

QUARTERLY OF THE INDUSTRIAL DESIGNERS SOCIETY OF AMERICA **SPRING 2011**

# INNOVATION

## Material Witness

AUTOMOTIVE HISTORY ■ CONSUMER ELECTRONICS ■ IN HIS OWN WRITE



# INNOVATION®

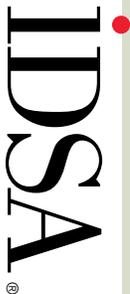


“Never miss a word.”

JBL MS-A1004 designed by Whipsaw for Livescribe; www.whipsawinc.com



Look for other Consumer Electronics Showcase designs starting on page 56.



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The quarterly publication of the Industrial Designers Society of America (IDSA), *Innovation* provides in-depth coverage of design issues and long-term trends while communicating the value of design to business and society at large.

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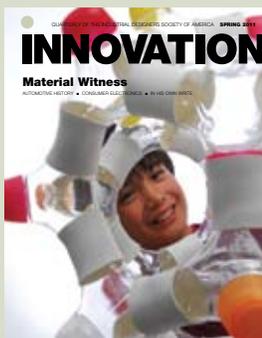
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FROM THE EDITOR

# DESIGNING *WITH* OR *FOR*?



Colin Meagher

**T**he Patagonia catalog is one of the few that does not feel like an offense when it appears in my mailbox. The photography and stories are often as interesting as the products they sell. This winter was no exception.

A full-page image of a man at a band saw caught my attention and imagination. Any image of shop equipment snaps me back to some of my best memories of studios, friends, coworkers and projects. This one was different. The guy in the picture was pushing a long rough-cut form through the saw—in it was the perimeter of a ski.

While our guest editor Warren Ginn, IDSA worked tirelessly pulling together the best in our profession for this issue devoted to materials and processes, this image bounced around in my head. What was that guy up to? What problem was he trying to solve? And how do you make skis? Something about the ski was still mysterious to me. It was definitely in the domain of something I would not try to build at home—its secrets were locked away in the alchemy of the K2 shop or assembly line.

I couldn't resist, so I tracked him down. Turns out Jason McCloskey is a furniture maker who needed a new pair of powder skis. Bewildered by the price, but not his skill and equipment, he told me, "I can figure this out."

He shared a story of research, experimentation, rocker, camber and side cut, feeling his way to the perfect ski to manage tight turns through a chute to get to the untouched powder—then to float from there. He explained that skilled hand planing was more precise than CAD and CNC to shape the core to attain perfect form and stiffness in the right places, and that he could repurpose his vacuum bag to work like a ski press.

McCloskey was trained by a master furniture maker as a traditional apprentice with an emphasis on dovetails and handwork. The down economy gave him a bit more free time to leverage his furniture studio to pursue the perfect ski, and his willingness to break boundaries led him to a new and totally unique creation.

It was no surprise to hear that his commissions for skis—custom tailored to the skill and terrain preference of the client—started outpacing the demand for furniture.

This project is a great example of how intimacy with material and process gets you somewhere you just can't go when it is at arm's length. Some of us design *for* a material use—draw it up, send it to the shop, check it out when it comes back. McCloskey is designing *with* the material. Each finished product is an iteration toward the next ideal. A memory of how the core was formed, wrapped or pressed is inside each ski. He recognizes this as a factor that often separates furniture design from industrial design.

I'm certain that because of this boutique approach, these skis are more precious and meaningful to their owners. Being more personal, they probably deliver a richer experience.

My programming wants to see McCloskey codify the designs, reproduce them and make them available en masse—but deep inside I just want my very own skis, dialed in to my idiosyncrasies and imbued by a great entrepreneurial story that was launched from a great photograph.

They are called "Flitches," and I placed my order.

