



By Mark Rolston

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SATISFACTION

Mick Jagger is a beautiful man. That's not to say he's good looking; who can overlook that large mouth, those slightly off-kilter eyes, that slur? Neither is it simply a matter of him being a rock star, though that's certainly a part of it. He has neither the most beautiful face nor the most beautiful voice, the best style nor the best music. But what he does offer is an uncompromising singularity, a fully embodied personality that draws us inevitably toward him—the Mick Jagger Phenomenon, if you will.

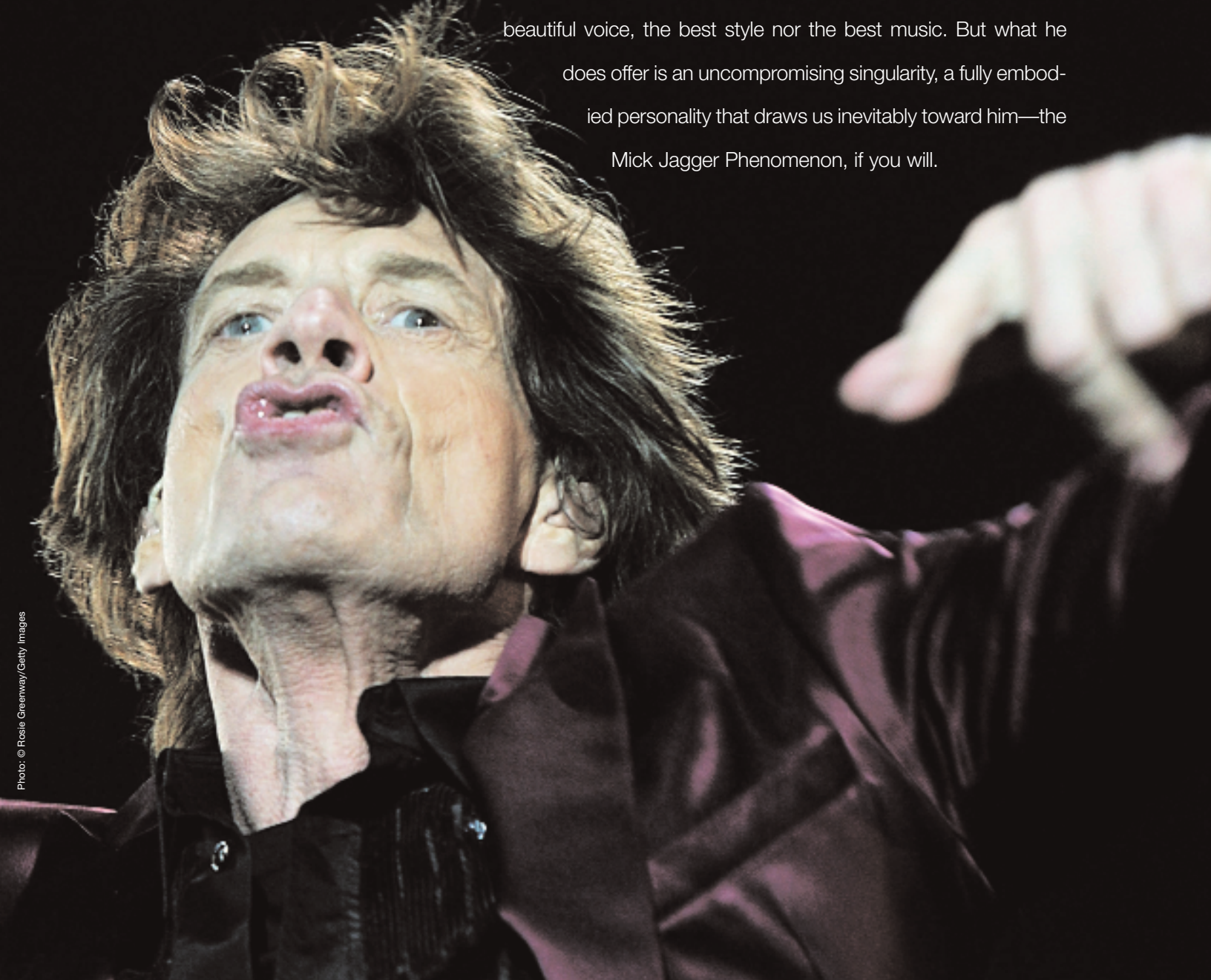




Illustration: Mark Rolston

Design is more complex than ever before and the role of designers is to make sure that this unfamiliar new landscape remains easy to navigate.

This phenomenon can be found in most things we call beautiful. Looking at Jagger, you don't see a hybrid set of choices and opinions. He is who he is. You feel that there's a distinct core identity from which it all radiates—and that singularity is his beauty. And it is this quality that we, as designers, must capture in our products.

