

All Too Human

Why do people fear air travel, but text while driving? How were the travesties at the Abu Ghraib prison like a nuclear meltdown? What is the best way to throw a rocket at a robot? These are just a few questions addressed by the field of human factors psychology. These scientists use knowledge of how people think and why they act to improve the design of our world. In *All Too Human*, Anne McLaughlin introduces the field with vivid and topical stories that hinge on cognitive processes such as attention, memory, and decision-making. From the COVID-19 pandemic, to abandoned SCUBA divers, conspiracy theories, and the travails of online dating, McLaughlin draws on a century of research into the human mind to explain our past and predict our future.

Anne McLaughlin is Professor of Psychology at North Carolina State University, USA. She has worked as an educator and researcher in the field of human factors psychology and has directed cutting-edge research on human behavior and cognition with research projects funded by NASA, the National Institute of Health, and the National Science Foundation.

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Understanding and Improving Our Relationships with Technology

Anne McLaughlin

North Carolina State University



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PREFACE

At parties I am often asked what I do. The career “professor” makes sense to everyone, so I start with that. But when I say I am a psychologist, the next question is often, “Are you reading my mind?” Yes, I want to say, I knew you would ask me that. Everyone does. Instead, I explain that I’m a human factors psychologist, one who studies some of humans’ greatest feats and foibles in the hopes of building a better world. It’s a tough elevator pitch, but one I’m passionate about. I truly believe that the more people know about *people*, the more they will demand that technology and systems be built well, rather than bending over backwards to accommodate poor design and then blaming themselves when they fail. By the end of this book, I hope this is the position readers will take. Armed with an understanding of the basics of our all-too-human brains and bodies, they will know we can’t be expected to be superhuman. And yet, we can *seem* superhuman when the world around us is suitably designed.

Come with me for an adventure that spans the Earth and time, from the depths of the Chernobyl nuclear reactor to airplanes in the skies above. From online dating to getting naked in Washington, DC. Discover the link between prisons in the desert and how a pandemic can spread beyond control. Learn how to harness evolution to save lives on the road at night. These are just a few of the examples brought together to illustrate the capabilities and limitations of the human race. Each example draws from amazing discoveries about the mind, and then goes beyond them. I will show you how to use this knowledge to explain some of our human troubles and prevent them in the future. Each

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chapter focuses on an aspect of human cognition: attention, memory, creativity, problem-solving, decision-making, or hard-wired biases, illustrated with real-world examples and events. What keeps this from being a book on cognitive psychology is that each chapter also focuses on ways humans have (or could) change products, systems, and their surroundings to pair with human cognition.

Officially, I'm a psychologist. But I wrote this book because I am a humanist, a technologist, and an optimist. I can appreciate all that technology and society does for me, even while it is a source of enduring frustration. With the knowledge and tools in this book we can join together to prevent that aggravation and wasted time. We can make the world a safer, more efficient, and more enjoyable place. We can better decide when technology will improve or decrease our quality of life. We can help the professionals in our lives such as doctors, lawyers, and politicians make better decisions for us and also make better decisions for ourselves.

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Thank you to my colleagues who vetted my chapters for accuracy, graciously giving me their time and expertise. Your work is the backbone on which we will improve the world: Lynne Baker-Ward, Rick Tyrrell, Chris Wickens, Maribeth Gandy Coleman, Laura Levy, Frank Drews, Arathi Sethumadhavan, and Ericka Rovira. Thank you to Matt Shipman for giving me the encouragement to pursue this idea as a book, and to Cat Warren for mentoring me in how to find a publisher. I value and appreciate you all. I’d also like to thank my dog Royal for his willingness to serve as an animal example throughout the book and for forcing me to get up occasionally to let him in or out of the house.

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the most creative problem-solver I've ever known and always a good illustration of how people will bend systems to their will, whether the designer intended that or not. Most of all, I owe thanks to my husband, Tom. You were there for long walks and endless discussions of examples I wanted to include. You helped me to focus and prioritize. Even after a long day, you were always willing to read through my work and ask the right questions. I know I can count on you and you always lift me higher, in this and in everything. You're the greatest.