—Alistair Hamilton, IDSA  
Innovation Executive Editor

## The MIT Press

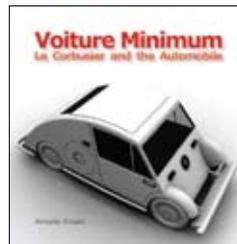


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# THE **THREE STAGES** OF **UNDERSTANDING**

**H**ere's a story I frequently share with students and young designers still unsure of their comfort with materials and manufacturing. When I look back at my first five or so years out of design school, I can describe my relationship with materials and processes in three rather distinct stages.

The first stage was a period of blind naïveté. Anything was possible and how my concept would make its way into reality was a secondary concern (if at all). Perhaps this is one of the primary reasons employing young designers can be so refreshing and energizing to a studio as they can be the source of wild new forms, trends and ideas unfettered by any bias or understanding for the realities of materials, manufacturing or the laws of physics. But for me, I sensed that this disconnection between concept and reality also represented a significant amount of risk—for my design, the client and the end user. I felt like I was working without a net, with no underlying understanding of how to convert the art of my concepts into designs that solved more problems than they created.

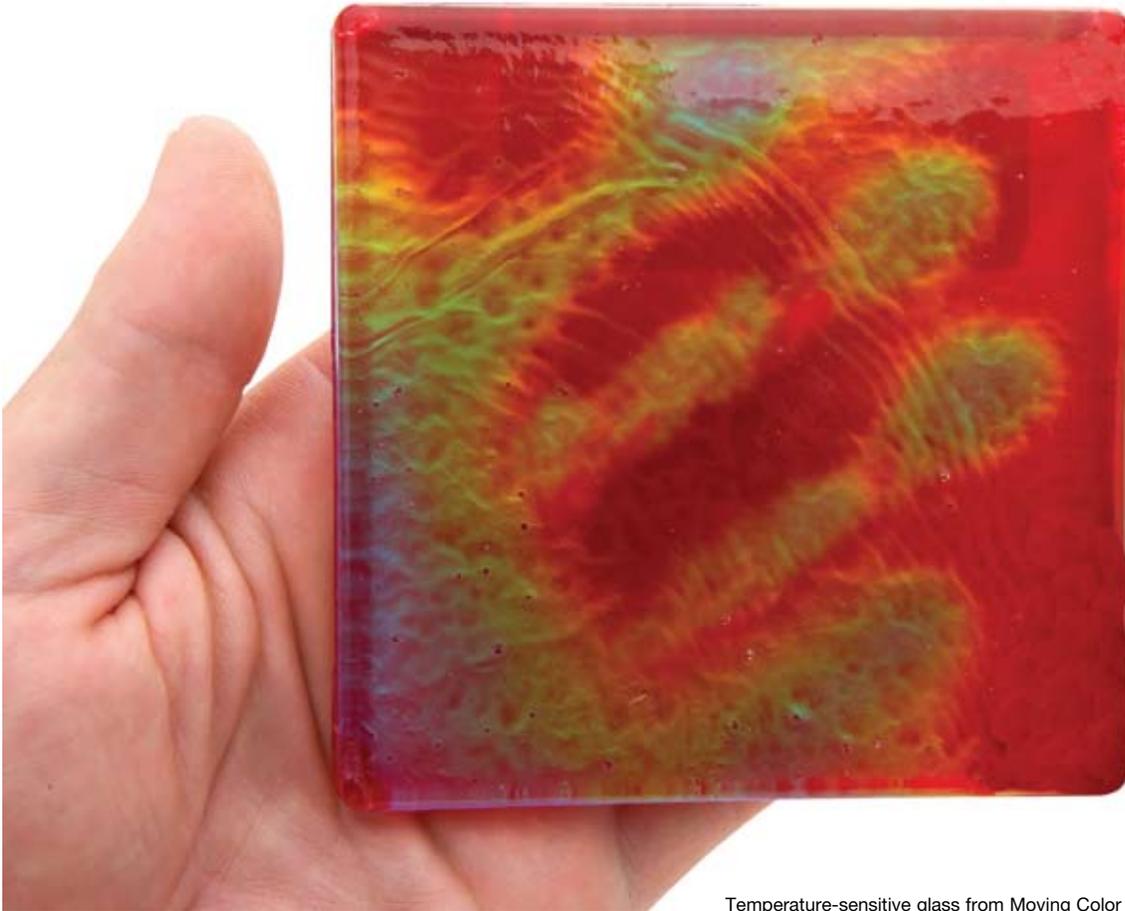
For some designers, I think that's where they wanted to remain, fearing that to know too much about the realities of materials and manufacturing would somehow "break the spell" and suddenly all their crazy, beautiful expressive forms would somehow become plain boxes with tons of draft and huge fillets. There still may be practicing industrial designers out there who have gone out of their way to avoid learning too much about all that manufacturing gobbledygook, steering clear of anything that might spoil their concepts. These designers might be looked to as futurists or conceptual designers to help us imagine what is yet to be using materials and manufacturing techniques still to be developed. For others, they might have a support team of engineers available to take the spirit of their sketches and sculptural forms and convert them into reality. Great work, if you can get it.

