

Everything is Design

The Hidden Ethics of Our Objects and Public Spaces

Alan J. Reid, PhD

Johns Hopkins University
Coastal Carolina University

Series editor

Graham Cairns

AMPS (Architecture, Media, Politics, Society)

The Interdisciplinary Built Environment



VERNON PRESS

Copyright © 2025 Vernon Press, an imprint of Vernon Art and Science Inc, on behalf of the author.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of Vernon Art and Science Inc.

www.vernonpress.com

In the Americas:

Vernon Press
1000 N West Street, Suite 1200
Wilmington, Delaware, 19801
United States

In the rest of the world:

Vernon Press
C/Sancti Espiritu 17,
Malaga, 29006
Spain

The Interdisciplinary Built Environment

Library of Congress Control Number: 2025933291

ISBN: 979-8-8819-0258-2

Product and company names mentioned in this work are the trademarks of their respective owners. While every care has been taken in preparing this work, neither the authors nor Vernon Art and Science Inc. may be held responsible for any loss or damage caused or alleged to be caused directly or indirectly by the information contained in it.

Cover design by Alan J. Reid. Image Spiked Ledge Boston.jpg, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons.

Every effort has been made to trace all copyright holders, but if any have been inadvertently overlooked the publisher will be pleased to include any necessary credits in any subsequent reprint or edition.

Table of Contents

	List of Figures	v
	List of Tables	vii
	Development of the Book	ix
	About the author	ix
	Preface	xi
Chapter 1	What is ethical design?	1
	Ethics v. morals	
	The social contract	
	Value-sensitive design	
Chapter 2	Evaluating ethics	23
	Ethical theories	
	The trolley problem	
	Critical design	
Chapter 3	The Built Environment	47
	Affordance theory	
	Hostile design	
	Infrastructure	
Chapter 4	Nature	71
	Climate change	
	Sustainability	
	Space environmentalism	
Chapter 5	Crime	93
	Designs against crime	

	Pre-criminality	
	Ethical prison design	
Chapter 6	Animals	117
	Zoo design	
	Necrofauna, or de-extinction	
	Factory farming	
Chapter 7	Humans	139
	Genetic design	
	Border control	
	Death by design	
Chapter 8	Technology	161
	Virtual realities	
	Surveillance	
	Autonomous vehicles	
Chapter 9	Designing the future	181
	On responsibility	
	Notes	187
	References	213
	Index	237

List of Figures

Figure 1.1.	The Ethical Hierarchy of Needs	13
Figure 1.2.	The Values Hierarchy	16
Figure 1.3.	A divided bench in Lower Manhattan, New York City (Author photo)	17
Figure 1.4.	An Archisuit overcomes a hostile design (Source: Sarah Ross)	18
Figure 2.1.	A definitional comparison of ethics and morals.	27
Figure 3.1.	Norman doors fail to clearly signal whether to push or to pull.	52
Figure 3.2.	Wolfgang Paalen's <i>Nuage Articulé</i> (1937) violates our perceived affordances.	54
Figure 3.3.	A perch bench affords leaning but not sitting.	57
Figure 3.4.	A Camden bench in London, England.	57
Figure 3.5.	Spiked ledges prevent unwanted sitting.	58
Figure 3.6.	Amager Bakke is Copenhagen's largest waste-to-energy plant and ski slope.	68
Figure 4.1.	On the left: Trash and recycling receptacle designs cleverly communicate their intentions. On the right: Trash and recycling receptacles are not clearly distinguishable.	80
Figure 4.2.	A photo of space junk in low-Earth orbit (LEO).	87
Figure 5.1.	The Quadrant on Regent Street in London, England, exemplifies CPTED.	98
Figure 5.2.	The foreboding U.S. Courthouse in Wilmington, NC.	104
Figure 5.3.	Jeremy Bentham's Panopticon embodies architectural control.	108
Figure 6.1.	This Bitola, North Macedonia bear enclosure exhibit uses an unethical design.	120
Figure 6.2.	A bear enclosure exhibit at the Minneapolis Zoo resembles a natural habitat.	121
Figure 6.3.	Pigs in unethically designed gestation crates.	131
Figure 6.4.	Battery cages maximize space on a factory farm.	132
Figure 7.1.	Floating barriers on the Rio Grande are designed to inflict extra harm.	150

Figure 7.2. The Suicide Deterrent System of the Golden Gate Bridge in San Francisco, CA.

List of Tables

Table 1.1.	Types of ethical lenses through which to view actions.	4
Table 1.2.	Morality Sense Test	6
Table 2.1.	A matrix that shows the possible combinations of ethics and design	26
Table 2.2.	The two main ethical frameworks: deontology and utilitarianism.	29
Table 2.3.	Checklist for Ethical Evaluation of Systems, Products, and Processes.	42
Table 4.1.	Comprehensive list of goals	79

Development of the Book

This book is an original manuscript. No funding was provided, and there are no conflicts of interest with the author.

About the author

Alan J. Reid, PhD is an Assistant Research Scientist in the Center for Research and Reform in Education (CRRE) at Johns Hopkins University where he primarily conducts mixed-methods research studies and design reviews on the efficacy of learning technologies. In addition, he is an Adjunct Teaching Faculty in the School of Education and teaches a doctoral-level course in the Diffusion of Technology Innovations. Dr. Reid is also an Associate Professor of Writing and Instructional Technologies at Coastal Carolina University, where he teaches graduate courses in research and writing and undergraduate courses in new media, digital culture and design. He received tenure in 2021.

His previous works include *The Smartphone Paradox* (2018) and *A Philosophy of Gun Violence* (2022), both of which are precursors to this book, which seeks to evaluate technological mediation through the lenses of ethical behavior and decision-making. Dr. Reid has given several public lectures and appeared at numerous conferences to discuss the central theme of these publications: Technology is non-neutral, which defines our identities, compels our behaviors, and affects our psychological and emotional wellbeing.

Preface

This book synthesizes several different disciplines as they relate to design, ethics, and the built environment. First, there is the socio-technological aspect of technology mediation. Our objects, according to philosophers like Don Ihde, Peter-Paul Verbeek, and Bruno Latour, mediate our experiences with the world around us. Through their designs (and, by extension, our perceived affordances), we largely comply with what our objects and spaces want us to do. At the micro-level, the phones in our pockets command our attentive processes in order to feed an attention economy. At the macro-level, urban planning and infrastructure can both promote inclusivity and foment violence. We are deeply intertwined with the objects and spaces that have been designed for us, sometimes deliberately and sometimes in unsuspecting ways.

Second, there is design ethics. Baked into every object, process, system, and environment are the remnants of the designer's morals, ethics, values, and biases. A popular example of this is hostile design, which weaponizes architectural elements of the built environment to deter and even prohibit undesired interactions between objects and people. (Take a walk around most urban areas, and you'll notice the ubiquity of spiked ledges, kinked rails, and divided benches that are explicitly designed to repel or exclude groups, often those who are marginalized and/or powerless). Ethics – to put it concisely – is mindful wellbeing. It is a set of standards that guides how we treat ourselves, one another, and the environment. When we design things for public use, we also communicate an ethical perspective. When we use things designed for us, we tacitly endorse their ethics.

The structure of this book follows a logical progression, which first defines ethical design (Chapter 1), provides frameworks, theories, and models for ethical decision-making (Chapter 2), and then presents individual chapters (Chapters 3-8), each one unique to a single area of our surrounding world (the built environment, nature, crime, animals, humans, and technology) along with thought-provoking case studies of real-world examples of ethical design and decision-making within that specific area. The final chapter (Chapter 9) discusses the future of design and how ethics will most certainly play a role in emerging technologies and environments. Last, the book proposes a checklist for the ethical evaluation of systems, products, and processes found in our shared objects and public spaces.

Importantly, this book seeks to cultivate mindfulness of the reader's interactions, providing them with a line of inquiry that questions areas of unethical design in their built environment and offers useful critiques and new solutions to these ethical dilemmas. We often have the power to reject those things that are irresponsibly designed and unethical in nature, and it is through this agency as users that we can demand better from designers, developers, and companies. It is imperative to understand our mediated relationships with the built and natural environments that surround us and the objects found within; this can help explain our behaviors and empower us to make ethical decisions that serve future generations.

This book is intended for all people who contemplate design. Whether you are a student pursuing a formal education in design school or you are simply interested in how the design of our shared objects and public spaces impacts our lives in implicit and explicit ways, this book is for you. If you have ever been frustrated with an object or a space that fails to deliver on its promise, this book is for you. If you feel that designers have a shared responsibility to their users and to the rest of society, this book is for you.

