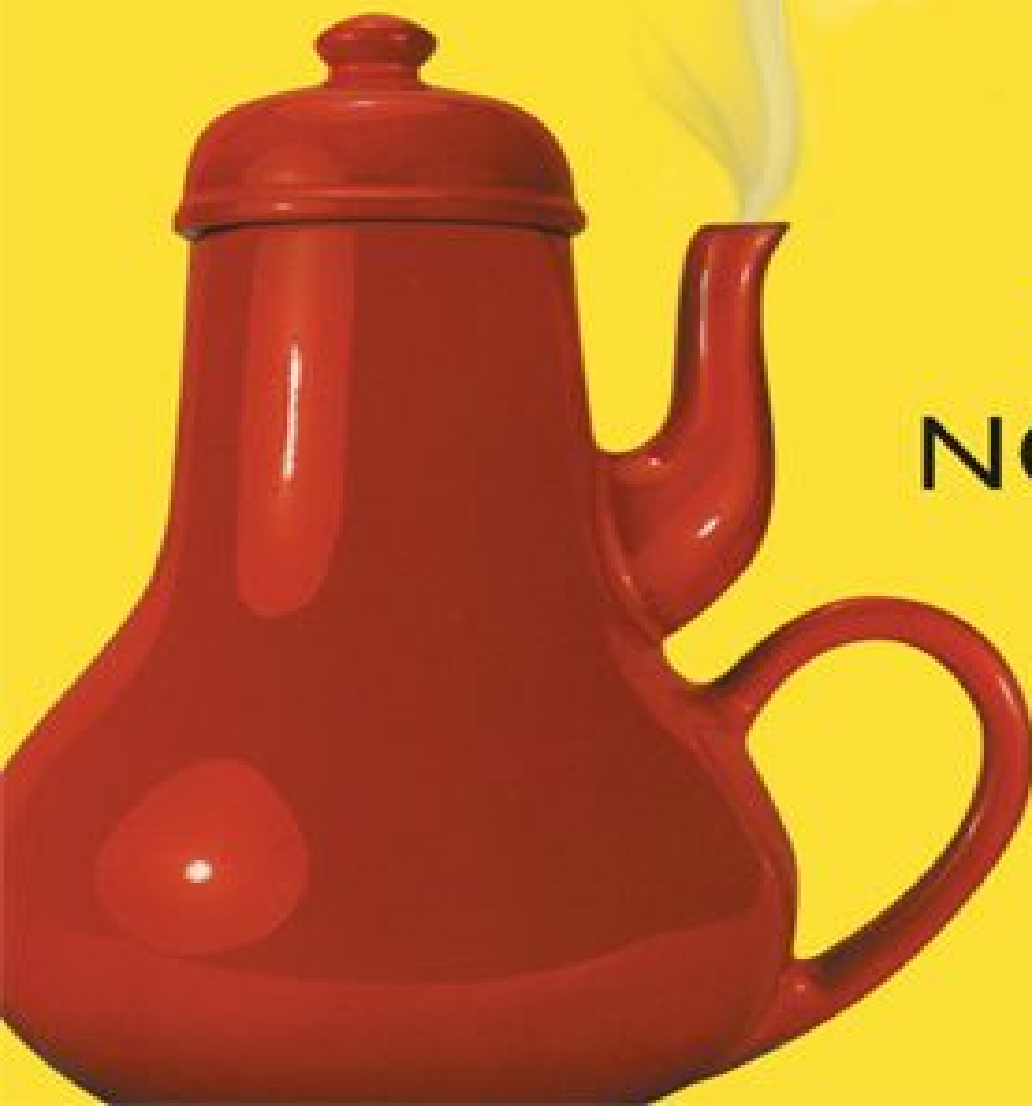


REVISED & EXPANDED EDITION

The DESIGN
of EVERYDAY
THINGS

DON
NORMAN



THE
DESIGN
OF EVERYDAY
THINGS

TEXTBOOKS

*Memory and Attention: An Introduction to
Human Information Processing.*

First edition, 1969; second edition 1976

Human Information Processing.

