Lunchedrons

The initial Faraday Brief, along with a presentation by Pro2Pac, brought up a lot of interesting questions. However, I chose to ask a totally different one: Who has no choice but to consume packaged food all the time? This brought me to the obvious answer: Astronauts. Looking towards the future and the upcoming venture of private spaceflight, informed by my teenage years of science fiction novels, I sought to design packaging from and for the)hopefully) not-too-distant-future.

I took Virgin Galactic as my initial sample client. Looking at their space ship's designs, it was immediately clear that the vibe was "futuristic" albeit in a sci-fi way. A lot of the interior looked like what was being shown in recent SF films.

Because this brief was so wide, I had to investigate what foodstuffs I wanted to design around. This brought me into research on which nationalities were most likely to travel to space on private space flights first, which implies which cuisine might be demanded, then looking into their similarities. I managed to break it down to at least two levels:

- light meal
- full meal

After investigating Kansei Engineering, and existing solutions to food in space, I investigated tessellating shapes in 3D space. Eventually, I found a unique form for "space-filling polyhedrons". Initially, these forms were chosen simply because they substituted the role of a cube for ease of transport. However, after printing and shape testing, I found this co-incided with my investigations into Kansei: These shapes were "futuristic".

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One key element of space food packaging was ziplocks.

Initially I was designing around these two forms:

- Bisymmetric Hendecahedron
- Sphenoid Hendecahedron

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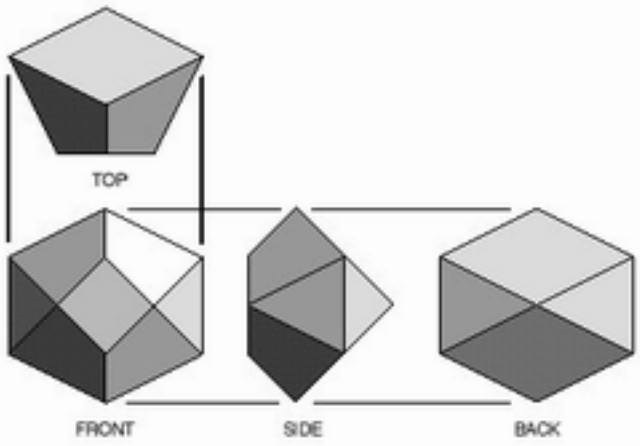

Fig. 1 The Bisymmetric Hendecahedron

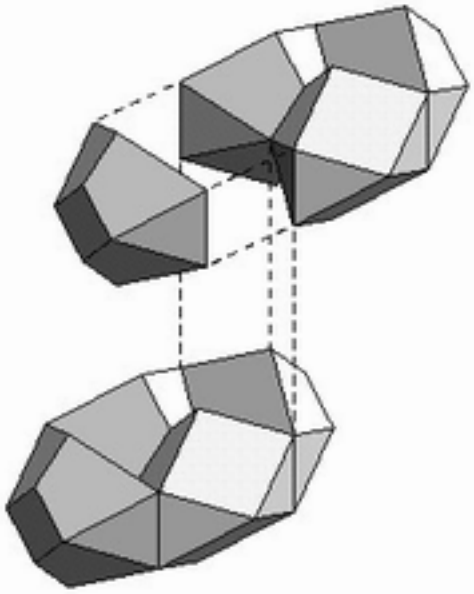

Fig. 2 The hendecahedra form interlocking hexagonal "boat" shapes.

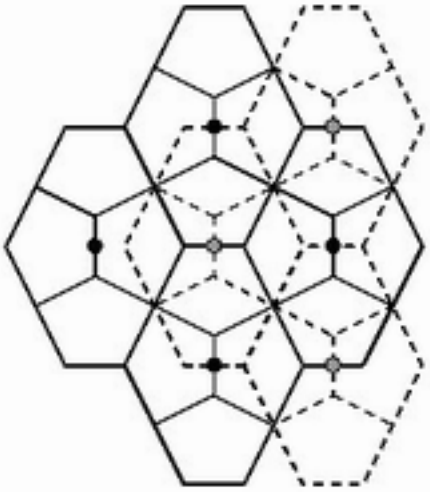

Fig. 3 One layer (dashed) over another, showing the centre of each translation unit.