The chapters that follow are organized thematically. Each one centers on a general subject area that includes an abundance of examples, some of which can seem disconnected from one another, but that all share a common premise: Because we interact with design every day and in everything, we should take notice of the underlying ethics that are manifested in the shared objects and public spaces of our natural and built environments. In doing so, we become empowered as consumers, as citizens, and as agents of change. This book will help you become more mindful of your surroundings by realizing the intentional designs that impact our lives, and the ethics that are baked into them.

There are several assumptions under which this book operates. First, many of the concepts and examples that are provided assume that the reader has some degree of familiarity with them. For instance, you do not have to have ridden in a self-driving car to understand its relevance to the discussion of its ethics, but using this as an example does require that you possess an awareness of autonomous cars and how they might be used. For some examples, a brief description is provided to orient the reader, who may be totally unfamiliar with the concept. Second, this book assumes a great deal of privilege. Design is essential for survival in many cases and in many places around the world. Therefore, it must be recognized that we are in a highly privileged position to evaluate systems, products, and spaces for their ethics and not just their utility.

This book is not a comprehensive review of scholarly literature, nor does it lay claim to new scholarship in design studies. Instead, it is a collection of observations that interrogates our environment through the lens of ethical design. If you have ever wondered why something works the way it does, why it is not better, or whether we should be supporting it in the first place, then this book may be useful for you. And truth be told, it is very likely that you will have more questions than answers after reading this book. The aim of this book is to provoke a critical curiosity into the designs of our objects and spaces that envelope you and that were developed by some other human in some other time and place, who is imperfect, and whose ethics are baked into that design.

PAGES MISSING
FROM THIS FREE SAMPLE

References

- A Sacred Passing. (n.d.). *A sacred passing: Death midwifery & community education*. Givelynow. <https://givelynow.com/o/a-sacred-passing>
- Aagaard, J. (2021). The passive subject: a phenomenological contribution to STS. *Social Epistemology Review and Reply Collective*, 10(5), 14-19. <https://wp.me/p1Bfg0-5Pb>
- ABC News. (2008, June 5). *Car bait program goes awry as thief steals car, kills woman*. ABC news. <https://abcnews.go.com/GMA/story?id=5004251&page=1>
- ACLU. (2005, November 23). *Racial profiling: definition*. ACLU. <https://www.aclu.org/documents/racial-profiling-definition>
- ACLU. (2023, August 6). *After third wrongful arrest, ACLU slams Detroit police department for continuing to use faulty facial recognition technology*. ACLU. <https://www.aclu.org/press-releases/after-third-wrongful-arrest-aclu-slams-detroit-police-department-for-continuing-to-use-faulty-facial-recognition-technology>
- ACLUSoCal. (2022, October). *Reimagining community safety in California*. https://catalyst-ca.cdn.prismic.io/catalyst-ca/126c30a8-852c-416a-b8a7-55a90c77a04e_APCA+ACLU+REIMAGINING+COMMUNITY+SAFETY+2022_5.pdf
- Agid, S. (2019). Making safety, making freedom: problem-setting, collaborative design, and contested futures. In T. Fisher and L. Gamman (Eds.), *Tricky design: the ethics of things*. Bloomsbury Visual Arts. <https://doi.org/10.5040/9781474277211.ch-008>
- Ahmed, S. K. (2023). Road traffic accidental injuries and deaths: A neglected global health issue. *Health Science Reports*, 6(5). <https://doi.org/10.1002/hsr.2.1240>
- AIA. (2023, November 29). *Climate action plan*. AIA. <https://www.aia.org/resources/6307290-climate-action-plan>
- Akkad, D. (2022, October 7). Neom: Saudi Arabia sentences tribesmen to death for resisting displacement. *Middle East Eye*. <https://www.middleeasteye.net/news/neom-saudi-arabia-sentences-tribesmen-death-resisting-displacement>
- Alexander, C. (1979). *The timeless way of building*. Oxford University Press, New York.
- Alexander, E. (2014, July 2). Joan Rivers responds to Peta protestors: 'Those furs that would have been lying in a cellar have gotten to go to the opera.' *Independent*. <https://www.independent.co.uk/news/people/joan-rivers-responds-to-peta-protesters-those-furs-that-would-have-been-lying-in-a-cellar-have-gotten-to-go-to-the-opera-9579978.html>

- American Museum of Natural History. (n.d.). *The Manhattan Project*. <https://www.amnh.org/exhibitions/einstein/peace-and-war/the-manhattan-project>
- Anthes, E. (2020). *The great indoors: the surprising science of how buildings shape our behavior, health, and happiness* (First Picador paperback edition). Scientific American/Picador.
- Apple. (2021, April 20). *Apple introduces AirTag*. Apple. <https://www.apple.com/newsroom/2021/04/apple-introduces-airtag/>
- Applebaum, J., MacLean, E., & McDonald, S. (2021). Love, fear, and the human-animal bond: on adversity and multispecies relationships. *Comprehensive Psychoneuroendocrinology*, 7. <https://doi.org/10.1016/j.cpnec.2021.100071>
- Architecture 2030. (n.d.). *Why the built environment?* <https://www.architecture2030.org/why-the-built-environment/>
- Ariely, D. (2012). *The (Honest) Truth About Dishonesty*. HarperCollins.
- Artemis. (n.d.). *The Artemis missions*. NASA. <https://www.nasa.gov/specials/artemis/#why>
- ASPCA. (n.d.). *Position statement on zoos and aquariums*. <https://www.aspc.org/about-us/aspc-policy-and-position-statements/position-statement-zoos-and-aquariums>
- AtomicArchive.com. (n.d.). *Einstein's letter to President Roosevelt – 1939*. <https://www.atomicarchive.com/resources/documents/beginnings/einstein.html>
- AtomicArchive.com. (n.d.). *Report of the committee on political and social problems*. <https://www.atomicarchive.com/resources/documents/manhattan-project/franck-report.html#V>
- Axon, S. (2021, November 23). Bluetooth tracking company Tile acquired for \$205 million. *Ars Technica*. <https://arstechnica.com/gadgets/2021/11/bluetooth-tracking-company-tile-acquired-for-205-million/>. <https://doi.org/10.1038/s41415-021-3380-6>
- Baba, A. (2021, November 9). *Buttigieg is right – America's roads are racist. Ted Cruz and Tucker Carlson are pretending to misunderstand*. Independent. <https://www.independent.co.uk/voices/buttigieg-racist-ted-cruz-tucker-carlson-b1954576.html>
- Baker, J. O., Bader, C. D., & Hirsch, K. (2015). Desecration, Moral Boundaries, and the Movement of Law: The Case of Westboro Baptist Church. *Deviant Behavior*, 36(1), 42–67. <https://doi.org/10.1080/01639625.2014.906282>
- Bakewell, S. (2013, November 22). *Clang went the trolley*. The New York Times. <https://www.nytimes.com/2013/11/24/books/review/would-you-kill-the-fat-man-and-the-trolley-problem.html>
- Balkan, A. & Kalbag, L. (n.d.). *Ethical design*. INDIE. <https://ind.ie/ethical-design/>
- Barlow, A. (n.d.). *Architecture styles in North Carolina courthouses*. North Carolina Administrative Office of the Courts. <https://www.nccourts.gov/assets/documents>

