The Remarkable Seven-Sided Form

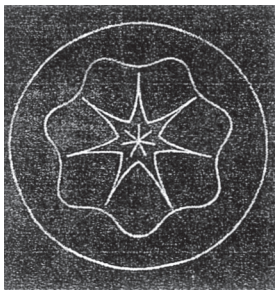
A Discovery by Frank Chester

by Kaye Williams

I am one who has been peripherally aware of the term, sacred geometry, but couldn't quite figure what to make of it. So what, I thought, if this form fits into that one in a mathematical way. So what? And I was dubious about spiritual meanings, seemingly arbitrarily assigned to geometric forms. I had put the notion of sacred geometry over there, (out there), not really relevant at this moment.

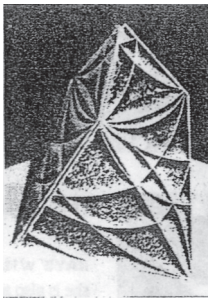
Well, after learning about Frank Chester's take on a particular geometric form, the heptahedron (a seven-sided form), my attitude isn't "so what?" anymore. Now, it's "so ... wonderful!"

Seal by Rudolf Steiner

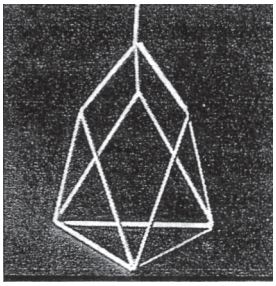


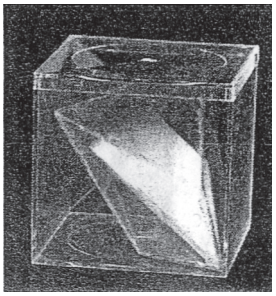
Frank Chester is an educator and sculptor who took it upon himself to investigate the seven-sided form. His line of inquiry started with pondering this motif (top left), one of seven seals that Rudolf Steiner designed.

Chester wanted to take this two-dimensional seven-sided image and make it three-dimensional. He thought about what it would be as a platonic form. Not satisfied by the existing models for what a seven-sided form would look like, he tinkered with clay and string and straws and wire and paper and bubbles and whatever models he could make, until he discovered a shape more simple and elegant than any presented before. The implications of his discovery of this heptahedron affect notions in mathematics, geology, architecture, medicine, and more; much more than is touched upon by this article.



This form has seven sides: each side has exactly the same surface area. There are four equal triangles and three equal four-sided shapes that look like kites. In this picture of his cardboard model, you see one of the triangles, and two of the kite-shaped sides (bottom left). Chester has found that he can draw all the surfaces of this shape, flattened, by using two sizes of circles; the arc tracings on the sides of this model show the remnants of that drawing process. The relationship between the size of the two circles is the Golden Mean, a ratio that artists and scientists have found governs many natural items such as the proportions of a leaf or of the human body.

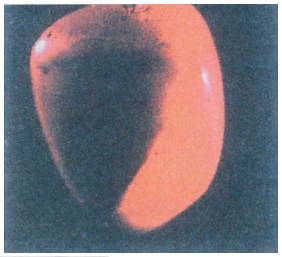




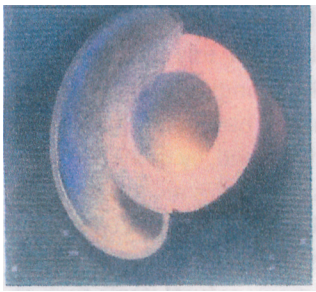
Another model of the heptahedron, which he has named the "chestahedron," shows edges only (top right). Chester did all kinds of things with his model to discover wherever it might lead him. He was curious about the sacred geometry relationships; in particular, how platonic forms fit inside each other. He found that the heptahedron fits inside a cube with its axis at 36 degrees (bottom right).

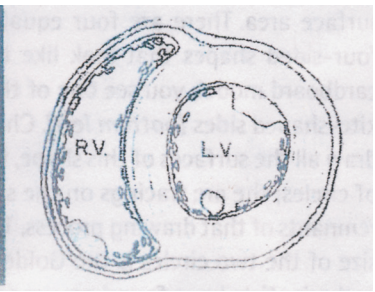
The angle of 36 degrees was noteworthy to Chester because he remembered that the human heart sits at that particular angle inside of a person's chest. Various theories have been presented as to why the heart sits at this angle—but none very satisfactorily. Does it have to do with the earth's tilt? Since the earth's tilt is only about 23 degrees, not so likely.