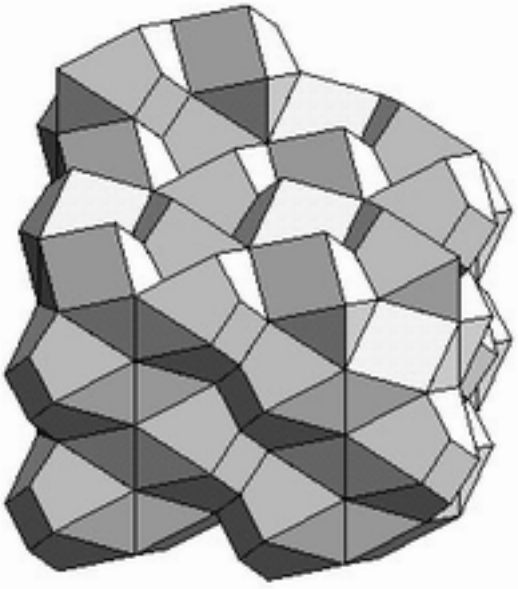

Fig. 4 A general stack.

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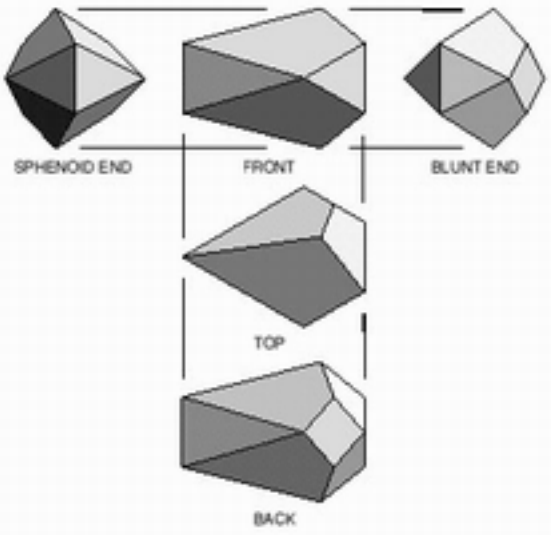

Fig. 6 The Sphenoid Hendecahedron

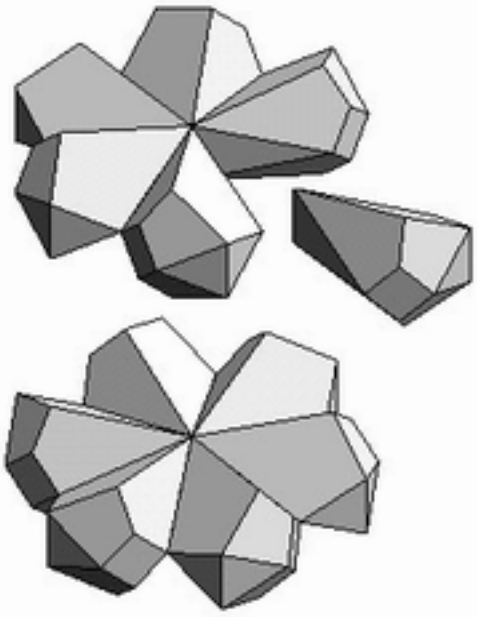

Fig. 7 Six hendecahedra form a "floret". These stack in layers, alternate ways up.

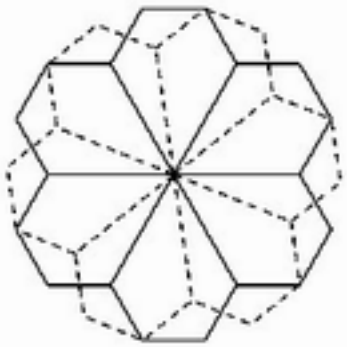

Fig. 8 One floret (dashed) on top of another.