- /publications/Brief-History-Architecture-NC-Courthouses.pdf?XMxou7Lols3FqbC5XrzqG.LpWZocCQZR
- Barr, S. (2007). Factors influencing environmental attitudes and behaviors: a U.K. case study of household waste management. *Environment and Behavior*, 39(4), 435-473. <https://doi.org/10.1177/0013916505283421>
- Bayor, R. H. (2000). *Race and the Shaping of Twentieth-Century Atlanta*. University of North Carolina Press.
- Beck, B., Holder, E., Novak, A. & Kaplan, J. (2023). The material of policing: budgets, personnel, and the United States' misdemeanor arrest decline. *The British Journal of Criminology*, 63(2), 330-347. <https://academic.oup.com/bjc/article-abstract/63/2/330/6568129?redirectedFrom=fulltext&login=false>. <https://doi.org/10.1093/bjc/azac005>
- Bejan, A. & Zane, J. P. (2012). *Design in nature*. Knopf Doubleday Publishing Group. <https://doi.org/10.1115/1.2012-JUN-4>
- Bejan, A., & Lorente, S. (2010). The constructal law of design and evolution in nature. *Philosophical transactions of the Royal Society of London. Biological sciences*, 365(1545), 1335-1347. <https://doi.org/10.1098/rstb.2009.0302>
- Benjamin, R. (2012, March 29). *The gated community mentality*. The New York Times. <https://www.nytimes.com/2012/03/30/opinion/the-gated-community-mentality.html>
- Benko, J. (2015, March 26). *The radical humaneness of Norway's Halden Prison*. The New York Times. <https://www.nytimes.com/2015/03/29/magazine/the-radical-humaneness-of-norways-halden-prison.html>
- Bennett, P. (2014, September 2). Can death be designed? *Medium*. <https://medium.com/ideo-stories/can-death-be-designed-c002f4bcb383>
- Bentham, J. (1791). *Panopticon or the Inspection House*. Payne: London.
- Berman, R. (2018, March 16). Startup offers a path to immortality. The catch? It's 100% fatal. *Big Think*. <https://bigthink.com/surprising-science/company-offers-a-killer-new-way-to-upload-your-mind/>
- Besl, J. (2001). A short retrospective on 20th century U.S. population change. *Indiana Business Review*. <https://www.ibrc.indiana.edu/ibr/2001/spring01/03.pdf>
- Bever, L. (2015, March 5). K-Cups inventor: I feel bad sometimes that I ever did it. *The Washington Post*. <https://www.washingtonpost.com/news/morning-mix/wp/2015/03/05/k-cups-inventor-i-feel-bad-sometimes-that-i-ever-did-it/>
- Bevis, C. & J. Nutter (1978). *Changing street layouts to reduce residential burglary*. Minneapolis: Minnesota Crime Prevention Center.
- Bigelow, K. (1991). *Point Break*. Twentieth Century Fox.
- Blakely, E. J. & Snyder, M. G. (n.d.). *Fortress America: gated communities in the United States*. The New York Times. <https://archive.nytimes.com/www.nytimes.com/books/first/b/blakely-fortress.html>
- Boeck, A. (2023, June 27). *Why Saudi Arabia's "The Line" isn't a revolution in urban living*. *EurekaAlert!* <https://www.eurekaalert.org/news-releases/993409>

- Bolotnikova, M. (2021, November 28). It's time to stop demonizing "invasive" species. *Vox*. <https://www.vox.com/down-to-earth/22796160/invasive-species-climate-change-range-shifting>
- Booz, M. L. (1986). *The constitutionality of mandatory seat belt laws*. (Report # VHTRC 86-R41). Virginia Highway & Transportation Research Council. <https://rosap.ntl.bts.gov/view/dot/19122>
- Browning, H. (2018). Won't somebody please think of the mammoths? De-extinction and animal welfare. *Journal of Agricultural and Environmental Ethics*, 31(6), 785-803. <https://doi.org/10.1007/s10806-018-9755-2>
- Burton-Harris, V. & Mayor, P. (2020, June 24). *Wrongfully arrested because face recognition can't tell black people apart*. ACLU. <https://www.aclu.org/news/privacy-technology/wrongfully-arrested-because-face-recognition-cant-tell-black-people-apart>
- Cardenas, F. (2023, August 4). *Why Messi's arrival doesn't mean guaranteed sellouts at Inter Miami's stadium*. The Athletic. <https://theathletic.com/4748102/2023/08/04/inter-miami-ticket-prices-messi/>
- Carlson, T. (2020). *Ship of fools: how a selfish ruling class is bringing America to the brink of revolution*. Free Press.
- Carnegie Science Earth and Planets Laboratory. (2023, October 16). *Scientists, philosophers identify nature's missing evolutionary law*. ScienceDaily. <https://www.sciencedaily.com/releases/2023/10/231016163100.htm>
- Caro, R. A. (1974). *The power broker: Robert Moses and the fall of New York*. Knopf: New York.
- Carr, N. (2008, July/August). *Is Google making us stupid?* The Atlantic. <https://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/>
- Carr, N. (2011). *The shallows*. WW Norton.
- Carr, N. (2014). *The glass cage: how our computers are changing us*. W.W. Norton & Company.
- Casella, J., Ridgeway, J., & Shourd, S. (2016). *Hell is a very small place: voices from solitary confinement*. The New Press.
- Casti, J. (1998). "Byteing" back. *Complexity*. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/%28SICI%291099-0526%28199801/02%293%3A3%3C8%3A%3A-AID-CPLX2%3E3.0.CO%3B2-6>. [https://doi.org/10.1002/\(SICI\)1099-0526\(199805/06\)3:5%3C11::AID-CPLX2%3E3.3.CO;2-3](https://doi.org/10.1002/(SICI)1099-0526(199805/06)3:5%3C11::AID-CPLX2%3E3.3.CO;2-3)
- Centers for Disease Control and Prevention. (2020, April 28). *Smoking during pregnancy*. Centers for Disease Control and Prevention. https://www.cdc.gov/tobacco/basic_information/health_effects/pregnancy/index.htm
- Central Park Conservancy. (n.d.). *About us*. <https://www.centralparknyc.org/about>
- Chakrabarty, P. (2023, January 24). The basics you need to know & understand about speculative design. *Medium*. <https://uxplanet.org/the-basics-you-need-to-know-and-understand-about-speculative-design-8a8bf5be4162>

- Chelsea Clip. (n.d.). *How it works*. Chelsea Clip. <https://www.chelseaclip.co.uk/pages/how-it-works>
- Chen, M. K., & Shapiro, J. M. (2007). Do harsher prison conditions reduce recidivism? A discontinuity-based approach. *American Law and Economics Review*, 9(1), 1–29. <http://www.jstor.org/stable/42705508>. <https://doi.org/10.1093/aler/ahr007>
- Churchill, W. (1943, October). *House of Commons Rebuilding*. <https://api.parliament.uk/historic-hansard/commons/1943/oct/28/house-of-commons-rebuilding>
- Coalition for the Homeless. (2023, February). *Basic facts about homelessness: New York City*. <https://www.coalitionforthehomeless.org/basic-facts-about-homelessness-new-york-city/>
- Cold Spring Harbor Laboratory DNA Learning Center. (n.d.). *T. Roosevelt letter to C. Davenport about “degenerates reproducing.”* <https://dnalc.cshl.edu/view/11219-T-Roosevelt-letter-to-C-Davenport-about-degenerates-reproducing.html>
- Collins, W. J., & Shester, K. L. (2013). Slum clearance and urban renewal in the United States. *American Economic Journal: Applied Economics*, 5(1), 239–273. <http://www.jstor.org/stable/43189425>. <https://doi.org/10.1257/app.5.1.239>
- Colossal Bioscience. (2022, May 4). *Woolly mammoth de-extinction: restoring the past for a better future* [Video]. YouTube. <https://www.youtube.com/watch?v=wUtl7kVP16c&t=67s>
- Cooley, A. (2016, July 1). *Design is key to making recycling work*. National Recreation and Park Association. <https://www.nrpa.org/parks-recreation-magazine/2016/july/design-is-key-to-making-recycling-work/>
- Cowell, A. (2008, April 8). *Negligent driving killed Diana, jury finds*. The New York Times. <https://www.nytimes.com/2008/04/08/world/europe/08diana.html>
- Coyne, C. J., & Hall, A. R. (2018). The drone paradox: fighting terrorism with mechanized terror. *The Independent Review*, 23(1), 51–67. <http://www.jstor.org/stable/26591799>
- Critical design FAQ. (n.d.). *Reading Design*. <https://www.readingdesign.org/critical-design-faq>
- Dahmus, J.B. (2014). Can efficiency improvements reduce resource consumption? A historical analysis of ten activities. *Journal of Industrial Ecology*, 18(6), 883–897. <https://doi.org/10.1111/jiec.12110>
- Dalzell, N. (2021, February 10). *Dangerous working conditions on factory farms*. New Roots Institute. <https://ffacoalition.org/articles/dangerous-conditions-factory-farms/>
- Davis, C. et al. (2022, August). *U.S. hog production: rising output and changing trends in productivity growth*. USDA Economic Research Service. <https://www.ers.usda.gov/webdocs/publications/104437/err-308.pdf?v=6674.2>
- de Boer. (2021). Explaining multistability: postphenomenology and affordances of technologies. *AI & Society*. <https://doi.org/10.1007/s00146-021-01272-3>

