FINDING A WORKING LANGUAGE

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by

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When it comes to form and function, Finnish-born metalsmith Heikki Seppä doesn't only bend the rules, he breaks them altogether.

Artists base their livelihoods on ideas, which they express through their medium: pigment for a painter, clay for a potter, music for a composer, or forms for a metalsmith. But when artists want to communicate the thoughts, theories and processes *behind* the work, they need a verbal language. Because of the abstract nature of artistic concepts, that verbal communication can be difficult even in the artist's native language. But trying to communicate them in an adopted language, they can hit a stone wall of frustration.

If they are as determined as metalsmith Heikki Seppä, however, they can soar over that wall and contribute to the industry an entirely new language with which to discuss, describe, and teach their art. Seppä's whole life has been a search for the right language: the right forms to express his ideas, and the right words to teach his craft.

Heikki Seppä takes his work seriously, and himself less so. He chuckles deeply and often, and when he speaks, his voice often drops to a whisper, drawing listeners in, forcing them to pay close attention, anxious that if they don't, they just may miss something of inestimable value.

Seppä began training as a metalsmith at 14, attending a goldsmithing school in Finland. Normally the school did not accept students younger than 16, he explains, but the war in Europe had left a shortage of young men able to practice gentler arts. "Well-meaning people" had noticed Seppä's skill with his hands, he says, and recommended him for the school. Four years later, at 18, he was "fully trained, supposedly" and went to work for a holloware manufacturer. "We were making coffee pots, and creamers and trays--really corny stuff." After the end of the war, he went to Denmark and worked for Georg Jensen. "That was an exciting time," he says.

In 1951, he emigrated to North America, ending up in British Columbia where he worked and taught. It was the teaching that first brought him up against a barrier of language: He didn't have the words to tell students what he wanted them to do. "When I solved someone's problem I would just take the piece and say, like that!" he says, demonstrating with his hands. "That isn't teaching."

Metalsmithing trade terms are not found in most Finnish-English dictionaries, so Seppä took what he felt to be a necessary step by attending Cranbrook Academy of Art in Michigan in order to learn the trade terms he needed. He also learned--and has been credited with disseminating--a term not in common coinage among designers then: reticulation.

Reticulation is a technique that wrinkles the surface of metals, especially sterling or specially alloyed "reticulation" silver (80% fine silver/20% copper). Working in Finland, Seppä had learned the technique from a jeweler who had worked at the Faberge studios where it was used on a variety of objects. While studying at Cranbrook, Seppä described the process to a fellow student, although he did not have a word for it in English. The

student asked Seppä to demonstrate it. So Seppä requested a sheet of reticulation silver from a friend in Finland.

It came on Seppä's last day in class. As he demonstrated the technique, the instructor, Dick Thomas, walked by and asked, "What are you doing, Heikki?"

"I said, I don't know what it's called. But this sheet is called this in Finnish, and I tried to explain. So he looked over my shoulder and said, `It looks something like reticulation.' From that moment, I adopted the word reticulation." So did the metalsmiths who now use the technique for surface embellishment.

When it came to some of the other ideas he wanted to express, however, Seppä found that the language was not established, at least in metalworking trade. This was partially due to the fact that Seppä's ideas, thoughts and processes were evolving outside the traditional metalworking forms.

Being confined to traditional forms, such as cylinders and boxes, had for many years felt like a straitjacket to Seppä. "We were only making cylinders, bowls, coffeepots and trays. Some of them were big, some of them were small but they were still the same forms. No excitement there." Seppä knew instinctively there had to be more. "I had lots of techniques that I could teach from my European background, but that all felt like standard. Where am I going as a developing person?" he asked himself. "Where is the new thing?"

He began looking at the products of silversmiths "and realized that silversmiths have lost an awful lot of forms creation since the Industrial Revolution. Machines have been made to make certain forms. The hand craftsmen were no longer needed."