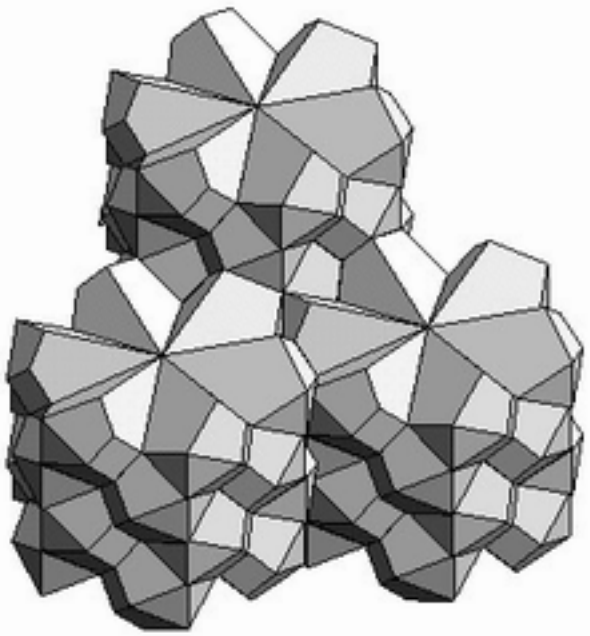

Fig. 10 The florets form columns which pack together.

Eventually, I found these forms too unstable and difficult to manipulate, so I switched to the Elongated versions.

- Elongated Bisymmetric Hendecahedron
- Elongated Sphenoid Hendecahedron

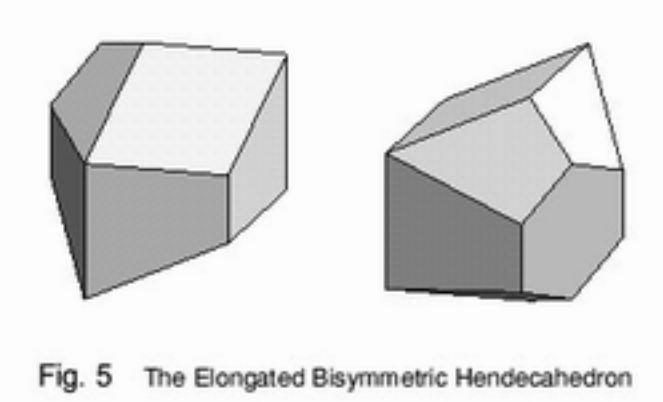

Fig. 5 The Elongated Bisymmetric Hendecahedron

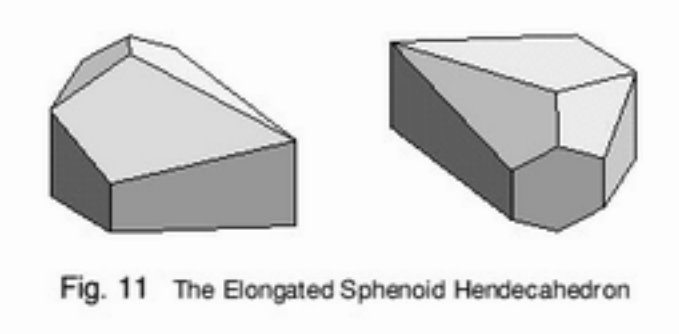

Fig. 11 The Elongated Sphenoid Hendecahedron

Next was the evaluation of the design itself. I found a size and depth that works with the regular tablespoon and chopsticks. This ensured a variety of meals could be stored in these packages. Testers reached a consensus that the Elongated Sphenoid Hendecahedron could be stood up vertically, and would suit the lighter meals.