- Dean, T. (2021, February 2). *Ethics explainer: Moral relativism*. The Ethics Centre. <https://ethics.org.au/ethics-explainer-moral-relativism/>
- deGrasse Tyson, N. (2012). The case for space: why we should keep reaching for the stars. *Foreign Affairs*, 91(2), 22–33. <http://www.jstor.org/stable/23217218>
- deGrasse Tyson, N. (2023). *What taxpayers gained going to the moon*. [Video]. YouTube. <https://www.youtube.com/watch?v=Oe1NyLWGMVI>
- Deichmann, J., Ebel, E., Heineke, K., Heuss, R., Kellner, M., & Steiner, F. (2023, January 6). *Autonomous driving's future: Convenient and connected*. McKinsey & Company. <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/autonomous-drivings-future-convenient-and-connected>
- Design Against Crime Research Centre. (2019). *Cell furniture: designs for safety, wellbeing, and sustainability*. https://files.cargocollective.com/c1114017/Cell-Furniture-Catalogue-_FINAL_compressed.pdf
- Dick, P. K. (1956). The Minority Report. *Fantastic Universe Science Fiction*.
- Dickerson, B. (2019, May 30). *The history of 20th-century (and earlier) wave pools*. WavePoolMag. <https://wavepoolmag.com/the-complete-history-of-20th-century-wave-pools/#:~:text=In%20the%201870s%20Ludwig%20II,escape%20the%20pressures%20of%20kinghood>
- Dickerson, B. (2021, April 9). *Deep dive: so how much energy does a wave pool use?* WavePoolMag. <https://wavepoolmag.com/deep-dive-so-how-much-energy-does-a-wave-pool-use/#:~:text=300%20to%20400%20kWh%20per,high%20in%20the%20same%20timeframe>
- Dignitas. (n.d.). *Who is Dignitas?* Dignitas. <http://www.dignitas.ch/?lang=en>
- Dittmer, J. (1997). “Too busy to hate”: Race, class, and politics in twentieth-century Atlanta. *The Georgia Historical Quarterly*, 81(1), 103–117.
- Dotov, D. G., Nie, L., & Chemero, A. (2010). A demonstration of the transition from ready-to-hand to unready-to-hand. *PLoS ONE*, 5(3), 1–9. <https://doi.org/10.1371/journal.pone.0009433>
- Doudna, J. & Sternberg, S. (2017). *A crack in creation: gene editing and the unthinkable power to control evolution*. Houghton Mifflin Harcourt.
- Douglass, B. (1980). The Common Good and the Public Interest. *Political Theory*, 8(1), 103–117. <http://www.jstor.org/stable/190769>. <https://doi.org/10.1177/009059178000800108>
- Driver, J. (2014, September 22). *The history of utilitarianism*. The Stanford Encyclopedia of Philosophy (Winter 2022 Edition). <https://plato.stanford.edu/archives/win2022/entries/utilitarianism-history/>
- Dunham, W. (2022, July 19). Scientists uncover history of ‘ridiculously charming’ penguins. *Reuters*. <https://www.reuters.com/lifestyle/science/scientists-uncover-history-ridiculously-charming-penguins-2022-07-19/#:~:text=The%20researchers%20said%20penguins%20evolved,becoming%20excellent%20swimmers%20and%20divers>
- Dunne, A. (1999). *Hertzian tales: electronic products, aesthetic experience, and critical design*. MIT Press.

- Dunne, A. & Raby, F. (n.d.). *Critical design FAQ*. Dunne and Raby. <https://dunneandraby.co.uk/content/bydandr/13/0>
- Engstrom, K. V., & van Ginneken, E. F. J. C. (2022). Ethical prison architecture: a systematic literature review of prison design features related to wellbeing. *Space and Culture*, 25(3), 479-503. <https://doi.org/10.1177/12063312221104211>
- EPA. (n.d.). *Climate change and social vulnerability in the United States: a focus on six impacts*. U.S. Environmental Protection Agency. EPA. <https://www.epa.gov/cira/social-vulnerability-report>
- European Parliament. (2023, April 27). *Ending fast fashion: tougher rules to fight excessive production and consumption*. European Parliament. <https://www.europarl.europa.eu/news/en/press-room/20230424IPR82040/ending-fast-fashion-tougher-rules-to-fight-excessive-production-and-consumption>
- Everytown For Gun Safety. (2023, December 15). *U.S. Surpasses 2022 Total Unintentional Shootings by Children*. Everytown For Gun Safety. <https://everytownsupportfund.org/press/u-s-surpasses-2022-total-unintentional-shootings-by-children/>
- Fair Trials. (2023, June 16). *EU Parliament approves landmark AI law*. Fair Trials. <https://www.fairtrials.org/articles/news/eu-parliament-approves-landmark-ai-law/>
- Fekete, O.B., & Szilágyi, K.M. (2021) Contemporary zoo design and the historical treasure of garden art: Tiergarten Schönbrunn. *Journal of Landscape Architecture*, 16, 82-93, DOI: 10.1080/18626033.2021.2046809
- Fenster, A. (2020, October 13). New data: solitary confinement increases risk of premature death after release. *Prison Policy Initiative*. https://www.prisonpolicy.org/blog/2020/10/13/solitary_mortality_risk/
- Fiby, M. (2008). Trends in zoo design – changing needs in keeping wild animals for a visiting audience. *The International Review of Landscape Architecture and Urban Design*. https://zoolex.org/page/publications/fiby/trends_in_zoodesign
- Fisher, T. (2019). *The architecture of ethics*. Routledge. <https://doi.org/10.4324/9781351065740>
- Fisher, T. & Gamman, L. (2019). *Tricky design: the ethics of things*. Bloomsbury Visual Arts. <https://doi.org/10.5040/9781474277211>
- Food Print. (2023, February 28). *How industrial agriculture affects our air*. Food Print. <https://foodprint.org/issues/how-industrial-agriculture-affects-our-air/>
- Forcing functions. (n.d.). *Interaction Design Foundation*. <https://www.interaction-design.org/literature/book/the-glossary-of-human-computer-interaction/forcing-functions>
- Forsythe, B. (1984). Prisons and panopticons. *Social Policy & Administration*, 18(1), 68-88. <https://doi.org/10.1111/j.1467-9515.1984.tb00197.x>
- Foucault M. (1977). *Discipline and punish: the birth of the prison (1st American)*. Pantheon Books.

- Foust, J. (2019, April 16). *Pepsi drops plans to use orbital billboard*. Space News. <https://spacenews.com/pepsi-drops-plans-to-use-orbital-billboard/>
- Fowler, G. (2022, March 31). *Am I being tracked? Anti-stalking tech from Apple, Tile falls short*. The Washington Post. <https://www.washingtonpost.com/technology/2022/03/31/airtags-stalking/>
- Fraieli, A. (2021, May 10). *The cost to criminalize homelessness*. The Homeless Voice. <https://homelessvoice.org/the-cost-to-criminalize-homelessness/>
- Franklin D. Roosevelt Presidential Library and Museum. (n.d.). *FDR and the Four Freedoms Speech*. <https://www.fdrlibrary.org/four-freedoms>
- Fredrickson, D. & Siljander, R. (2002). *Racial profiling*. U.S. Department of Justice Office of Justice Programs. <https://www.ojp.gov/ncjrs/virtual-library/abstracts/racial-profiling-0>
- Friedman, B., & Hendry, D. G. (2019). *Value sensitive design: shaping technology with moral imagination*. MIT Press. <https://doi.org/10.7551/mitpress/7585.001.0001>
- Fry, H. (2018). *Hello world: being human in the age of algorithms*. W.W. Norton & Company.
- Gaebler, J., Cai, W., & Goel, S. (2022, September 15). *Police stop Black drivers more often than Whites. We found out why*. The Washington Post. <https://www.washingtonpost.com/politics/2022/09/15/driving-while-black-racial-discrimination-traffic-tickets/>
- Gallop, J. D. (2018, June 22). *No charges for 5 teens who mocked and filmed drowning man, Jamel Dunn, in a Cocoa pond*. Florida Today. <https://www.floridatoday.com/story/news/2018/06/22/no-charges-year-after-teens-mocked-drowning-man-prosecutors-rule-out-filing-charges/723259002/>
- Galton, F. (1865). Hereditary talent and character. *Macmillan's Magazine*, 12, 157-166.
- Gandhi, M. (2018). *An autobiography or the story of my experiments with truth: a critical edition*. New Haven: Yale University Press. <https://doi.org/10.12987/9780300238402>
- Gender Shades Project. (n.d.). *Gender Shades*. <http://gendershades.org/overview.html>
- Genoways, T. (2014). *The chain: farm, factory, and the fate of our food* (First edition). Harper, an imprint of Harper Collins Publishers.
- Georgetown Law Center on Privacy & Technology. (2016, October 18). *The perpetual line-up*. <https://www.perpetuallineup.org/findings/racial-bias>
- Gibson, J.J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.
- Gigante, M. (1993). Virtual reality: definitions, history, and applications. *Virtual Reality Systems*, 3-14. <https://doi.org/10.1016/B978-0-12-227748-1.50009-3>
- Gogoll, J. et al. (2021). Ethics in the software development process: from codes of conduct to ethical deliberation. *Philos. Technol*, 34, 1085–1108. <https://doi.org/10.1007/s13347-021-00451-w>