Not only that, but the types of forms the machines could make--easily, cheaply, and repetitively--were finite in number. One of these forms that offends Seppä tremendously is the rotation form. (The rotation form is typified by a banister spindle that has been shaped in a lathe.) "Rotation forms are everywhere. We are their victims. There are only 7 basic rotation forms. Seven to the seventh power will give you several million. You can add some more to these by changing size, changing materials, changing color. So it looks like an infinite choice. *But it is not*!" he says in an intense whisper. "It is a *finite* choice."

By their proliferation these easily repeatable forms reduced the number of forms that craftspersons thought were available to them. They tended to fit their ideas and concepts to these restricted, machine-friendly forms. "I was so angry with this narrow lot of choice. So what I decided was just forget the function completely." When you take the function out of a formed pieced of silver, what is left? Sculpture. "Contemplation. Ideas. These are all excitement," says Seppä intensely.

Looking at historical pieces made before the Industrial Revolution, Seppä asked himself what moved the smiths to form the metal the way they did. And suddenly he saw the fluidity of the metal. "Metal is a protean medium. It is an awesome realization [that you don't have to work in the fixed forms of sheet, rod, and wire.]"

When he realized this, he says, "I felt so free. I felt, oh my lord, I'm not even standing on anything. I'm in air. That was very much the same feeling I had when I came to North America: I can do anything here."

Seppä began to push metal in any direction it would go, no longer feeling obligated to the conventions of raising he had been taught. In the process he rediscovered methods of working that most metalsmiths had ignored for many years. And he began to formulate a concept of forming and joining components that could revolutionize metalworking.

This, of course, only exacerbated his problem with the language. This was new ground. If the language had been there before, it was gone now.

Two of the first terms he applied to these new forms were synclastic and anticlastic. Both mathematical terms describe curves: the first, curves that, at a given point, move in one direction; the second, curves that, at a given point, move in opposite directions. Thus

a synclastic form is a bowl--with all the sides moving up in one direction from the base. An example of an anticlastic form would be a cuff bracelet, formed around the wrist, the edges of which fold up at a 90^{o} angle to the wrist. The curves in the bracelet move in opposite directions.

Taking his new thoughts and his budding language with him, Seppä left Cranbrook and went to teach at the Art Center in Louisville, Kentucky, located on the campus of the University of Louisville. "Those were perhaps the happiest times in my whole life," says Seppä. "As soon as I came to Louisville, they noticed me. I was in the new media almost every week. It was so uplifting." Naturally, Seppä's work sold readily.

In addition, the University of Louisville, which did not have a craft program, sent all those who wanted to work metal to Seppä. "I had to teach at the university level. The quality had to be there."

Word about this unique way of working metal began to spread and when Washington University in St. Louis, Missouri retired their metalsmithing instructor, they contacted Seppä. He went to the university for an interview. "They said, `You're it.' Classes started the next day." Seppä spent almost 30 years, from 1965 to 1992 building the program at Washington University and teaching seminars around the country.

It was there that his "shell structures program" began to blossom. He conceived of metal work made in individually handworked components that could be joined to create another form that was more than the sum of the parts. Each component he called a "shell." Each type of shell had a different form.

The program had "nothing to do with tradition, nothing to do with what had been done. The overriding thing was what <u>can</u> be done. What can I do as a skilled craftsman? As the result of that kind of thinking, the forms began to present themselves in such a way that I thought, yes, these can be made. They can enrich the whole field. We don't have to make boxes and bowls any more. We can make other things."

The shells, which curve back on themselves or fit with other pieces to create hollow forms, allow metalsmiths to build more massive jewelry that weighs next to nothing. "The shell structures program allows metalsmith to be expressive and present thoughts and feelings," says Seppä. "It's just so liberating." Many of Seppä's pieces look as if they want to fly. They swoop and move and engage the mind completely. You can't tell where they start or where they finish. They change with every angle every time you look at them.

"When the shell structures idea began to evolve, I realized it was not just a matter of substance, it was a matter of ideology. It was something that could rejuvenate the whole thinking."

The ideas behind the work energized his students. One young woman went on to graduate school at the Rhode Island School of Design after completing her undergraduate work with Seppä. "She was talking in the way I had taught her and they didn't really understand her," he says. "But when she explained herself, they said, `Oh my goodness!' The head of the school asked her, an undergraduate, to teach."

