astonished audience in the royal audience chamber of King John V of Portugal. Modern historians of flight, some believing he discovered the principle of heavier-than-air machines, while others believing he was a charlatan, have vehemently debated the report. The machine combined both winds and sails, but also held an essential secret, not yet solved, in two large spheres, which operated upon the principle of magnetism. This spectacle of flight, if only for a model, would have been enough to bring it popular attention.

Another popular writer and contemporary of Swift was Daniel Defoe, author of the well-known, *Robinson Crusoe*. In 1705 Defoe turned his attention to the theme of flight, producing three works in rapid succession: *A Journey to the World of the Moon*, *A Letter from the Man in the Moon*, and *The Consolidator*, all published in 1705. In *The Consolidator* Defoe describes a flying machine, but the description is so vague one cannot deduce an exact principle of flight from it. The *Floating Figure*, as Defoe called it,

was a certain Engine formed in the shape of a Chariot, on the Backs of two vast Bodies with extended Wings, which spread about 50 yards in Breadth, compos'd of Feathers so nicely put together, that no Air could pass; and as the Bodies were made of Lunar Earth which would bear on a certain Spirit deposited in a proper quantity, to last out the Voyage; and this Fire so order'd as to move about such Springs and Wheels as kept the Wings in a most exact and regular Motion, always ascendant . . .

In one brief passage Defoe suggests the principle of gravity or of terrestrial magnetism for propulsive purposes:

When this Engine, by help of these Artificial Wings, has raised itself up to a certain height, the Wings are as useful to keep it from falling back into the Moon, as they were before to raise it, and keep it from falling back into this Region again. This may happen from an Alteration of Centers, and Gravity having past a certain Line, the Equi-poise changes its Tendency, the Magnetik Quality being beyond it, it inclines of Course, and pursues a Center, which it finds in the Lunar World, and lands us safe upon the Surface."

The statements by Defoe are so brief, and so inexact in meaning, we cannot deduce his intent. He could have been suggesting a principle of flight based on magnetic repulsion and attraction, but we cannot explicitly resolve his description.

In our attempts to understand Swift we must recognize that a context of literature did exist, with high degree of popular appeal. Writers such as Defoe worked on that keen public interest to sell their works. The thesis that those sources may have influenced Swift can be maintained only if Swift had no unique experience and was fabricating his account strictly from imagination. The consequence of Swift's experience was an account of a Flying Island, or more exactly a Flying Saucer, but that experience should not be confused with the popular fancy. Swift could take that popular appeal and write an account which would fit with such fancy, as a vehicle for expressing his experience. Nicolson and Mohler were not unfair to Swift, in spite of their lack of knowledge of his source. As they stated:

While Swift may have picked up scattered hints from his predecessors, . . . his Flying Island nevertheless remains unique in the history of both literature and pseudo-science, both for its size and for the plausibly scientific principle of its motivation. Historians of aviation have admitted to their ranks of pioneers far less ingenious and certainly far less brilliant inventions than this — the first and last flying machine which successfully operated upon the principle of terrestrial magnetism!

While their proposals were neither the first nor the last, they assessed the situation accurately. Nevertheless, in view of their perception it is amazing how two professors, in spite of their cautions about being *on guard, at every phrase* would not succeed in *untwisting all the chains that tie the hidden soul of harmony*. How could they neglect the thickness of 300 hundred yards, and the declivity of the upper surface from circumference to center? This amazing neglect shows how we may strain at academic learning but completely miss the key to understanding. In view of this fact the proposal by Nicolson and Mohler collapses. Their attempts to show contemporary scientific or literary sources for Swift's Flying Island appear for what they truly are — sheer speculation. While the two professors have favored us with considerable research and scholarly expertise their conclusions carry no weight. There is far more to Swift's Flying Island than a feeble attempt on his part to portray a miniature version of our terrestrial planet. We must give full regard to the fact that we can always find parallels in both literature and science if we search diligently. But this does not make them true. Many parallels exist in the real world. We must use our common sense in weighing the soundness of the parallels we propose. We can believe Swift borrowed from literature and science; or we can believe he acquired his descriptions from actual experience. How we believe will depend on our orientations, or intellectual integrity, and our fear of those higher realities. Swift may have, and probably did, borrow from current accounts, in the *Philosophical Transactions* and from other sources, to provide a framework for the Flying Island. But he did not borrow to invent a charming fancy; he borrowed to help veil a most precious secret — an incredible object of celestial origins floating in the air.

Consider Swift's position. If he had contact with Visitors from space what would he do? Would he be under compulsion to tell others? How would it affect his daily psychology? Would he be able to restrain himself? If he told his fellows he had been visited by beings from space what would happen? Would he be committed to a mental institution? How could he otherwise relate his experience? Even more, suppose he was under instruction to leave a record, to provide revelation for the future. Does satire not provide a convenient vehicle for such report? If satire uses allusions to shape thought and portray scenes which cast a different light on reality, does it not also provide a means for recording a most amazing event? Then Swift's exaggeration of size is part of the framework of the allusion. A floating island occupied by men should be sufficiently large to make it self-supporting. The occupants would need water from the dews and the rains.

With soil twelve feet thick and the minerals in the usual order the flying island becomes part of a satire on science, with size appropriate to the setting, but maintaining dimensions to scale so that a discerning reader can draw out the object and recognize it for what it is — a flying saucer. This is a most incredible satire. But Swift does not leave us hanging on these threads. He offers more to show the true meaning of his strange experience.