- Goldberg, N. (2023, May 8). *Column: high-speed, high adrenaline car chases are an L.A. staple. But are they worth the risks?* Los Angeles Times. <https://www.latimes.com/opinion/story/2023-05-08/los-angeles-police-department-car-chase-police-pursuit-deaths-injuries>
- Goldstick, J., Cunningham, R., & Carter, P. (2022). Current causes of death in children and adolescents in the United States. *New England Journal of Medicine*, 20, 1955-1956. <https://www.nejm.org/doi/full/10.1056/nejmc2201761>
- Goodman, P. (1969). "Can Technology Be Humane?" *New York Review of Books*, 13(9).
- Governors Highway Safety Association. (2023, March). *Motorcyclists*. <https://www.ghsa.org/state-laws/issues/Motorcyclists#:~:text=Illinois%2C%20Iowa%20and%20New%20Hampshire,not%20have%20motorcycle%20helmet%20laws>
- Grant, J. & Fox, F. (1992). Understanding the role of the designer in society. *Journal of Art & Design Education*, 11, 77-87. <https://doi.org/10.1111/j.1476-8070.1992.tb00689.x>
- Gray, R. (2007, April 22). *How we made the Chernobyl rain*. The Telegraph. <https://www.telegraph.co.uk/news/worldnews/1549366/How-we-made-the-Chernobyl-rain.html>
- Gregersen, L. (2022, August 11). *How a small Canadian city took on chronic homelessness*. Next City. <https://nextcity.org/urbanist-news/medicine-hat-alberta-canada-city-chronic-homelessness>
- Gun Violence Archive. (n.d.). *GVA 10 year review*. <https://www.gunviolencearchive.org/>
- Haberman, C. (2018, December 2). *For shame: a brief history of the perp walk*. The New York Times. <https://www.nytimes.com/2018/12/02/us/perp-walk.html>
- Hall, L. (2019, July 15). *Going to the moon was hard – but the benefits were huge, for all of us*. NASA. <https://www.nasa.gov/technology/tech-transfer-spinoffs/going-to-the-moon-was-hard-but-the-benefits-were-huge-for-all-of-us/>
- Hampton, L. (2023). Jeremy Bentham. In R.Y. Chappell, D. Meissner, and W. MacAskill (eds.), *An introduction to utilitarianism*. <https://www.utilitarianism.net/utilitarian-thinker/jeremy-bentham>
- Harari, Y. N. (2024). *Nexus: a brief history of information networks from the Stone Age to AI. First U.S. edition*. New York, Random House.
- Harvey, C. (2021, March 16). *Eight states are seeding clouds to overcome megadrought*. Scientific American. <https://www.scientificamerican.com/article/eight-states-are-seeding-clouds-to-overcome-megadrought/>
- Heaven, W. (2020, July 17). *Predictive policing algorithms are racist. They need to be dismantled*. MIT Technology Review. <https://www.technologyreview.com/2020/07/17/1005396/predictive-policing-algorithms-racist-dismantled-machine-learning-bias-criminal-justice/>

- Helliwell, J. F., Huang, H., Norton, M., Goff, L., & Wang, S. (2023). World happiness, trust, and social connections in times of crisis. In *World Happiness Report 2023* (11th ed., Chapter 2). Sustainable Development Solutions Network. <https://worldhappiness.report/ed/2023/world-happiness-trust-and-social-connections-in-times-of-crisis/#ranking-of-happiness-2020-2022>
- Herold, E. (2024). *Robots and the people who love them: holding on to our humanity in an age of social robots*. First edition. New York, St. Martin's Press.
- Hersh, M. (2015). Ethical engineering: definitions, theories, and techniques. In M. Hersh (Ed.) *Ethical Engineering for International Development and Environmental Sustainability*. Springer-Verlag. https://doi.org/10.1007/978-1-4471-6618-4_2
- Hickman, M. (2020, November 2). *Copenhill, BIG's skiable waste-to-energy power plant, gets sweeping new photos from Hufton + Crow*. The Architect's Newspaper. <https://www.archpaper.com/2020/11/copenhill-bigs-skiable-waste-to-energy-power-plant-gets-sweeping-new-photos-from-hufton-crow/>
- Hippo Roller. (n.d.). *Revolutionizing water access: the resurgence of Hippo Roller technology*. Hippo Roller. <https://hipporoller.org>
- Hoffman, H. et al., (2022). Virtual reality as an adjunctive non-pharmacologic analgesic for acute burn pain during medical procedures. *Annals of Behavioral Medicine*, 4(2), 183-191. <https://doi.org/10.1007/s12160-010-9248-7>
- HOK. (n.d.). *The future of courthouse design*. HOK. <https://www.hok.com/ideas/research/the-future-of-courthouse-design/>
- Holdorf, W.J. (1987, February 5). *Seat belt law an assault on freedom*. The Chicago Tribune. <https://www.chicagotribune.com/news/ct-xpm-1987-02-05-8701090791-story.html>
- Holland, O. (2020, February 5). *PETA ends "I'd rather go naked" anti-fur campaign after three decades*. CNN. <https://www.cnn.com/style/article/peta-naked-fur-campaign-ends/index.html>
- How does the Mosquito alarm work? (n.d.). *Mosquito loitering solutions*. <https://mosquitoloiteringsolutions.com/faq/how-does-it-work/>
- How Mosquito helps in the community. (n.d.). *Mosquito loitering solutions*. <https://mosquitoloiteringsolutions.com/how-mosquito-has-helped/in-the-community/>
- How to stop anti-social behavior. (n.d.). *Mosquito loitering solutions*. <https://mosquitoloiteringsolutions.com/why-mosquito/anti-social-behaviour/>
- Howard, J. (1777). *The state of the prisons in England and Wales: with preliminary observations, and an account of some foreign prisons*. Printed by William Eyres, MDCCLXXVII.
- Huling, T. (2002). Invisible punishment: the collateral consequences of mass imprisonment. *The New Press*. <https://www.prisonpolicy.org/scans/building.html>
- Human Rights Watch. (2023, February 14). *US: New policy on autonomous weapons flawed*. Human Rights Watch. <https://www.hrw.org/news/2023/02>

- /14/us-new-policy-autonomous-weapons-flawed?gad_source=1&gclid=CjwKCAiAopuvBhBCEiwAm8jaMR32yi1cMepw2JbYWekty8_ITP69BbC0PHbnJ-3H6i8Z7UmBam2aCBoC6zsQAvD_BwE
- Imagine humane technology. (2021, August 17). *Center for Humane Technology*. <https://www.humanetech.com/youth/imagine-humane-technology>
- IMDB. (n.d.). *Jeff Goldblum: Malcolm*. <https://www.imdb.com/title/tt0107290/characters/nm0000156>
- Insurance Institute for Highway Safety. (2023, July). *Seat belt laws*. Insurance Institute for Highway Safety. <https://www.iihs.org/topics/seat-belts#:~:text=With%20the%20exception%20of%20New,and%20the%20District%20of%20Columbia>
- Interaction 18. (n.d.). *The Oppenheimer Moment*. Interaction. <https://interaction18.ixda.org/program/keynote--alan-cooper/>
- Invasive Species Advisory Committee. (2016, December 6). *Invasive species impacts on infrastructure*. https://www.doi.gov/sites/doi.gov/files/uploads/isac_infrastructure_white_paper.pdf
- J. Robert Oppenheimer, atomic bomb pioneer, dies. (1967, February 19). *The New York Times*. <https://archive.nytimes.com/www.nytimes.com/learning/general/onthisday/bday/0422.html>
- Jacobs, N., & Hultgren, A. (2021). Why value sensitive design needs ethical commitments. *Ethics & Information Technology*, 23(1), 23–26. <https://doi.org/10.1007/s10676-018-9467-3>
- Jones, R.P. & Cox, D. (2011). *Few Americans see natural disasters a sign from god*. PRRI. <http://www.ppri.org/research/few-americans-see-earthquakes-floods-and-other-natural-disasters-a-sign-from-god-2/>
- Jordan, D. (2023, September 8). *Elon Musk says he withheld Starlink over Crimea to avoid escalation*. BBC News. <https://www.bbc.com/news/world-europe-66752264>
- Kamiya, G. (2021, February 2). *The holier-than-thou crusade in San Francisco*. The Atlantic. <https://www.theatlantic.com/ideas/archive/2021/02/san-francisco-renaming-spree/617894/>
- Kampourakis, K. (2020). Students' "teleological misconceptions" in evolution education: why the underlying design stance, not teleology per se, is the problem. *Evo Edu Outreach*, 13(1). <https://doi.org/10.1186/s12052-019-0116-z>
- Kamprani, K. (n.d.). *The Uncomfortable*. <https://www.theuncomfortable.com/about/>
- Kang-Brown, J. & Subramanian, R. (2017, June). *Out of sight: the growth of jails in rural America*. Vera Institute of Justice. <https://www.vera.org/downloads/publications/out-of-sight-growth-of-jails-rural-america.pdf>
- Keim, B. (2018, August 22). *Is New Zealand's war on invasive predators an expensive distraction?* Anthropocene. https://www.anthropocenemagazine.org/2018/08/new-zealand-predator-free-critique/?gclid=CjwKCAiA-vOsBhAAEiwAIWR0TQjDGM5UcWUN6Dh3FmechhPgGrMMbJsKt0bcMIOPteimD-W931LQeBoCMGcQAvD_BwE