But still language haunted Seppä. "I had a hard time finding some of the terms I have used in the shell structures program. I did not invent those names; they are in your dictionary. That's another crazy thing I've been accused of, inventing words. I don't have that audacity." The words are indeed there, with their Greek and Latin roots, drawn from fields of botany, mathematics, geometry, science. (See below.)

Seppä's iconoclastic forms demanded new tools to create them. It means nothing to Seppä that a tool has been used, perhaps unchanged, for millennia. "If the idea is worth making, why submit your ideas to an old tool that only produces the same things?" he

says. There must be a real interaction between the tool, the piece you are making and the idea that is the seed of the piece, he says.

Seppä began a small tool revolution accidentally while teaching a class in St. Louis: He created a sinusoidal stake, which looks a steel rod that's taken a couple of karate chops from Superman. "Most people don't realize what can be done with a sinusoidal stake. It's just awesome how their work changes. Because of this silly wiggle in a vise, it allows them to do these things."

The stake came into being one day when Seppä was demonstrating to his class how to forge hot metal on an anvil. "I had a homemade forge burning coke outside. I demonstrated how to taper a little round rod about as thick as my finger. Then I needed to demonstrate how to bend it. So I just started to get it hot...and made a couple of bends, thus and thus," he demonstrates with his hands. "When I was done, I dropped it on the ground and the ground was wet. It happened to be hardenable steel, so it got tempered. That's how it was invented."

Seppä knew a great idea when he saw it. He began making the stakes for sale; they are available through AllCraft. Many artists make their own sinusoidal stakes to suit the work they are doing. Some cut and smooth notches in a sheet or rod of nylon and form their pieces against that. When the work is done, the nylon can be tossed out or modified for the next piece of work.

"Old tools will produce old things," Seppä says again. "Plastic tools do not dominate what comes out of your mind. You can modify them for the idea you have. The idea is more important that the old tool."

Seppä's contribution to silversmithing has been recognized by the Smithsonian Institution: Its Renwick Gallery has purchased Seppä's piece, “The Wedding Crown,” for permanent display in the renovated museum. After more than 50 years of metalsmithing, and now in his 70s, Heikki Seppä is taking a break to rest hands that have recently undergone surgery. He has retired from his post at Washington University in St. Louis, Missouri, and moved across the country to the Pacific Northwest. He has inspired a host of students to push the limits of their thinking, to push the limits of the metal, and to create, new and exciting ideas and the physical and verbal language they need to express them.

NEW WORDS FOR A NEW WAY OF SMITHING

Heikki Seppä was so enthusiastic about his new "shell structures" idea he wrote a book, *Form Emphasis for Metalsmiths*, that many people regard as seminal. Seppä is much more modest. "My first book was written in such early innocent fervor that it all came out wrong." To elucidate further, he finished a new book which was published last year--in Finnish. It has only been translated so far into one other language: Estonian. Below are some of the forms defined by Seppä in *Form Emphasis for Metalsmiths*.

- acicular -- pin or needle-shaped
- ansate -- handle-shaped
- anticlastic -- curving in opposite directions at a given point
- byssoidal -- tufted with long filaments
- catenoid -- from the curve formed by a hanging chain
- chelate -- hoof-shaped
- conchate -- spiral-shaped
- cordate -- heart-shaped
- corniform -- horn-shaped
- cuneiform -- wedge-shaped

- dentiform -- tooth-shaped
- ensate -- sword-shaped
- falcate -- sickle-shaped
- form -- a three-dimensional object
- hamulate -- hook-shaped
- hastate -- arrow-shaped
- infundibular -- funnel-shaped
- napiform -- turnip-shaped
- peltate -- small round shield-shaped
- pterygoid -- wing-shaped
- pyriform -- pear-shaped
- rostal -- beak-shaped
- scutate -- small round shield-shaped
- shape -- a two-dimensional silhouette image
- shell -- formed hollow components that, joined together, create more complex forms
- synclastic -- curving in the same direction at a given point

For more information, definitions, and drawings of many of these forms, see *Form Emphasis for Metalsmiths*, by Heikki Seppä; *Metals Technic* edited by Tim McCreight