thoughtless acts?
observations on intuitive design

by Jane Fulton Suri + IDEO

CHRONICLE BOOKS
SAN FRANCISCO

The first glimmer of the premise for this book came to me in Scotland way back in the seventies as I walked through bleak urban landscaping, just north of Glasgow city center. I'd been interviewing families about their lives in the notoriously ill-conceived high-rise apartment scheme known as the Red Road flats.

As I was leaving, I snapped this black-and-white Polaroid picture of a young boy. He and his friends were taking turns riding on top of the building's boiler room door while the others were pushing it open and closed with varying degrees of vigor. They were most likely damaging the door hinges and technically committing an act of vandalism. But I felt I'd glimpsed something more interesting than that, something subtle but powerfully relevant to the practice of design.

Looking at that picture, I wondered about how designers might be influenced by images like it: visual evidence of the realities of everyday behavior, of design in use. Might reference to such images help designers to be more sensitive to people's experience and needs? The boys here had gathered

to play with the only dynamic and noisemaking element in the landscape. Who had thought about the needs of ten-year-old boys in designing this housing complex? And who, having witnessed the behavior of ten-year-old boys in almost any culture in the world, could fail to notice how they are attracted by opportunities to move and challenge physical limits?

Things used in unintended ways, in this case the boiler room door, usually indicate something about people's needs. And needs often translate into design opportunities. Here was a clear demonstration of both need and opportunity to provide these residents with means for safe but boisterous play.

And not only was this a starkly dramatic expression of *need,* it was also a revelation about the boys' *experience.* While they played with the door, they felt directly the effect of levers, pivots, and the resilience of metal and wood. Through bodily interactions they were learning intimate lessons about the behavior of materials and mechanisms that would guide their interpretations of things they would encounter in the future.

In daily life we make interpretations about the stuff around us all the time–how it might work and what we can do with it. We develop an exquisite awareness of the possibilities and sensory qualities of different materials, forms, and textures. This awareness is evident from our actions, even when we are not conscious of them–these are our "thoughtless acts." Understanding these intuitive interpretations might be a significant source of insight for designers.

inviting curiosity

That Polaroid was the start of an idea about observing and documenting everyday interactions as a contribution to design. Many years of collaborative work with creative and thoughtful colleagues has evolved that idea, so that now it has become standard practice within IDEO's human-centered design process. The starting point for most of our projects–whether related to products, spaces, or services–is observation of behavior in its natural setting. Teams do this together, along with clients, as a way of learning firsthand about the context, habits, rituals, priorities, processes, and values of the people we are designing for.

We have assembled this collection of humble images as a way of sharing this approach in an experiential way. It is an invitation to look, in a newly focused way, at ourselves and our everyday environments. The idea is to reveal how unexceptional incidents, looked at from an inquisitive stance, can inspire thoughts about design opportunities and consequences. We have presented the images in the hope of making the experience of looking at them akin to encountering incidents in the real world: life without captions. (At least until page 182, by which point there should have been ample opportunity to just look.)

There are no definitive explanations. Each image is meant to provoke curiosity and encourage the observer's own interpretation and speculation about the situation. What qualities have been recognized and exploited here? How "thoughtless" is the behavior actually? What are the implied human motivations and needs, and how might design respond to these?

For example, the picture on page 138, of open umbrellas resting on parked scooters in the street, might suggest myriad functional opportunities and scenarios: for street furniture with shades, for vehicle seats finished with less heat-absorptive material, or for garments with insulated seats. It might also indicate opportunities for additional ways to support self-expression, identity, and status among vehicle owners and riders.

We hope that observers will take this same lens to the real world to enrich their own perceptions. There are great rewards in giving in to curiosity about behavior—about even really mundane things such as how we choose where to place a hand to pick up a paper cup full of coffee, or pause to take in the scene as we enter an unfamiliar building. The key is looking carefully at what people actually do in various situations and asking ourselves questions such as these to explain what we see: Why has someone placed this object here? What are those people doing and why are they grouped like that? Why is it that people apparently avoid being here? Curiosity will reveal meaning behind these nonspectacular interactions that take place around us all the time.