- Kennedy, J. (1962, September). *We choose to go to the moon*. Rice University. <https://www.rice.edu/jfk-speech>
- Kessler, G. (2021, November 10). *Robert Moses and the sage of the racist parkway bridges*. The Washington Post. <https://www.washingtonpost.com/politics/2021/11/10/robert-moses-saga-racist-parkway-bridges/>
- Khurshudyan, I., Ilushina, M., & Khudov, K. (2022, December 2). *Russia and Ukraine are fighting the first full-scale drone war*. The Washington Post. <https://www.washingtonpost.com/world/2022/12/02/drones-russia-ukraine-air-war/>
- Klosterman, C. (2014, June 20). *So you think you can steal?* The New York Times Magazine. <https://www.nytimes.com/2014/06/22/magazine/so-you-think-you-can-steal.html>
- Koonin, S. (2021). *Unsettled: What climate science tells us, what it doesn't, and why it matters*. BenBella Books, Inc.: Dallas.
- Janier, J. (2017). *Dawn of the new everything: encounters with reality and virtual reality*. Henry Holt and Company.
- Lantigua-Williams, J. (2016, December 5). *The link between race and solitary confinement*. The Atlantic. <https://www.theatlantic.com/politics/archive/2016/12/race-solitary-confinement/509456/>
- LAPD. (2023, March 14). *Officer involved shooting occurs during bait car operation*. LAPD. <https://www.lapdonline.org/newsroom/officer-involved-shooting-occurs-during-bait-car-operation/>
- Laranjeira, C., Dixe, M. A., Querido, A., & Stritch, J. M. (2022). Death cafés as a strategy to foster compassionate communities: Contributions for death and grief literacy. *Frontiers in Psychology*, 13, 986031. <https://doi.org/10.3389/fpsyg.2022.986031>
- Larrea, M. (2023, February 13). *What is a gated community? Pros & cons of living in gated communities*. Palm Paradise Realty Group. <https://www.palmparadise realestate.com/blog/gated-community-pros-cons/>
- Latour, B. (2000). *Pandora's hope: essays on the reality of science studies*. Harvard University Press.
- Lee, H. N. (1928). Morals, Morality, and Ethics: Suggested Terminology. *International Journal of Ethics*, 38(4), 450–466. <http://www.jstor.org/stable/2377964>. <https://doi.org/10.1086/207693>
- Levin, N. (2019). "Introduction to Philosophy and the Ship of Theseus." In *Ancient Philosophy Reader, An Open Educational Resource*. NGE Far Press. [https://human.libretexts.org/Bookshelves/Philosophy/Book%3A_Ancient_Philosophy_Reader_\(Levin\)/01%3A_The_Start_of_Western_Philosophy_and_the_Pre-Socratics/1.01%3A_Introduction_to_Philosophy_and_the_Ship_of_Theseus](https://human.libretexts.org/Bookshelves/Philosophy/Book%3A_Ancient_Philosophy_Reader_(Levin)/01%3A_The_Start_of_Western_Philosophy_and_the_Pre-Socratics/1.01%3A_Introduction_to_Philosophy_and_the_Ship_of_Theseus)
- Liberty Human Rights. (2019, February 4). *Liberty report exposes police forces' use of discriminatory data to predict crime*. <https://www.libertyhumanrights.org.uk/issue/liberty-report-exposes-police-forces-use-of-discriminatory-data-to-predict-crime/>

- Lidge, E.F. (2006). Perp walks and prosecutorial ethics. *Nevada Law Review*, 7(26). <https://scholars.law.unlv.edu/cgi/viewcontent.cgi?article=1419&context=nlj>
- Liepert, A.E., Berndtson, A.E., & Hill, L.L. (2022). Association of 30-ft US-Mexico border wall in San Diego with increased migrant deaths, trauma center admissions, and injury severity. *JAMA Surg*, 157(7), 633–635. <https://doi.org/10.1001/jamasurg.2022.1885>
- Lillehammer, H. (2023). Keeping track of your trolleys: origins and destinations. In H. Lillehammer (Ed.), *The trolley problem* (Classic Philosophical Arguments, pp. 7–24). Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781009255615.002>
- Lloyd, S. & Sreedhar, S. (2022, September 12). Hobbes's moral and political philosophy. *The Stanford Encyclopedia of Philosophy* (Winter 2022 Edition). <https://plato.stanford.edu/entries/hobbes-moral/#StaNat>
- Lo, A. (2017, December 21). *The debate: Is hostile architecture designing people – and nature – out of cities?* CNN. <https://www.cnn.com/style/article/new-dean-harvey-james-furzer-hostile-architecture-debate/index.html>
- Lockton, D. (n.d.). *Architectures of control in the built environment*. Architectures. <https://architectures.danlockton.co.uk/architectures-of-control-in-the-built-environment/>
- Luckey, P. (2022, November 6). *If you die in the game, you die in real life*. The Blog of Palmer Luckey. <https://palmerluckey.com/if-you-die-in-the-game-you-die-in-real-life/>
- Lung, N. (2023, October 20). *Most New York Airbnb applications don't meet city requirements*. Bloomberg. <https://www.bloomberg.com/news/articles/2023-10-20-most-new-york-airbnb-applications-don-t-meet-city-requirements>
- Madden, K. Kent, F., & Peinhardt, K. (2021, November 8). *How seating shapes welcoming cities*. Social Life Project. <https://www.sociallifeproject.org/have-a-seat-how-seating-shapes-welcoming-cities/>
- Manauagh, G. (2016). *A burglar's guide to the city* (First edition). Farrar, Straus and Giroux.
- Mandela, N. (2009). *Long walk to freedom*. New York: Flash Point/Roaring Brook Press.
- Markkula Center for Applied Ethics. (2018, June 22). *An ethical toolkit for engineering/design practice*. <https://www.scu.edu/ethics-in-technology-practice/ethical-toolkit/>
- Markkula Center for Applied Ethics. (2021, November 8). *A framework for ethical decision making*. <https://www.scu.edu/ethics/ethics-resources/a-framework-for-ethical-decision-making/>
- Martindale, D. (2023, April 26). *Bringing back woolly mammoths and dodos is a bad idea*. Vox. <https://www.vox.com/future-perfect/23696294/de-extinction-colossal-biosciences-woolly-mammoth-dodo-ethics>
- Mason, R. O. (1986). Four Ethical Issues of the Information Age. *MIS Quarterly*, 10(1), 5–12. <https://doi.org/10.2307/248873>

- McDowell, J. (2024, April 14). *GCAT: general catalog of artificial space objects*. <https://planet4589.org/space/gcat/index.html>
- Merchant, B. (2023). *Blood in the machine: the origins of the rebellion against big tech*. Little, Brown, and Company.
- Merchant, N. (n.d.). *IoT technologies explained: History, examples, risks, & future*. Vision of Humanity. <https://www.visionofhumanity.org/what-is-the-internet-of-things/#:~:text=The%20term%20'Internet%20of%20Things,them%20through%20a%20supply%20chain>
- Metzl, J. F. (2019). *Hacking Darwin: genetic engineering and the future of humanity*. Sourcebooks, Inc.
- Mitchell, WJT (1998). The violence of public art. In Ostrow, S. (Ed.), *Beauty is nowhere: ethical issues in art and design*. Routledge. <https://doi.org/10.4324/9780203871423>
- Monteiro, M. (2019). *Ruined by design: How designers destroyed the world, and what we can do to fix it*. Independently published.
- Moore, A. (2022, September 5). *'I didn't want it anywhere near me': how the Apple AirTag became a gift to stalkers*. The Guardian. <https://www.theguardian.com/technology/2022/sep/05/i-didnt-want-it-anywhere-near-me-how-the-apple-airtag-became-a-gift-to-stalkers>
- Moore, T. (2019, July 17). *Inside the design evolution of the modern zoo*. Bloomberg. <https://www.bloomberg.com/news/articles/2019-07-17/the-history-of-humans-looking-at-animals-in-zoos>
- Moreno, C. (2021, June 21). *Decades after the Tulsa race massacre, urban 'renewal' sparked Black Wall Street's second destruction*. Smithsonian Magazine. <https://www.smithsonianmag.com/history/black-wall-streets-second-destruction-180977871/>
- Morgan, R.E. & Truman, J.L. (2022, February). *Stalking victimization, 2019*. U.S. Department of Justice. <https://bjs.ojp.gov/content/pub/pdf/sv19.pdf>
- Murphy, D. et al. (2023). Metals from spacecraft reentry in stratospheric aerosol particles. *PNAS*, 120(43). <https://www.pnas.org/doi/full/10.1073/pnas.2313374120>. <https://doi.org/10.1073/pnas.2313374120>
- Murphy, T. (2015, July 22). *Ben Carson says prison is so comfy some people never want to leave*. Mother Jones. <https://www.motherjones.com/politics/2015/07/ben-carson-says-prisons-are-too-comfy/>. <https://doi.org/10.7748/nm.22.8.19.s19>
- Murray, C. (2019, March 28). *It's time for architects to choose ethics over aesthetics*. dezeen. <https://www.dezeen.com/2019/03/28/opinion-christine-murray-climate-change/>
- Murrow, E. (1955, January 4). *A Conversation with J. Robert Oppenheimer*. See It Now. <https://famous-trials.com/oppenheimer/2694-edward-r-murrow-interviews-oppenheimer-see-it-now>
- Narcotta, J. & Ablondi, B. (2022, June 22). *Strategy analytics: Amazon's Ring remained atop the video doorbell market in 2021*. Business Wire. <https://www.businesswire.com/news/home/20220622005023/en/Strategy-Analytics->

