



Living with Complexity

Donald A. Norman

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Why we don't really want simplicity, and how we can learn to live with complexity.

If only today's technology were simpler! It's the universal lament, but it's wrong. In this provocative and informative book, Don Norman writes that the complexity of our technology must mirror the complexity and richness of our lives. It's not complexity that's the problem, it's bad design. Bad design complicates things unnecessarily and confuses us. Good design can tame complexity.

Norman gives us a crash course in the virtues of complexity. Designers have to produce things that tame complexity. But we too have to do our part: we have to take the time to learn the structure and practice the skills. This is how we mastered reading and writing, driving a car, and playing sports, and this is how we can master our complex tools.

Complexity is good. Simplicity is misleading. The good life is complex, rich, and rewarding -- but only if it is understandable, sensible, and meaningful.

Living with Complexity Details

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Karen says

Was drawn in by the cover design and concept. The entire book is printed in sans serif type. Is that supposed to be indicative of less complexity?

Read on a design site that when something is printed in a font that's hard to read, greater understanding is the result due to forcing the reader to decipher the content.

It's also annoying.

Bill says

Another interesting book from Norman. Someone first gave me The Design of Everyday Things in grad school and I still hear its echoes almost every day in conversations about design. This book is not as groundbreaking as that earlier one, but I still found it valuable. The thesis of the book is quite simple: despite calls for "simplicity" we all actually want complex tools to deal with the complex world, so long as they are designed with care and empathy so that they can be mastered with appropriate time and effort. He gives interesting examples for each principle, and unlike in previous books spends time away from the world of products and screens on "service design" which was new to me and very relatable. His style is dry but humorous. I can tell Norman would be a very entertaining lecturer. If you've grown accustomed to the dumbed-down prose of bullet-list business books for the busy CEO, you might not immediately like Norman's style, but for the same reason I really appreciated it.

Dale says

If Donald Norman had written nothing else prior to this book I would probably rate it higher. But by comparison to his earlier books, this one seems disjointed, discursive, and dull. If you're interested in design, I would recommend his 'Design of Everyday Things' and 'Design of Future Things'.

Sandro Mancuso says

This book was a bit frustrating as it mostly state the obvious. There is nothing new or groundbreaking there. Still don't know if the book is about design, complexity, or both(?). Regardless, it is shallow in both.

Mike says

Living with Complexity is an unfocused, incoherent, and redundant mess. The thesis statement presented by Bud Peterson in the foreword - what he thinks this book is about - is only applicable to the first few chapters and the last two. The rest seem like an old crank's ramshackle observations borne from a designer's penchant for exacting fussiness. Occasionally the examples are spot-on: unsightly wires connecting to a poorly-located outlet in the center of a conference room, and other times they are downright wrong. Norman praises the open layout of a bank for its so-called customer focus, even though it blatantly ignores bank customers' preference for privacy, a discomfort with overheard conversation about ones' personal finances, and lastly, this design is meant for people who are able to stand and is therefore discriminatory toward the wheelchair-bound. No wonder the other banks condemned this layout. Norman thinks the banks are wrong, though to avoid a lawsuit for shitty and unfair layout, and there are many moments like this where Norman simply refuses to think things through.

Another is his total confusion as to why certain social signifiers in dinner etiquette - where to put what silverware and how to drape one's napkin - are so mystifying. He chalks it up to some sort of happenstance lack of public awareness, and completely misses the OBVIOUS point that these protocols are purposefully obscured so as to signal whether or not a person has social status or class. Certain signals given between people are meant to draw those socio-economic boundaries or, if not that, then a very narrow in-group/out-group dynamic. This is the low-hanging fruit of social psychology, and Norman doesn't even acknowledge it. It's a glaring omission in his chapter on social signifiers.