We have long sought to give our clients that *je ne sais quoi* that drives market success. We strive to express the core values of each product, brand and consumer in the function and aesthetics of our work. But too often what we end up with is the average of multiple considerations—of client and consumer desires, of digital and manual functionality. We end up with the Monkees instead of the Stones. It has become increasingly difficult for form to follow function or emotion or consumer identity, leaving designers without a clear direction. Why is this happening? Because the complexity of our products is greater than ever before.

The Map Has Outgrown the Territory

Capturing the essence of a product used to be a more direct process. Fifty years ago, a product's appearance primarily reflected its functional demands. Over time, this simple charge expanded to embrace globalism, branding, emotional and cultural considerations and, eventually, what was supposed to be the great catchall of the design process, user experience.

Yet there was more on the horizon. As the writer Bruce Sterling put it, borrowing a bit from Jean Baudrillard and applying it to design, we are now approaching an age of technological advancement when "there is more stored in the map than there is in the territory." More simply, **the story surrounding a given "thing," product or service, is rapidly exceeding the value of the thing itself.** No longer easily

defined through form factor, a product's identity comes through the information that encases a product, passes through it and is accumulated by it over its lifetime. This emerging product universe covers far more than we are used to considering in the creative equation: the social implications of its existence, the ecological impact of its creation, the role it plays in a system of multiple devices and the social community developed to manage, discuss and enjoy it. Sterling calls this new modern thing a "spime"—and it has massive implications for design.

There is a second effect at play as well. As the conceptual scope of our work expands, the design artifact—the object—must assume a new role as an identifying symbol, an icon for a much larger set of relationships. Human nature will always seek a focal point—a singularity—to recognize, capture and associate with the greater notions at hand. No matter the complexity of the relationship, it is always the artifact with its physical or digital touchpoints that attracts us first.

Most vital among the relationships that surround a product is the relationship between object and user. It is this relationship that designers confront first and foremost in our every assignment, no matter the industry, no matter the scale. And it is this relationship that drives, in part, the growing virtualization of our products today. The introduction of digital technology into homes, cars and toys reflects the capacity of everyday objects to interact with us more directly, understanding our needs and providing the best possible solution. By using computers in these diverse applications, designers have enabled a stronger mutual relationship between people and products, whereby users act upon objects and objects act upon users as well.

Whereas once the value of an object was self-evident and its utility communicated by its outer form, the value of today's objects often comes in hidden, computerized form, such as the GPS unit in a luxury sedan or the motion sensors in a doll. Traditionally, intuitive design meant offering the user an immediate understanding of an object's features and functionality; a toaster should look like a toaster. This immediate understanding is no longer possible, nor even desirable, by means of form alone. And so we must improve the connection between industrial design and software interface, allowing the virtual story to augment—and in some cases supersede—the meaning once communicated by form alone.

The integration of industrial design and user interface is critical if we are to help users navigate the increasingly complex systems that pervade our world. We must reject the tendency to force a traditional form-based story into the design of our virtual products. The consequence of forcing physical interactions where a digital apparatus makes more sense is often nothing more than a useless appendage. This isn't to imply that industrial design is being overrun by software GUI design. My use of the term *form* applies to both disciplines. It's not hardware versus software, but the object versus its story. This is the new virtual nature of the thing.

Inventing the New Analog

Perhaps we might amend our design process to focus on the space between traditional industrial design and software design—a third field of design between physical and digital concerns. This new design discipline would ensure that the semantic clues in the industrial design of a product (the form and mechanical design for controls) align with those of the software interface (the input-output alignment with the hardware and the alignment in user-interface mechanisms, style and iconography), offering users a truly intuitive understanding of the product at hand. Bridging the disciplines offers us a chance to loosen the slavish linking of a product vision to its external form.

The first step is to break out of the existing paradigms to better address the realities of human behavior. **Rather than teach users to operate within the digital world, we can amend the digital world to better reflect the sensuality of human existence.** A large percentage of human communication is unspoken, our messages conveyed via gestures, simple words, facial expressions, body movements. As we seek to naturalize the human-computer interface, we must integrate these behaviors. But we also need to keep in mind the suitability of these models.

Even the earliest concepts of human-computer interaction predicted technologies that would engage in traditional communication modalities, such as speech (HAL in *2001: A Space Odyssey*), physical motion (*Minority Report*) and touch interaction (*Star Trek*). Unfortunately, early processing power could only handle the most basic inputs. Checked by such limitations, designers forced users to adjust their input methods to accommodate these constraints—a modification of natural behaviors that has not been reversed since. Therefore, while we've engaged the

general concept of human-computer interaction, we've failed users in the desired fidelity, the comfort of direct interaction between person and product.