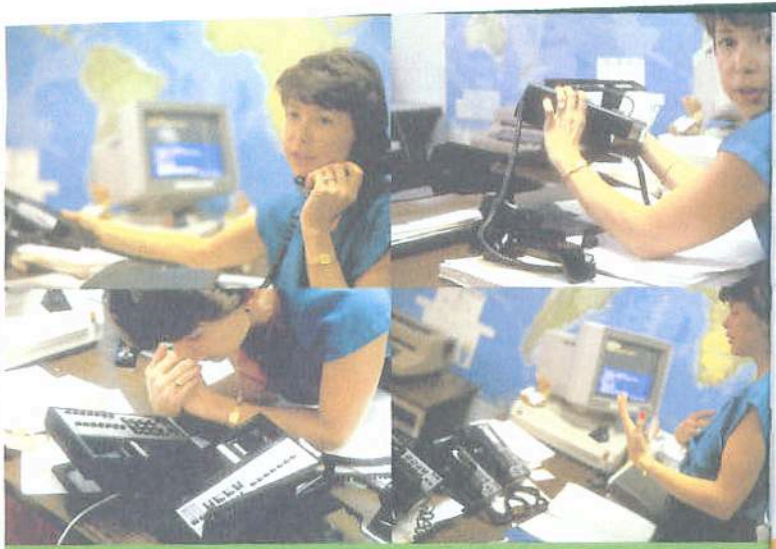
inspiring and informing design

Examining these everyday interactions, we discover a lot about how we engage, adapt, and make sense of our surroundings. We see directly how design plays into our lives, how we actively shape our environment, and how we in turn are shaped by it. Observing such interactions can inspire new design opportunities and guide better solutions in several valuable ways:

Highlighting needs and problems worth solving

First, as already foreshadowed, is the idea that observation of people's everyday interactions can help design teams discover what people need in a given context and hence the opportunities for design. Everywhere we look there is evidence of people's creativity in reinterpreting and adapting things, improvising solutions to make up for something that's missing or poorly designed. Design teams can find continuous inspiration in the kind of designing that we all do to achieve what we want. Quite simply, this kind of observation can be a direct source of ideas for design. It's a mistake to interpret observations too literally, though: the world doesn't need a unique design solution for every creative adaptation we see (that's the kind of stuff that ends up advertised in in-flight catalogs!). Rather, we should look for patterns that point to more universal need. When we dig deep enough, behavior that might at first seem arbitrary, surprising, or idiosyncratic usually has an insightful explanation.

A good example of this is our observation of a travel agent who had developed her own unique way of making conference calls. She'd gather a group of phones, one per participant, on her desk. She'd then call one person on each phone separately, switching each to speakerphone so that eventually they could all talk together. She would mute people in and out as needed and could confer privately with callers by simply picking up the handset. If she wanted just two of the parties to talk, she'd hold the two handsets together, mouthpiece to earpiece. Highly idiosyncratic, her workaround solution enabled her to keep track visually of the active connections between callers, something that current systems do not do well. This observation dramatized a universal problem and



Highlighting needs: working around conference-call difficulties

PETER SFREENBERG

inspired us to design a conferencing system that would indicate clearly the status of participants' connections.

Freeing us from existing paradigms, through a focus on action

Observing people's behavior helps design teams break through limitations imposed by existing solutions and come up with innovations that better support people's activities and experiences. Observation forces us to focus on the *actions* that we are trying to support through design, rather than the *things* we will ultimately produce. Bill Moggridge, cofounder of IDEO, talks about designing "verbs not nouns" to characterize this focus on behavior rather than on objects. This

PHOTO: HIDETOYO SASAKI

approach to design roots it in human activity—and demands a high degree of sensitivity about what people are actually trying to do and what they enjoy. Redefining the design problem this way can lead to new and better ideas.

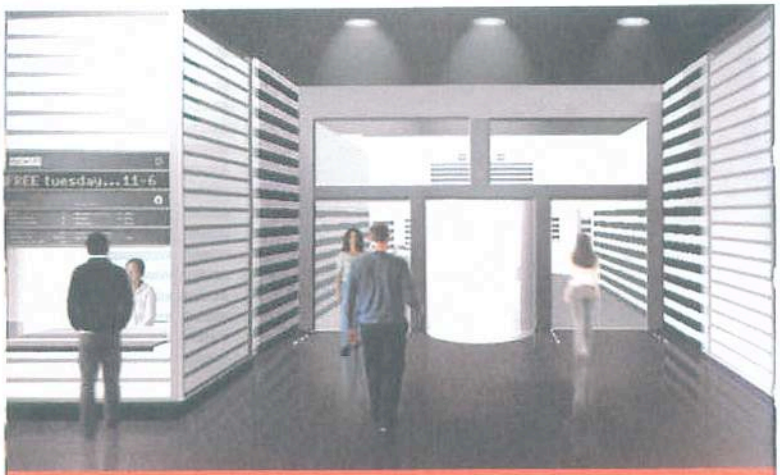
Focus on action: concepts to support breakfast, for Matsushita