Norman fails to get the joke when an engineer says, "If only we didn't have all these people around, our machines would work just fine" (114). Clearly a wry remark, a brief aside oozing with dry wit, yet Norman sees this as a sincere remark, a harbinger of tone-deaf design that is causing the encroaching apocalypse at the hands of callous misanthropes. He takes an inside joke in a program as a condescending threat in the same chapter. And while he's condemning patient care and a hospital's knack for measurable qualities over human qualities, he fails to analyze this problem or really chronicle what his perfectly-designed hospital would look like. He fails to acknowledge why his rudimentary examples (the Apple iPod, a TurboTax that lets you skip sections at will) are great examples: they are, by nature, not complex. The overwhelming amount of necessary measurements on top of immeasurable qualities in patient care without a doubt create a severely complex system. This much Norman acknowledges, but he is not audacious enough to outline a

hospital that may be designed in the manner he adulates. I wonder if it's because he knows it's not enough, or that maybe in his narrow scope of vision of door signs and campus lawns he doesn't have the answer. Nor that does he acknowledge that people are trying to make health care simpler (see: Phreesia).

And boy does Norman jump the ship on explaining things that merit explanation. After this quote: "The 'sameness' hypothesis is only sustainable if one ignores the internal meanings that people assign to cultural innovations." (196) There are no examples after; the section simply ends at this. The section about how design could or could not address if not shift firmly-rooted cultural practice is about six pages long and ends with little explained. This is a pattern in *Living with Complexity*: Norman presents mind-numbingly simple examples about a problem (e.g., the Disneyland "fast pass" when it comes to waiting in line) and then lines his credo with obvious statements (e.g. design ought to be human-oriented, simple things can be made complicated, it's important that people perceive fairness in how they are treated). But once he has the opportunity to analyze those simple things into complicated things, he abbreviates the discussion or sidesteps it altogether. A brilliant page about Ockham's Razor is cut short after the whole tenet is tossed aside. His discussion of cognitive dissonance is, at my most generous, a sloppy introduction (210). He goes on to praise the virtue of checklists, but doesn't address why checklists aren't the be-all/end-all of problem-solving. This is a critique that has existed since Charles Perrow's *Normal Accidents* decades prior, not to mention how checklists can easily turn into fantasy documents, or how health and safety inspectors are liable to become so primed by checklists that they may succumb to a sort of habit-formed myopia and fail to see nuanced findings in their inspections. He doesn't address another low-hanging fruit - moral hazard - in these situations at all. Why does Norman choose to make some topics more complex, but not others? There's not much of an answer beyond that this was clearly a hastily-written rehash job.

Norman's book also suffers from the same platitudes as Tim Brown's *Change by Design* does: so-called home runs like "In many cases, the best way to simplify a task is to reconceptualize it" sort of sound promising but still beckon for more meaning (231). That is, when his book doesn't outright contradict itself. On 255, he writes that oftentimes salespeople are too biased to sell a well-designed product: "they couldn't get the salespeople to sell the phones. They weren't cool." Norman answers this question earlier in the book: not only are people bad judges of what they want, but things are more sellable to people generally if they possess *features*. So even if a design crew creates a Norman-approved phone to address peoples' needs, it might pain Norman to know that a phone created by the Creed of Norman doesn't abide something he already knows about the same people: "Features win over simplicity, even when people realize that features mean more complexity" (55). So which is it, Norman? Is it the bias of the sales force that deters consumers from buying a simple product? Or is it what you said previously in your book? Or is it that humans are contradictory and will give primed responses that don't necessarily reflect their needs based on the context in which the question or the need is presented? How did this pass an edit?

Outside of these glaring issues in continuity, *Living with Complexity* is a collection of statements of the obvious about the mundane. Toilet paper, wires, doors, you name it. This may very well ruin my ability to read a much better book, *The Design of Everyday Things*. What a purposeless chore of a book.

Initially NO says

A philosophical discussion of why what might seem to simplify, actually complicates. The hole codes on salt and pepper shakers being up to the discretion and custom of those who use them; how Disney Land purposely keeps people waiting as long as they can at rides, so they don't have to build more, and instead offers street entertainment so people don't think too much about waiting...

A very pared-down accessible book, that is interesting enough.

Rich Kelley says

I recall reading Norman's *The Psychology of Everyday Things* back in the late 1980s and enjoying it immensely. That was his first book and it was groundbreaking. I haven't read any of the books he's published since--and he's written a lot. This was this month's selection for my UX Book Club in NYC and I found it much lighter than the other books we've read--and I had the distinct sense that much of the material was recycled. It didn't strike me as a stunning revelation that the world is complex, that complexity is not a bad thing, and that designers must find the appropriate conceptual model to make a product or system as simple to use as possible. What I want to know is how do we find that conceptual model. This book doesn't tell you that. I liked how he differentiates between affordances and signifiers--but he spends only a few pages on that here. My fellow UX discussants says he spends more time on that in his other books, specifically *The Design of Everyday Things*. So perhaps I read the wrong book.