Finally, we have reached the point when technology can enable us to reengage several of our natural behaviors. Much of it comes down to touch. It's fundamental to the human experience, yet so far the modern computing experience has been devoid of it. Humans have a touch vocabulary potentially richer than even our verbal dictionary. We deeply understand how to tap, drag, push, pull, flick, drop and toss the world around us. Introducing these interactions into the computing experience promises to radically change our engagement.

The visual system of windows, files and folders that makes up our computing experience originated in simple office-equipment analogies but has since exceeded its analog counterpart in conceptual depth and possibility. We're even finding new digital-world comforts (searching, hyperlinking, RSS feeds) taking over early analog metaphors ("Let's drill down on that idea" becomes "Let's zoom in on that") and even spilling out into our analog realities. To delineate the interaction between the physical and the virtual, to embrace the underlying digital-, social-, scenario- and intelligence-based nature of products, we must expand beyond our traditional form metaphors to seek new, more dynamic cultural reference points.



Illustration: Mark Rolston

When computers come to resemble humans too greatly, these robots would elicit a feeling of revulsion.

While data infrastructure and underlying technologies have radically changed, the means of getting at these experiences, the interface itself, has remained definitively old world. We still stare at screens, conceptually no different from those found in televisions and movie theaters. Their form was derived from the notion of “moving pictures,” itself firmly rooted in the traditional arts of photography, painting and drawing.

To naturalize the interface, we must do more than refine our analog-to-virtual iconography; we must embrace and evolve the technologies that dictate our input and output methods. We must move the screen and keyboard paradigm out of its modality (“time to use the computer”) into the rest of our lives. Pervasive computing, improved mobile devices and more radical ideas, such as electronic ink, promise to change the situation, but we’re essentially still stuck with the modality. Computing, and through it access to the whole of the thing (Sterling’s spime), is still modal. We’re getting much better at weaving in and out of the computing experience (watch someone operate a BlackBerry in the middle of a conversation) but regardless, it’s still two separate worlds.

Bridging the Uncanny Valley

So what do we do, as designers, once we have created a product that makes use of natural human tendencies of interaction and understanding? We make another. And another. Alone, these stand-alone expressions of value, function and ideas waste precious resources—and opportunities. Connected, they have the capacity to change the world. The solution looks a lot like human society. We depend on each other, and so it should go with our products. As the computer-centric product universe becomes interconnected, the value of a given device no longer stands alone—an idea that is gaining traction with corporations that are just now recognizing the utility of product ecosystems.

Since the advent of crowdsourcing, products are now dependent on the interactions and ideas of their users. Many of the most innovative new products are conduits for the content and conversations of their users. The value and purpose of these products lie in the hands of the consumer, not the original designer. Designers today are part of a much longer creative chain.

These changes affect the ongoing virtualization of a product. In this new, interconnected digital world, a product



Illustration: Mark Rolston

is about more than its basic functionality; it’s about where it comes from, what it does, what it communicates, what we feel about it and what happens to it when we’re done. And this information evolves over time. In this context, our products must also be conceived as processes in and of themselves, moving forward from production through use and reuse and into disposal. The future of product design is, indeed, convergence.

But it is convergence on a scale much broader than hardware and software working together; it is a convergence of information and object, of politics, ecology and business, of human being and technology.

When a product’s map outgrows the value of its territory, when value becomes so bound up in digital- and systems-based qualities that we are left without anything to point to, it is the role of the designer to reintroduce the element of beauty—a true singularity. People will always encounter objects with their senses as well as their intellect. And this physicality is still a deeply desirable part of a product experience. Designers must provide a vessel for internal functionality that conveys an impression of purpose, cultural relevance, beauty and value. Form carries the responsibility of setting the user at ease with technology; it should connote value, invite use and reinforce brand attributes. Even a product in motion will come to rest and, like a beautiful painting, it must tell a story even in stillness.

Masahiro Mori, the Japanese roboticist, theorized that users would naturally encourage the humanization of robotics—to a point. Then, when computers come to resemble humans too greatly, these robots would elicit a feeling of revulsion. This critical inflection point, the space between robot and human, is known as the “uncanny valley.” When a designed artifact does not fully embody its authentic origin—humanity, in this example—it will always be met with some level of repugnance by the user. Crossing this valley is the essential challenge we face in bridging the gap between today’s outdated product design and the singular, meaningful artifacts we hope to create.

What is this element that allows us to move from a mere aggregation of functional and aesthetic inputs to a smarter, more unified product vision? We can never say exactly. Bruce Sterling calls this quality “designery.” I might call it art. But whatever it is, Mick Jagger has it. And we, as designers, had better start looking for it. ■