NAOTO FUKASAWA, SAM HECHT, AND TAKESHI ISHIGURO

Here the design team developed breakfast concepts, for consumer electronics maker Matsushita, that support the rituals and experience of making and consuming breakfast. The focus was on "toasting bread," "stacking toast" before eating it, "juicing oranges," and "drinking juice." Thinking about the activities, rather than the "juicer" and the "toaster" themselves, led to new ideas: a toast-rack lid for the toaster and a straight-into-the-glass juicer.

Revealing what is intuitive, helping us design appropriate cues

Observation helps designers configure material elements and qualities into intuitively recognizable and understandable forms. Usually we want products, spaces, and services to communicate



Appropriate cues: way-finding at the San Francisco Museum of Modern Art

their purpose and how we can engage effectively with them. Design teams usually intend to provide cues that people will understand, so that people will realize intuitively "I'm supposed to grab this latch here and push," or "I'll stand here to wait for the train," or "I expect the printout to emerge here." So it's important to understand the features, forms, spaces, materials, and colors that suggest use in particular ways.

The psychologist James J. Gibson, in his book entitled *The Ecological Approach to Visual Perception,* invented the term "affordance" to explain his theory that we perceive the environment in terms of its possibilities for action–in other words, what objects or spaces "afford."[1] Hence we see possibilities for sitting, nesting, throwing, containing, and so on.

Applying this concept, in *The Design of Everyday Things,* Don Norman discusses how "perceived affordances" cause us to respond intuitively to features of objects and environments.[2] It is usually a goal to ensure that people's intuitive responses are "right" and helpful. But sometimes features mislead us. Everybody's had the frustrating experience of trying to pull a "push" door or twist off a "pull" cap! This happens when perceived affordances, cues, are misleading or unclear.

Observation can sharpen our awareness of how people respond to particular arrangements and elements; we notice what people already do intuitively. And that helps us make better predictions about how people will perceive and interpret the things we design so we can better elicit the kind of response we intend.

The San Francisco Museum of Modern Art asked us to help visitors find their way into the building and to the ticket counter more easily, without a continual need for help from the staff. We began by watching visitors as they approached and entered the building. Large numbers of people approached the doors cupping their hands around their eyes to peer inside. The set-back doorway of highly reflective glass made it impossible to see into the space from the street, so visitors couldn't tell whether this was the right place or whether it was open. Once inside, visitors were faced with a choice of two counters that appeared to be identical, though one was for members and the other for nonmembers. We redesigned the entrance with a well-lit information display and ticket office that is clearly visible from the street and draws people's attention as they approach.

Tuning us in to cultural patterns and meanings

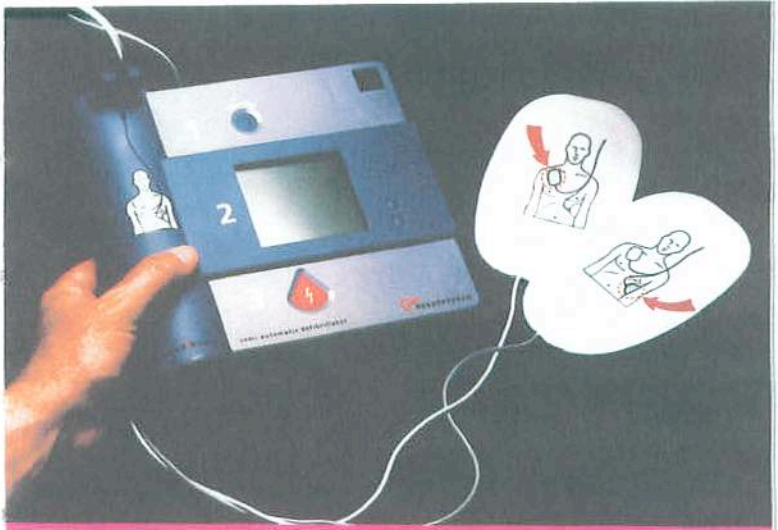
Observations help us become more sensitive to sociocultural habits and the meanings conveyed by particular design attributes. The intuitive reactions described above are essentially wired-in responses to physical attributes, but many other reactions and habits depend on socialization and cultural learning. For example, a café-au-lait bowl is a perfectly good *physical* form for serving up cereal or beef stew, but such use might raise a smile from someone steeped in French culture who would immediately associate its particular shape with drinking chocolate and coffee. Awareness of cultural patterns and learned meanings can help us avoid mistakes and build on familiar interactions.