- Amazons-Ring-Remained-atop-the-Video-Doorbell-Market-in-2021#:~:text=These%20five%20companies%20combined%20to,to%20consumers%20globally%20in%202021
- Nelson, G. (1977). *How to see: visual adventures in a world God never made (1st ed)*. Little Brown.
- Newcomb, T. (2023, January 30). *Scientists are reincarnating the woolly mammoth to return in 4 years*. Popular Mechanics. <https://www.popularmechanics.com/science/animals/a42708517/scientists-reincarnating-woolly-mammoth/>
- Nielsen, K. (2004). *The radical lives of Helen Keller*. New York University Press.
- Nikke Asia. (2023, July 7). *Japan police to test AI-equipped cameras in protecting VIPs*. <https://asia.nikkei.com/Politics/Japan-police-to-test-AI-equipped-cameras-in-protecting-VIPs>
- Nilson, E. et al. (2022). Premature deaths attributable to the consumption of ultraprocessed foods in Brazil. *Global Health Promotion and Prevention*, 64(1), 129-136. <https://doi.org/10.1016/j.amepre.2022.08.013>
- Nolen, S. (2002, November 5). *Designing zoo habitats that promote animal well-being*. American Veterinary Medical Association. <https://www.avma.org/javma-news/2002-12-01/designing-zoo-habitats-promote-animal-well-being#:~:text=Research%20has%20also%20shown%20that,for%20and%20catch%20their%20food>
- Norman, D. A. (1988). *The psychology of everyday things*. Basic Books.
- Novak B. J. (2018). De-Extinction. *Genes*, 9(11), 548. <https://doi.org/10.3390/genes9110548>
- NYCLU. Stop-and-frisk data. *ACLU of New York*. <https://www.nyclu.org/en/stop-and-frisk-data>
- O'Brien, M. (2022, September 2). *Years late and billions over budget, NASA's most powerful rocket finally set for takeoff*. PBS. <https://www.pbs.org/newshour/show/years-late-and-billions-over-budget-nasas-most-powerful-rocket-finally-set-for-takeoff>
- O'Connell, M. (2017). *To be a machine: adventures among cyborgs, utopians, hackers, and the futurists solving the modest problem of death*. Doubleday.
- Odenbaugh, J. (2023). Philosophy and ethics of de-extinction. *Cambridge Prisms: Extinction*, 1(7). doi:10.1017/ext.2023.4
- Olmos, S. (2023, April 23). *LA is blasting classical music to deter homeless people from gathering at metro stations*. NPR. <https://www.npr.org/2023/04/23/1171494452/la-is-blasting-classical-music-to-deter-homeless-people-from-gathering-at-metro->
- Ong, P. (n.d.). *Priscilla Ong studio*. <https://www.priscillaong.com/>
- Overkamp, L. (2019, May 30). *Daily ethical design*. A List Apart. <https://alistapart.com/article/daily-ethical-design/>
- Overmyer-Velazquez, M. (2011). *Beyond La Frontera: the history of Mexico-U.S. migration*. Oxford University Press.

- Palm, E. & Hansson, S.O. (2006). The case for ethical technology assessment (eTA). *Technological Forecasting and Social Change*, 73(5), 543-558. <https://doi.org/10.1016/j.techfore.2005.06.002>
- Pandya, D. & Kalra, A. (2023, July 20). *India's Adani to convert Mumbai slum into modern city despite challenges*. Reuters. <https://www.reuters.com/world/india/indias-adani-convert-mumbai-slum-into-modern-city-despite-challenges-2023-07-20/>
- Papanek, V. (1998). Toward the spiritual in design. In Ostrow, S. (Ed.), *Beauty is nowhere: ethical issues in art and design*. Routledge. <https://doi.org/10.4324/9780203871423>
- Parshina-Kottas, Y., Singhvi, A., Burcj, A., Griggs, T., Grondahl, M., Huang, L., Wallace, T., White, J., & Williams, J. (2021, May 24). *What the Tulsa race massacre destroyed*. The New York Times. <https://www.nytimes.com/interactive/2021/05/24/us/tulsa-race-massacre.html>
- Perez, S. (2021, September 16). *Tile secures \$40 million to take on Apple AirTag with new products*. Tech Crunch. <https://techcrunch.com/2021/09/16/tile-secures-another-40-million-to-take-on-apple-airtag-with-new-products/>
- PETA. (n.d.). *Don't zoos help to preserve endangered species?* PETA. <https://www.peta.org/about-peta/faq/dont-zoos-help-to-preserve-endangered-species/>
- PETA. (n.d.). *How to tell if a place is a REAL animal sanctuary*. PETA. <https://www.peta.org/features/real-animal-sanctuary-zoo/>
- PETA. (n.d.). *Our mission statement*. PETA. <https://www.peta.org/about-peta/>
- PETA. (n.d.). *Why animal rights?* PETA. <https://www.peta.org/about-peta/why-peta/why-animal-rights/>
- Pew Research Center. (2022, March 15). *Public expresses mixed views of U.S. response to Russia's invasion of Ukraine*. Pew Research. <https://www.pewresearch.org/politics/2022/03/15/public-expresses-mixed-views-of-u-s-response-to-russias-invasion-of-ukraine/>
- Phelps, W. (2021). *On killing remotely: the psychology of killing with drones*. Little, Brown, and Company.
- Plump, W. (n.d.). *Peter Singer on ethical politics*. Princeton Magazine. <https://www.princetonmagazine.com/peter-singer-on-ethical-politics/#:~:text=As%20both%20a%20surfer%20and,waves%20are%20good%20or%20not>
- Poinar, G. O., Hess, R. (1982). Ultrastructure of 40-Million-Year-Old Insect Tissue. *Science*, 215. 1241-1242. DOI:10.1126/science.215.4537.1241
- Polakova, S. & Cruchade, A. (2018, October 24). *Can speculative design make UX better?* Medium. <https://uxplanet.org/can-speculative-design-make-ux-better-design-trend-4-4-ce8d13148e5d>
- Pontin, M.W. (2008, March 25). *Weather engineering in China*. MIT Technology Review. <https://www.technologyreview.com/2008/03/25/270084/weather-engineering-in-china/>
- Portes, J. (2019). The Economics of Migration. *Contexts*, 18(2), 12-17. <https://doi.org/10.1177/1536504219854712>