(with Peter Lindsay: first edition, 1972; second edition 1977)

SCIENTIFIC MONOGRAPHS

Models of Human Memory
(edited, 1970)

Explorations in Cognition
(with David E. Rumelhart and the LNR Research Group, 1975)

Perspectives on Cognitive Science
(edited, 1981)

User Centered System Design: New Perspectives on Human-Computer Interaction
(edited with Steve Draper, 1986)

TRADE BOOKS

Learning and Memory, 1982

The Psychology of Everyday Things, 1988

The Design of Everyday Things
1990 and 2002 (paperbacks of *The Psychology of Everyday Things* with new prefaces)

The Design of Everyday Things
Revised and Expanded Edition, 2013

Turn Signals Are the Facial Expressions of Automobiles, 1992

Things That Make Us Smart, 1993

The Invisible Computer: Why Good Products Can Fail, the Personal Computer Is So Complex, and Information Appliances Are the Answer, 1998

Emotional Design: Why We Love (or Hate) Everyday Things, 2004

The Design of Future Things, 2007

A Comprehensive Strategy for Better Reading: Cognition and Emotion, 2010

(with Masanori Okimoto; my essays, with commentary in Japanese, used for teaching English as a second language to Japanese speakers)

Living with Complexity, 2011

CD-ROM

First person: Donald A. Norman. Defending Human Attributes in the Age of the Machine, 1994

**THE
DESIGN
OF EVERYDAY
THINGS**

REVISED AND EXPANDED EDITION

Don Norman

BASIC BOOKS

A Member of the Perseus Books Group

New York

Copyright © 2013 by Don Norman

Published by Basic Books,
A Member of the Perseus Books Group

All rights reserved. No part of this book may be reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in critical articles and reviews. For information, address Basic Books, 250 West 57th Street, 15th Floor, New York, New York 10107.

Books published by Basic Books are available at special discounts for bulk purchases in the United States by corporations, institutions, and other organizations. For more information, please contact the Special Markets Department at the Perseus Books Group, 2300 Chestnut Street, Suite 200, Philadelphia, PA 19103, or call (800) 810-4145, ext. 5000, or e-mail special.markets@perseusbooks.com.

Library of Congress Cataloging-in-Publication Data

Norman, Donald A.

[Psychology of everyday things]

The design of everyday things / Don Norman.—Revised and expanded edition.

pages cm

ISBN 978-0-465-07299-6 (ebook) 1. Industrial design—Psychological aspects. 2. Human engineering. I. Title.

TS171.4.N67 2013

745.2001'9—dc23

2013024417

10 9 8 7 6 5 4 3 2 1

For Julie

CONTENTS

Preface to the Revised Edition

- 1 The Psychopathology of Everyday Things
 - The Complexity of Modern Devices
 - Human-Centered Design
 - Fundamental Principles of Interaction
 - The System Image
 - The Paradox of Technology
 - The Design Challenge
- 2 The Psychology of Everyday Actions
 - How People Do Things: The Gulfs of Execution and Evaluation
 - The Seven Stages of Action
 - Human Thought: Mostly Subconscious
 - Human Cognition and Emotion
 - The Seven Stages of Action and the Three Levels of Processing
 - People as Storytellers
 - Blaming the Wrong Things
 - Falsely Blaming Yourself
 - The Seven Stages of Action: Seven Fundamental Design Principles
- 3 Knowledge in the Head and in the World
 - Precise Behavior from Imprecise Knowledge
 - Memory Is Knowledge in the Head
 - The Structure of Memory
 - Approximate Models: Memory in the Real World

Knowledge in the Head

The Tradeoff Between Knowledge in the World and in the Head

Memory in Multiple Heads, Multiple Devices

Natural Mapping

Culture and Design: Natural Mappings Can Vary with Culture

4 Knowing What to Do: Constraints Discoverability, and Feedback

Four Kinds of Constraints: Physical, Cultural, Semantic, and Logical

Applying Affordances, Signifiers, and Constraints to Everyday Objects

Constraints That Force the Desired Behavior

Conventions, Constraints, and Affordances

The Faucet: A Case History of Design

Using Sound as Signifiers

5 Human Error? No, Bad Design

Understanding Why There Is Error

Deliberate Violations

Two Types of Errors: Slips and Mistakes

The Classification of Slips

The Classification of Mistakes

Social and Institutional Pressures

Reporting Error

Detecting Error

Designing for Error

When Good Design Isn't Enough

Resilience Engineering

The Paradox of Automation

Design Principles for Dealing with Error

6 Design Thinking

Solving the Correct Problem

The Double-Diamond Model of Design

The Human-Centered Design Process

What I Just Told You? It Doesn't Really Work That Way

The Design Challenge

Complexity Is Good; It Is Confusion That Is Bad
Standardization and Technology
Deliberately Making Things Difficult
Design: Developing Technology for People

7 Design in the World of Business

Competitive Forces
New Technologies Force Change
How Long Does It Take to Introduce a New Product?
Two Forms of Innovation: Incremental and Radical
The Design of Everyday Things: 1988–2038
The Future of Books
The Moral Obligations of Design
Design Thinking and Thinking About Design

Acknowledgments

General Readings and Notes

References

Index