In his workshop series called *Without Thought*, Naoto Fukasawa has explored this kind of learned-but-unconscious knowledge in conceptual design studies.[3] He refers to it as "active memory," emphasizing how our knowledge about the world is built up through engagement with it.

The configuration of this defibrillator, designed for Heartstream, deliberately references the asymmetric physical form of a closed book. The spine, housing the capacitor, is on the left and the information panel on the right. Building on Western people's familiarity with handling books, which are read left to right, top to bottom, we saved precious seconds in emergency deployment of the device by suggesting at a glance how to safely carry and lay it down ready for use.

Uncovering emotional experience

Observation of naturalistic behavior helps design teams to sense and respond to people's subjective emotional experiences.



JON BISHAY, NAOTO FUKASAWA, JANE FULTON SURI, SIGI MOESLINGER, AND BEN SHAW

Cultural patterns: prompting familiar interactions with an unfamiliar device, for Heartstream

Observation reveals *what* is happening, but it takes interpretation and speculation to understand *why*. Of course, sometimes there is someone we can ask, but often we notice behavior or evidence and no one can tell us for sure what it means. Interpretation and speculation inevitably take us a step beyond the purely objective to a subjective level, where we draw on empathy. We have an empathic sense, for example, of what the girl is feeling as she cools her forehead with a chilled soda can (page 69), and the connectedness that the girls feel as they drink their tea in unison (page 126). Good design is not just about function; we want it to connect to our feelings and to promote positive emotions. It's tempting to ask

people to describe their emotional connections to places and things, but since much of this occurs at an unconscious level, it can be sometimes more informative to look directly at behavior: actions really can speak louder than words.

In designing a new stroller for Evenflo, the baby-care product company, the design team watched lots of parents transporting babies and toddlers around. Some discoveries led to purely functional improvements: larger wheels for better maneuverability, more space for shopping and family paraphernalia. But also we observed many parents and guardians stooping to connect with their child, practicing language and social skills as they named and reacted to people and things they encountered in the street. Because children were low down, they missed a lot of interaction. It was this observation, and not what parents told us, that revealed how a stroller would ideally support learning and bonding more effectively. So a key innovation, a higher seat for better interaction with the child, came about through recognition of the emotional experience of the parents and children, observed from their behavior.

LARRY CHENG, JESSE FOURT, FRANK FRIEDMAN, ANNETTA PAPADOPOULOUS, BRYAN WALKER, AND TIM WOOD

Emotional experience: enhancing communication through the height of a stroller, for Evenflo

Harnessing tacit knowledge to inform the design process

Observation reveals that we are all active in arranging and adapting things–that everyone is an expert in the design of efficiency and convenience in their own world. There is evidence of this here: the temporary office in the airport lounge (page 62), the mechanic's ceiling-mounted directions (page 116), the spatula stuck through butter to create a handy griddle-greasing tool (page 90), and the cup that signals co-workers that coffee is not available (pages 150–151). Each of us possesses unique knowledge that we use in creative ways to achieve our personal and social goals. This intuitive expertise is a very important resource for design because it represents know-how that has been built and honed often through years of experience. But often it has also become so deeply embedded that it is not immediately apparent, even to those who possess it.

As professional designers we have the opportunity not just to watch but also to work with the people who embody this knowledge and will be impacted by our work. Recently at IDEO we have been exploring ways to involve our clients, end users, and other people in observing, explaining, and questioning their own and other people's day-to-day behavior. By encouraging

them to notice and document their habits, workarounds, unspoken rules, and cryptic signaling systems, we can work together to uncover the opportunities for improvement. Then we can also evaluate and refine new ideas and prototypes with a sharper awareness of the realities of the living context.

To improve the experiences of patients in the De Paul Health Center in St Louis, Missouri, we worked with an internal team of doctors, nurses, transporters, auxiliaries, and others. They observed and documented their own and their patients' behavior and experiences. They worked with us to tell their stories, interpret their observations, derive design principles, generate ideas, and then quickly build prototypes from easily found materials that they could test and refine in situ. They have now instituted these methods as part of an ongoing program around their entire hospital system to promote a democratic form of innovation among the staff working in specific units.