One of the things Chester did was to dip the edges-only model into soapy liquid and then blow air into it through a straw to make a bubble, a process which rounds all the lines and surfaces, making the shape organic (top image at right). He compared his rounded seven-sided shape with a drawing he found on the web of the left and right ventricles of the heart. The right ventricle fits around the left ventricle. (far right)



Chester had the idea of putting his rounded seven-sided shape on its axis into a vortex generator, a tank of spinning water. If he put the shape in straight down, the original vortex is undisturbed. But when he puts the shape in at the angle of 36 degrees and keeps it spinning with an electric drill, the shape of the first swirl of water is changed. It forms a sort of pocket on the side. Chester made a model of what he saw in that interaction, cut a cross section of that model (below left), and sure enough, it looks just like a dissection of the human heart (below).



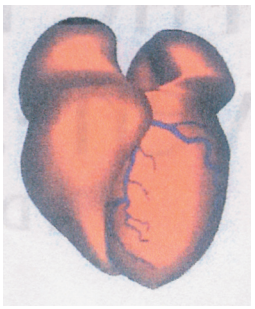


Inspired by a drawing made by Rudolf Steiner, Frank Chester has followed the path of curiosity and experimentation until it led to a 3-D demonstration of the formative forces at work, creating the asymmetrical shape of flesh that is the human heart. The manifest implication is that the formative forces that actually build the flesh of the heart are engaged as swirl, contained in shape and direction by the geometric form.

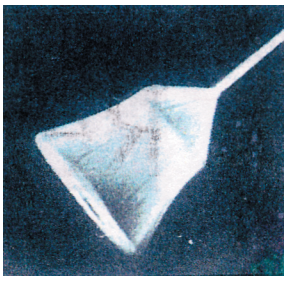
The heart is not a pump. Instead the heart is a streaming device, and in the left ventricle, the spin of fluid is captured and twirled back on itself. In this way, the heart acts as a brake. The prime reason for this braking is balance. The heart is a balancing organ.

The idea that the heart is a pump has dominated medicine for centuries. Yet at the apex of the left ventricle of the heart, the bottom point, the tissue is paper thin, not strong enough to enclose fluid under pressure. With the vortex model for understanding the motion of blood within the heart, one can see how this part of the heart never receives dangerous pressure, which it would, if the heart were indeed a pump. Other researchers have been able to show with cameras that the blood courses rhythmically through the blood vessels of the human embryo, before the heart is even formed. Something else is moving the blood. This is another reason Frank Chester believes that the heart is not a pump.

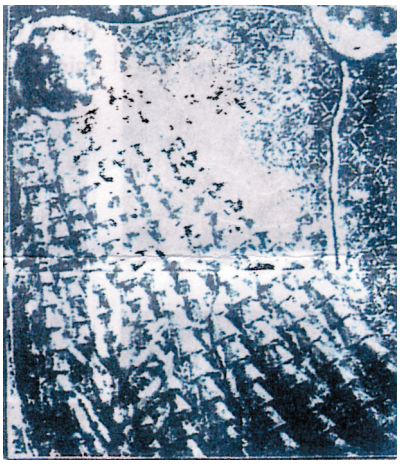
He has found that the heart is a streaming organ that is itself formed by a reversing, swirling stream. The blood enters the left ventricle in a clockwise spiral. By the time it moves out of the left ventricle, it is spinning in a counterclockwise motion. It reverses direction inside of the left chamber.



This thought is of interest to me because it is my meditative practice to bring my awareness to the space that is my heart. When I align my kinesthetic awareness of my own heart-space with these new images of how my physical heart works, I feel something new. Chester says there is a moment at the midpoint of the reversing of flow where the blood actually pauses, no motion. I wonder if that moment is the essential meaning of my meditation. What if my heart is a bell, and the still-point is the ringing of that bell?



If we go back to the edges-only model of the chestahedron and spin it on its axis, the shape that is displayed through that motion is like a bell. Rudolf Steiner reported that the evolving soul, before it becomes living matter as you or as me, is apparent to the inner eye as the shape of a downward opening bell.



The bell shape has been used in ancient Egyptian paintings to represent the human soul, coming down to earth from the heavens to incarnate in flesh. These bell shapes, seeds of spirit, are the geometric templates for growing a human heart.

Lectures on the heart, the earth, architecture and form-transformations can be arranged by contacting Frank Chester at frank_forms@hotmail.com

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