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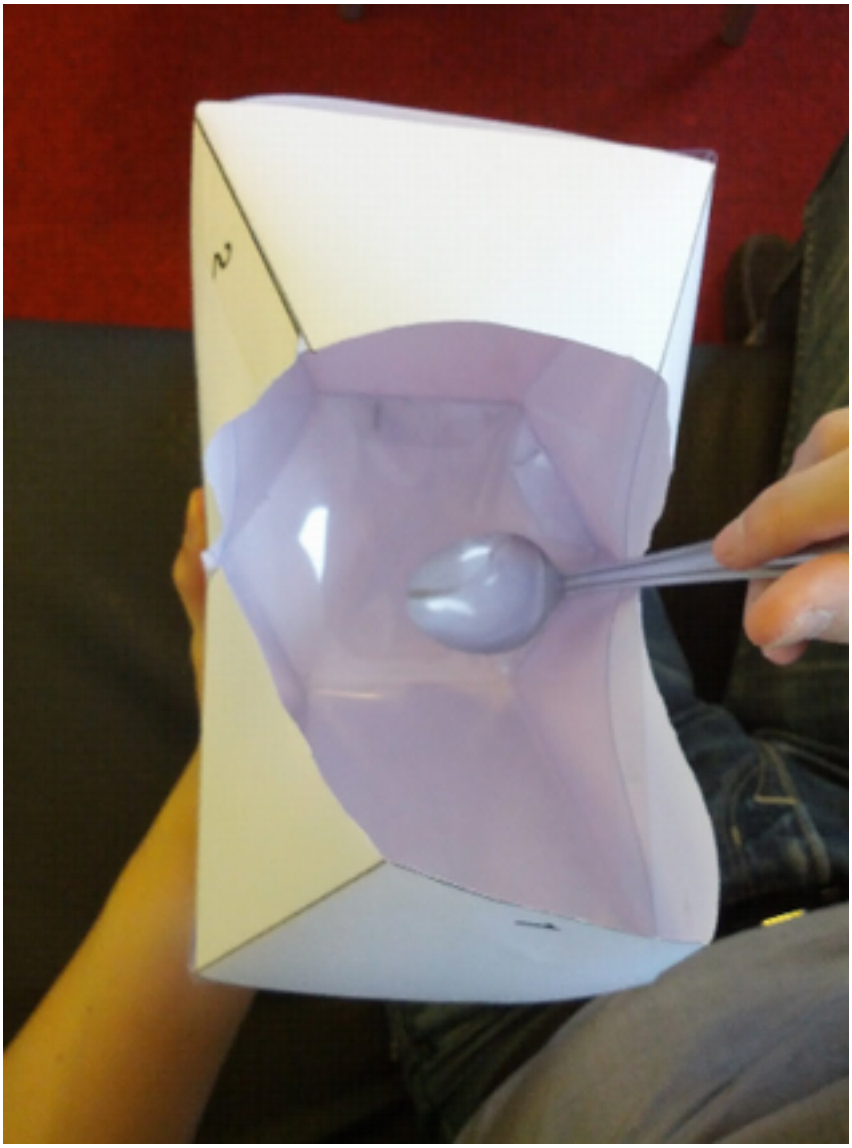

While producing the prototypes, I realized I need not make them opaque. The latest prototypes have a sleeve with a print design on it, very much like today's bottled drinks. The packaging could also be formed like those bottles of transparent plastic in a similar process. For these samples, I designed a space-motif themed "sleeve" (not really a sleeve since it works more like a giant bowl).

Although designed for the future, these packages could be sold with products available on Earth, and would have a visual impact on the retail shelves. **Why this packaging wins: It stands out on a shelf of otherwise cuboid and cylindrical packages.**

Self Evaluation

My personal requirement for this brief was to create more physical models than I had previously done over the course so far. I believe I have achieved this, however I should have done more testing, as the closing mechanism didn't work how I hoped it would. Insufficient thought was given into the materials actually needed to make the packaging, and I found myself obsessing over making a better prototype, and perfecting the right scale. Although I did a lot of background research, this barely informed my final design decisions.