PETER COUGHLAN, FRED DUST, JEROME GOH, AND KRISTIAN SIMSARIAN

Harnessing tacit knowledge: healthcare workers involved in design of hospital experience, for De Paul Health Center

Inspiring more flexible and enduring solutions

Finally, observations of everyday interactions can impress and inspire teams to achieve more flexible and enduring solutions. We will notice an inherent economy of effort and materials expressed through intuitive design. Witness the many examples in this book that show materials and artifacts being adapted, extended, and reused in flexible ways–whether it's the space heater doubling as a coffee warmer (page 68), the tunnel walkway used as an acoustic element (pages 82–83), or a shelf where people deposit their used beverage containers (page 136). There is a kind of self-contained elegance and tidiness in these ad hoc solutions. Human beings have evolved with imagination and an ability to create and make do. This ability serves us well, not just in times of scarcity but also in times of abundance when our ingenuity enables us to make good from the resources around us.

Many people nowadays are disenchanted by the obligation to design, produce, or purchase a plethora of short-lived, disposable, single-purpose, or single-use items and are interested in finding solutions that create more enduring value for everyone involved. There are many fine examples of vernacular adaptation and ingenious reuse to serve as inspiration; we should take heart from the evident ease and pleasure with which we all fashion useful and enjoyable situations from the things we encounter in daily life.

going into the world

Seeking inspiration from real life is a surprisingly obvious idea, but it is easily overlooked when we become preoccupied by our professional roles, with their traditional domains and established processes. There is a lot of inertia involved in breaking away from habitual ways of working, even to do something as simple as leaving our offices for a while to go out into the world and observe directly what's happening there. It won't immediately come to mind as something to do and at first perhaps won't even feel quite like legitimate work.

But for people who regard themselves as tasked with problem solving or innovation, it is imperative to encourage and elevate the practice of observing everyday events. Directly witnessing and experiencing aspects of behavior in the real world is a proven way of inspiring and informing contextually relevant ideas.

A cornerstone activity of IDEO's innovation and creativity workshops is precisely this kind of observation activity. We start by going together in teams into the field with cameras and notebooks to watch people doing specific but very ordinary things and then return to tell our stories and interpret what we've seen. The insights that emerge from careful observation of people's behavior, around something as apparently mundane as sorting laundry or buying coffee, uncover all kinds of opportunities that were not previously evident.

Recently we took designers and executives from an electronic gaming company to watch children playing different kinds of competitive games. I went with a team to watch an interschool wrestling match where we noticed, among many other things, how fathers were yelling advice to the boys and excitedly demonstrating holds and moves from the benches. Sharing personal stories about what each of us had noticed, we developed new perspectives about competitive games. My team had realized viscerally that spectators make connections with players and can contribute actively to the ambience and excitement of a competition. With hindsight, that is not a dramatic realization, but one that had eluded the team until real-world observation focused attention on it and inspired thoughts about many new possibilities for interactive gaming around this active rather than passive role of spectatorship.

Once we've decided it's okay to observe, it's really not difficult. But it does take discipline to do it systematically and with attention. We are so used to moving efficiently through the world that we operate on autopilot a lot of the time. In fact, the phrase "thoughtless acts" highlights the predicament—we do most of the everyday things we do without consciously thinking about them. So, unless we make a special effort to focus, we just won't notice things such as the way we position ourselves in a line, know where to deposit mail, or use information from reflections in a window. Usually we notice these things only when our normal flow is disrupted and we are forced to think about our actions and assumptions: as when we are abroad somewhere and confuse a mailbox with a litter bin, or when a new colleague asks us to explain how the coffeemaker works. Then we become more aware and analytical about the signals we look for in our day-to-day interactions. So, the discipline of routinely looking and noticing involves deliberately attending to things that we normally take for granted. It means asking questions from the

naive and curious perspective that we might have visiting a place in which we are unfamiliar with the people, their habits, customs, and objects. Why are they doing that? Why there? What is that? How would I know that?

We hope that the instances depicted in this collection will raise the profile of ordinary events and frame them in ways that encourage greater attention and respect for them. The world out there is full of examples of people acting intuitively with things in delightful and surprising ways.

Please let us know what you see. You can contact us via thoughtlessacts@ideo.com

— Jane Fulton Suri

REFERENCES

1. James J. Gibson, *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979).
2. Donald A. Norman, *The Design of Everyday Things* (New York: Basic Books, 1988).
3. Naoto Fukasawa, *Without Thought 1–5* (Tokyo: Diamond Design Management Network, 1999–2004).

notes on the photos