Brynn says

"Alfred North Whitehead: 'The guiding motto in the life of every natural philosopher should be, Seek simplicity and distrust it.'"

"But when that complexity is random and arbitrary, then we have reason to be annoyed."

"...complexity by itself is neither good nor bad: it is confusion that is bad."

"...things we understand are no longer complicated, no longer confusing."

"Difficulties arise when there are conflicts between the principles, demands, and operation of technology with the tasks that we are accustomed to doing and with the habits and styles of human behavior and social interaction in general."

"Rituals invariably add complexity to our lives, but in turn, they provide meaning and a sense of membership in a culture."

"A conceptual model is the underlying belief structure held by a person about how something works."

"Decreasing the number of buttons and displays is not the solution. The solution is to understand the total system, to design it in a way that allows all the pieces to fit nicely together, so that initial learning as well as usage are both optimal."

"Tesler described it as a tradeoff: making things easier for the user means making it more difficult for the designer or engineer."

"Simplicity is a mental state, highly coupled with understanding. Something is perceived as simple when its actions, options, and appearance match the person's conceptual model."

"Simplicity decreases when the design makes it difficult to know what is happening or when controls have multiple meanings depending on context."

"People prefer an intermediate level of complexity. Moreover, that preferred level varies with knowledge and experience. Complex things can be easy to use; simple things can be complicated. Sometimes we prefer the complex, sometimes the simple. Taming technology is a psychological task, not a physical one."

"This is a forcing function: the correct behavior is the only possibility."

"Understanding is what transforms complex systems into simple ones. Group understanding is often more powerful and robust than individual understanding."

"Feedback and conceptual models are most important at two times during usage. One is when the product or service is first experienced, for now these aid in learning what to do and what to expect. The other is when there are problems or unexpected delays."

"When it comes to people, not everything we believe to be important can yet be measured. On the other hand, much that we know is unimportant is easy to measure."

"In the rush for efficiency through measurement, we should not forget the wisdom of Albert Einstein, the physicist, who is reported to have said 'not everything that can be counted counts, and not everything that counts can be counted.'"

"We now recognize that one critical component of good design is good interaction, and interaction, to a large extent, is about proper communication."

Lydia says

I liked Norman's "Life of Everyday Things" better, maybe only because it was the first time I was thinking about how design affects our life. Norman goes further here, looking at how to make your wait in a line better or why hospital care is now focused on how you appear through your computerized records rather than your human-ness. He points out that things are more complex now, than they were even a few years ago, but it seems a bit too random with few solutions. I don't feel any better about it. I want to hear about solutions, elegance found. Norman sounds like he is only readying for the onslaught of baby number seven billion.

Seema says

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Yuree says

This book reminds me of one of the professor from my grad school. I still remember his pathetic look when I mentioned the same opinion the author want to talk about nature of design (it was almost 6 years ago now). He is one of well known groupie of the author of this book in Korea and now I am truly curious what he will think after reading this.

Jack Vinson says

I decided to blog a review of this one after all. Good stuff.

<http://blog.jackvinson.com/archives/2...>

Reading for the Boston area UX Book Club meeting on 6 Jan 2011.

<http://www.meetup.com/uxboston/calend...>

Nathanael Coyne says

You could very easily read this instead of DOET/POET, or if you've read his early work then there's not much new in here. The concept of complex vs complicated could be summed up in just one chapter, not spread over a whole book. Nonetheless, it's still a book you should read.

Emma Sea says

I was hoping for something a little more about complex systems, in terms of how design and human factors interact. While there were a few examples in this vein, the book as a whole felt like a rewrite of The Design of Everyday Things.

I do love Norman's writing style though; it's very pared back and sparse. There are just enough words to communicate what he wants to say, and nothing extra.

There was one awesome tiny thing that I loved: I had no clue there were places in the world where a salt shaker has many holes, and the pepper shaker has one hole. It's like being told the sky is pink!
