STRAIGHT TALK

with Julian Voss-Andreae

Julian Voss-Andreae is a German-born sculptor based in Portland, Oregon. Voss-Andreae's sculpture is inspired by quantum physics, for which he pursued a graduate degree, participating in seminal work on quantum mechanics and behavior.

(detail) Villin Headpiece Folding detail (2011). Longest object length 11'. Steel, aircraft cable, paint.

Q: As a science-based artist, you seem to truly have one foot planted in each discipline. How did you come to combine your two interests, and what do you think your art has gained from your science, and vice versa?

A: What later became separate interests had been one thing when I grew up. I always had a very deep sense of awe for nature. My mother told me that she would frequently find me sitting in the sandbox staring at small grains of sand for hours on end. One of my favorite toys of my childhood were Lego blocks; there really was no distinction between the engineering solutions and the aesthetics of the pieces I was working on. When I design a sculpture today there still is an odd feedback loop between engineering solutions that feel elegant and the aesthetics that flows from it. The form always follows "function" — function here doesn't mean a simplistic utilitarian function, but more a mix of engineering solutions and conceptual ideas expressed in terms of "guiding principles".

The idea of using guiding principles is one of the tools I have learned to appreciate in science. A grand example is Heisenberg's decision to talk only about things we can measure when he developed his version of quantum mechanics.

Q: Your 2011 project with biochemist Daniel Gurnon sounds really interesting, would you tell us a little bit about this collaboration?

A: Dan Gurnon called me up out of the blue because he was visiting Portland and he wanted to see my studio. He is teaching biochemistry at DePauw University in Indiana and a friend of his is a Sculpture professor at the same college. So they decided to do a collaborative art/science project and invited me to join them. I was going to contribute my expertise and, together with art and science students, they would build the sculptures. I came to Indiana to get them started and show them how to measure and cut and weld, and then they built

Nanos (2006). 6'h. Stainless steel. Location: Private Collection, Lake Oswego (Ore.)

the four protein sculptures. I visited a second time to help install the pieces. For the four sculptures, we used frames of a computer simulation of a folding protein. There is a really interesting research group in Illinois, Klaus Schulten's at the Beckman Institute, who provided us with the structural data necessary to make the sculptures. They have been using supercomputers for the last decade to simulate more and more complex systems. One problem they are particularly interested in is how proteins go from unstructured chains of amino acids to the very specific three-dimensional conformation we see when we do X-ray crystallography and the data we used shows frame-by-frame how this happens.

Q: You have a few lines of work, the two main lines being your more conceptual physics-inspired figures and then your model-type protein sculptures — what would you say is the overall goal of your work, or separate goals with each?

A: Both bodies of work feel similar to me. They are about looking at the world in wonder, the process of achieving a kind of understanding that goes beyond the intellectual, and sharing that experience. I feel it is all-important that we expand our often only intellectual and fragmented understanding of the world to a sensual, more holistic one. A few people know a lot of details and those details lead to all the new drugs and technologies that critically shape our world for better or for worse. Our sensual grasp is lagging behind and my work aims at

(detail) Villin Headpiece Folding detail (2011). Longest object length 11'. Steel, aircraft.

bringing facets of nature gained through science into the cultural mainstream. In a way, I feel my job is to counter our natural tendency of reductionism and help to reconnect the dots. My own way of approaching things tends to be reductionist as well and it is again some sort of a learning process I feel the urge to share in my work.

The human (and by extension the human figure) has always been at the center of my interest, when I was painting as well as later in sculpture. And it was a great source of frustration when I was in physics that it felt so removed from the human being. When I make my protein-based pieces, the human figure is almost always part of it, sometimes more, sometimes less hidden. To give you an example, my sculpture based on the protein Microcin J25 (called "Nanos") used to be displayed horizontally (and was called differently) but I ended up putting it vertically because that structure has a loop at one end which resembles a head in that orientation. It is interesting to me to keep exploring different approaches because I feel that they feed off each other in constructive ways. It reminds me of the German painter Gerhard Richter, who has been painting abstract and realistic simultaneously for pretty much his whole career. In fact, the two big commissions I'm working on right now are examples of each approach; one consists of two human figures in a dialogue, whereas the other one is based on the structure of the collagen molecule — the most abundant protein in the human body.

Q: How did you come to work in steel as your main material?

A: I have always had a strong affinity for steel. But the main reason is that I need a material that can do structurally extreme things, while being suitable for the outdoors. Because steel is very strong and easily available, it can be easily manipulated with available industrial tools, and is a wonderful medium. Most of the time I use stainless steel. The drawback is that it feels quite cold. Patinas are not really an option. For that reason I'm incorporating more and more colored glass in my works.

Villin Headpiece Folding (2011), in collaboration with students and faculty of DePauw University. Longest object length 11'. Steel, aircraft cable, paint.

Visit his website at *julianvossandreae.com*.