TPenland Line

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The Rigor of Art—The Metaphors of Science

On the surface, this might have been a typical gathering of artists or a panel discussion at a craft convention. I sat in a room full of people comparing notes on questions such as, what is the role of technical mastery in your work? or what motivates you to move on to the next thing? or what do you do when you get stuck? The answers were familiar: it's important to work without thinking about technique; the next step comes from everything I've done before; failure can be as instructive as success.

What made this discussion different was that while half the participants were Penland area craftspeople, the other half were neurobiologists and their support staff. Their contributions to the familiar discussions were informed not by struggling with form, color, and materials, but by the challenges of DNA research aimed at finding genes which reverse the effects of stroke.

The visiting group was the entire staff of Cogent Neuroscience, a company which former Penland trustee Max Wallace helped start as a platform for unconventional genetic research proposed by neurobiologist Don Lo.

The gathering, which took place at Penland in October, grew out of conversations that Max had with several Penland staff members. He proposed shutting down the company for a few days and bringing everyone to Penland where they could spend time with people who were also involved in creative, challenging, and unpredictable work. The hope was that both groups might be inspired by exploring common ground. So Program Coordinator Stacey Lane assembled a group of Penland resident artists, studio coordinators, and neighbors to

spend a few days working and Robin Dreyer talking with the Cogent staff.

The event began with a papermaking workshop led by Ann Marie Kennedy, then small groups spent time workand a few of the Penland artists to spend some time looking for areas where scientific practice and artistic practice don't have anything in common.

I began by asking Don about the concept of rigor. Articles about research frequently talk about rigor, which I presumed had to do with following the rules of the scientific method. Artists are supposed to break all the rules, so I thought this might be an area of real difference.

"Rigor," Don explained, "is not really about a precision of measurement or a cleanliness of experimental design as much as the underlying logic of what you are trying to do. In other words, did you ask the right question and did you design a series of

experiments to tell you something about that question?"

Ceramist and painter Tom Spleth immediately commented that one of his finest art teachers taught students to evaluate their work in exactly the same terms: what is your line of inquiry and are you furthering it with this work? Potter Nick Joerling continued the thought by comparing Don's description of rigor to his experience on craft juries where the oper-

> ating logic was also similar. Max commented that scientific evaluation is often subjective and everyone agreed that in both fields judgments are based primarily on the accumulation of

mation. He feels that the best science can be seen as a quest for knowledge, but he prefers to describe it as an attempt to understand some aspect of one's surroundings or one's self.

Which, it almost goes without saying, is the way many artists describe their work.

The next morning, sculptors Louise Radochonski and Bob Trotman led everyone in a figure drawing and sculpting session that generated as much energy as I've ever seen in a Penland class. It would have been impossible for a casual observer to distinguish between the two groups.

In a discussion that followed, glassblower Rob Levin unknowingly picked up the thread of my story. Artists, he said, often work with metaphor or they try to to create objects that carry some kind of resonance. He wondered if there could be any parallel in the scientific world.

There were several comments about the aesthetic pleasures of scientific work, but it was Don who produced the answer to Rob's question.

"Scientists often express things through mathematical models." he explained. "If you make a model that's as complex as the process you are describing, then it does you no good. You need to make a beautiful, simplified model that distills the essence of the process; the model functions as a metaphor. There's a lot of personality in that work, and you can often tell who made a model by the way that it's been structured."

After lunch and more conversation, the group got together for summary remarks. Many people expressed delight and surprise at the extent to which each group was genuinely interested in the work of the other. Kasturi Puranam, whose work at Cogent involves gene identification, said she felt as though a barrier between two worlds had dissolved. "The strange thing is that I don't know why that barrier was there; we approach our problems in so many similar ways."





This is a photograph of neurons which were subjected to stroke conditions and then resuscitated as part of the DNA research being conducted at Cogent Neuroscience. Several of the biologists spoke of the great aesthetic pleasure they take in working with these images.

ing in several of the artists' studios. Everyone made presentations about their work (the craftspeople showed slides, the biologists projected images from a laptop computer), and we had energetic discussions on prepared and spontaneous topics.



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turned out to be vast. As we worked our way through conversations on motivation, inspiration, success, failure, problem solving, and even grant applications and funding, it became apparent that the artists and the scientists were speaking a shared language.

Even where the parallels were not exact, the interchange was rich. A comment about the changing view of abstract imagery in painting, for instance, led to an explanation of the evolution in understanding how the brain maps the world. After two days of endless connections, I decided it was my journalistic duty to find something we could disagree about.

When the evening session was finished, I invited Max, Don

experience.

My second attempt was the proposal that art tends to be a solitary pursuit, while science has become more of a group effort. Don countered that this was true in commercial science but academic science is still based on independent research. Then Max interjected that,

although many areas of research require a large team just to cover the ground, true leaps of understanding are still the domain of the individual scientist. Then we thought of artists who cannot accomplish their large-scale work without a team of apprentices, assistants, or fabricators.

Nick suggested that artists are driven by personal expression while scientists are driven by a search for knowledge, and those two things are really not the same. Tom objected that many artists don't consider self-expression central to their work. And Don spoke eloquently on the mistaken equation between the accumulation of information and the acquisition of knowledge. A lot of science, he said, simply gathers inforLouise Radochonski was joined by several other craftspeople in applauding the willingness of the Cogent group to jump into unfamiliar work. And metalsmith Susie Ganch found that she was left with curiosity. She wished she could visit the Cogent lab and learn more about their work.

The last word, however, went to Don Lo. "Being here has reminded me of something I don't like to think of too much: the life of a scientist is a lonely one. You are perceived to be so different and you feel that you have to stay in own your limited world to find people like yourself. I now have this feeling that in this wonderful, strange place I have all these comrades in arms." –*Robin Dreyer*

Susie may get her wish, as Cogent Neuroscience has extended an invitation for the Penland group to spend a day at their lab in Durham, NC. Meanwhile, Metalsmith Marvin Jensen has been consulting with Cogent about some of their equipment design. "We may end up with an artist-designed gene gun," Max reports.