But for me, I sought out this information. I needed to know the truth about what materials could and couldn't do and how they could be manipulated and formed. This was in the '90s before the wealth of information on materials and manufacturing was readily available online. So I attended workshops, read books and magazines, and examined the products around me to understand how they were made.

The second stage of this evolving relationship developed with my mounting awareness of all the "rules" of manufacturing—what you had to do versus could not do, what drove costs up and how to reduce those costs, materials selection guidelines, assembly techniques, and all the spectacular failures that can and do occur in manufacturing. I became terrified that everything I designed had some fatal flaw or would cost too much to produce or, worse yet, couldn't be produced at all.

I think this might be the worst fear for any young designer: to find themselves caged in by all these rules and restrictions, no longer capable of developing designs without a manufacturer or engineer pointing out how ill-conceived it was or that it would be too expensive to produce or not structurally sound.

But there was light at the end of that tunnel. After some time learning about these rules and seeing them applied firsthand (correctly and incorrectly) and applying them to my own products, I started to understand how to work within those rules and take advantage of them. Experience taught me how they could be bent and sometimes broken. And



Temperature-sensitive glass from Moving Color

with this new confidence came the realization that these manufacturing issues could be addressed within the conceptualization process as opposed to just afterward.

This final stage is an on-going relationship with materials and manufacturing. It extends beyond understanding those rules to embracing them. With the ability and confidence to apply that knowledge, my own criticisms can be suspended to experiment and ideate, knowing I can address those issues when needed. By owning this technical experience, this periodic materials-and-processes review takes place within my own design process.

Obviously, developing this expertise takes time, and there are always new materials and manufacturing technologies to learn about. But with this sensitivity, form and concept development, as well as manufacturing and assembly methodology, can take place within the same cyclical concept-critique-refine loop. So when it's time to do a review with an engineer or manufacturer, I've already considered many of the issues that will most likely be discussed and have already accounted for them in the design. And if not, I'll at least understand what they're talking about.

Developing this experience, comfort and confidence has had an additional benefit when working with other team members: empathy. Great design starts with empathy and an understanding of what people need and do and not just what they say they want. This sensitivity extends beyond the user and into the needs of engineers, manufacturers and suppliers—all having a vested interest in the product's success. If you can understand their language (maybe even translate between different disciplines), anticipate their needs and identify with their concerns, you can remain engaged in the design process longer to better serve the end product.

Despite the advances in interface technologies and on-screen experiences, we still live in a physical world of materials and manufactured objects. Our sensitivity to these materials and how they are transformed into the objects we interact with remains central to our roles as industrial designers. What follows is a series of articles from designers and professionals who have embraced materials in their work. They remind us that design and materials are intimately intertwined and when designers take the time to truly understand them and what's possible, amazing things can happen.

—Warren Ginn, IDSA  
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*Ginn is principal of Ginndesign, a product development firm specializing in product design utilizing materials and processes for medium- and low-volume production. He currently serves as IDSA's Professional Interest Section VP and was previously chair of IDSA's Materials and Processes Section for over 10 years.*



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