- Postman, N. (1993). *Technopoly: the surrender of culture to technology*. 1st Vintage Books ed. New York, Vintage Books.
- Postman, N. (1999). *Building a bridge to the 18th century: how the past can improve our future*. Alfred A. Knopf: Distributed by Random House.
- Prasow, A. (2020, December 14). *US architects join movement against capital punishment, torture*. Human Rights Watch. <https://www.hrw.org/news/2020/12/14/us-architects-join-movement-against-capital-punishment-torture#:~:text=On%20December%2011%2C%20the%20Board,of%20prisoners%20for%2022%20hours>
- Pratten, J.D., Wright, D.L. (2013). Unethical products. In: Idowu, S.O., Capaldi, N., Zu, L., Gupta, A.D. (eds) *Encyclopedia of Corporate Social Responsibility*. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-28036-8_598
- Project for Public Spaces. (2008, December 31). *Waste receptacles*. PPS. <https://www.pps.org/article/wastereceptacles>
- Rascoe, A. & Kocherga, A. (2023, October 8). *The Biden administration is building a controversial part of the border wall in Texas*. NPR News. <https://www.npr.org/2023/10/08/1204545880/the-biden-administration-is-building-a-controversial-part-of-the-border-wall-in->
- Rainie, L., Funk, C., Anderson, M., & Tyson, A. (2022, March 17). *Americans are closely divided over editing a baby's genes to reduce serious health risk*. Pew Research Center. <https://www.pewresearch.org/internet/2022/03/17/americans-are-closely-divided-over-editing-a-babys-genes-to-reduce-serious-health-risk/>
- Rainie, L., Funk, C., Anderson, M., & Tyson, A. (2022, March 17). *Public more likely to see facial recognition use be police good, rather than bad for society*. Pew Research Center. <https://www.pewresearch.org/internet/2022/03/17/public-more-likely-to-see-facial-recognition-use-by-police-as-good-rather-than-bad-for-society/>
- Ramirez, E. J. (2022). *The ethics of virtual and augmented reality: Building worlds*. Routledge. <https://doi.org/10.4324/9781003042228>
- RAWTools. (n.d.). *Forging peace. Disarming hearts*. RAW Tools. <https://rawtools.org/>
- Recycling Today. (2019, November). *The woes of poorly sorted waste – an industry perspective*. Recycling Today. <https://www.recyclingtoday.com/article/the-woes-of-poorly-sorted-waste--an-industry-perspective/>
- Rees, P. A. (2023). *Zoo studies: living collections, their animals, and visitors*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781108566049>
- Reich, R. B. (2018). *The common good. First edition*. New York, Alfred A. Knopf.
- René Magritte: Belgian, 1898-1967. (n.d.). Museum of Modern Art. <https://www.moma.org/artists/3692#fn:1>
- Reuters. (2023, September 12). *US-Mexico border is world's deadliest land migration route, IOM finds*. Reuters. <https://www.reuters.com/world/us->

- mexico-border-is-worlds-deadliest-land-migration-route-iom-finds-2023-09-12/
- Reyes, P. (n.d.). *Palas por pistolas*. Pedro Reyes. <http://pedroreyes.net/08.php?szLang=en&Area=work&SubArea=08>
- Richards, Z. (2023, December 19). *Trump doubles down on immigrant 'blood' remark, says he 'never read Mein Kampf'*. NBC News. <https://www.nbcnews.com/politics/donald-trump/trump-doubles-immigrant-blood-remark-says-never-read-mein-kampf-rcna130535>
- Rivera, N. (2020). *Painted over in brown: border art as visual discourse of resistance*. UNM Digital Repository. https://digitalrepository.unm.edu/cgi/viewcontent.cgi?article=1140&context=cj_etds
- Roach, M. (2021). *Fuzz: when nature breaks the law*. New York, NY, W.W. Norton & Company.
- Rodgers, B. (2023). *Cloak of charity: studies in eighteenth-century philanthropy*. Taylor & Francis Group. <https://doi.org/10.4324/9781003459392>
- Roe, K., McConney, A., & Mansfield, C. F. (2014). How do zoos 'talk' to their general visitors? Do visitors 'listen'? A mixed method investigation of the communication between modern zoos and their general visitors. *Australian Journal of Environmental Education*, 30(2), 167–186. <https://www.jstor.org/stable/26422865>. <https://doi.org/10.1017/aee.2015.1>
- Rose, C. (2015, March 22). *Astrophysicist Neil deGrasse Tyson's one-man mission*. CBS News. <https://www.cbsnews.com/news/neil-degrasse-tyson-astrophysicist-charlie-rose-60-minutes/>
- Rosenberg, M., Cooke, K., & Trotta, D. (2022, July 25). *The border's toll*. Reuters. <https://www.reuters.com/investigates/special-report/usa-immigration-border-deaths/>
- Rosenberger, R. (2017). *Callous Objects: Designs Against the Homeless*. Minneapolis, MN: University of Minnesota Press. <https://doi.org/10.5749/9781452958538>
- Ross, S. (n.d.). *2005-2006 Archisuits*. Insecure Spaces. <https://insecurespaces.net/archisuits-2005-2006/>
- Rousseau J.-J. & Cress D. A. (1987). *Basic political writings*. Hackett Publishing Company.
- Rybczynski, W. (2013). *How architecture works: A humanist's toolkit*. Farrar, Strous, and Giroux. New York.
- Sabin Center for Climate Change Law. (2024). *About*. Climate Case Chart. <http://climatecasechart.com/about/>
- Sagan, C. (1985). *We are all in this greenhouse together*. [Video]. YouTube. <https://www.youtube.com/watch?v=EuR9CzWcCfc>
- Salvador Dali: The persistence of memory. (n.d.). Museum of Modern Art. <https://www.moma.org/collection/works/79018>
- Schön, D. A. (1983). *The reflective practitioner: how professionals think in action*. New York: Basic Books.

- Science. (1997, May 6). *Watson urges "put Hitler behind us."* Science. <https://www.science.org/content/article/watson-urges-put-hitler-behind-us>
- ScienceDaily. (2023, April 7). *Internet access must become human right or we risk ever-widening inequality.* ScienceDaily. <https://www.sciencedaily.com/releases/2023/04/230407094243.htm>
- Seife, C. (2014). *Virtual unreality*. Penguin Group.
- Selinger, E. (2012, July 23). *The philosophy of the technology of the gun.* The Atlantic. <https://www.theatlantic.com/technology/archive/2012/07/the-philosophy-of-the-technology-of-the-gun/260220/>
- Shimron, Y. (2023, October 6). *U.S. faith groups do not view climate change as a crisis, new poll finds.* The Washington Post. <https://www.washingtonpost.com/religion/2023/10/06/religion-climate-change-survey/>
- Similarweb. (n.d.). *Top websites ranking.* Similar web. <https://www.similarweb.com/top-websites/lifestyle/fashion-and-apparel/>
- Sinclair, W. (1978, December 23). *U.S. and Mexico embroiled in dispute over 'tortilla curtain.'* The Washington Post. <https://www.washingtonpost.com/archive/politics/1978/12/24/us-and-mexico-embroiled-in-dispute-over-tortilla-curtain/0f9b055a-5989-4600-8ecb-a642b8a14777/>
- Sinclair, U. (1906). *The Jungle*. New York, New American Library.
- Singer, P. (2006, January 4). *Godless morality.* Project Syndicate. <https://www.project-syndicate.org/commentary/godless-morality>
- Singer, P. (2009, May 18). *Isaac Asimov's laws of robotics are wrong.* Brookings. <https://www.brookings.edu/articles/isaac-asimovs-laws-of-robotics-are-wrong/>
- Singer, P. (2009). *Animal liberation; The definitive classic of the animal movement.* Open Road Integrated Media, Inc.
- Singer, P. (2011, July 13). *Moral progress and animal welfare.* Project Syndicate. <https://www.project-syndicate.org/commentary/moral-progress-and-animal-welfare#:~:text=PRINCETON%20%E2%80%93%20Mahatma%20Gandhi%20acutely%20observed,mark%20of%20a%20civilized%20society.>
- Singer, P. (2016). *Ethics in the Real World: 82 Brief Essays on Things That Matter (REV-Revised)*. Princeton University Press. <https://doi.org/10.2307/j.ctvc77g39>
- Slater, M. (2020). The ethics of realism in virtual and augmented reality. *Frontiers in Virtual Reality*, 1(1). doi: 10.3389/frvir.2020.00001
- Slum clearance. (1933, December 19). *The New York Times*. <https://www.nytimes.com/1933/12/19/archives/slum-clearance.html?url=http%3A%2F%2Ftimesmachine.content-tagging.us-east-1-01.prn.dvsp.nyt.net%2Ftimesmachine%2F1933%2F12%2F19%2F105832327.html>
- Smart Security Pros. (2021, March 19). *Keep schools safe with advanced video surveillance.* Smart Security Pros. <https://smartsecuritypros.com/keep-schools-safe-with-video-surveillance/>
- Soccer Stadium Digest. (n.d.). *2022 MLS attendance.* Soccer Stadium Digest. <https://soccerstadiumdigest.com/2022-mls-attendance/>

- Solitary Watch. (2023, May). *Calculating torture*. Solitary Watch. <https://solitarywatch.org/calculating-torture/>
- Southern Poverty Law Center. (n.d.). *Westboro Baptist Church*. <https://www.splcenter.org/fighting-hate/extremist-files/group/westboro-baptist-church>
- Spagat, E. (2023, December 19). *Illegal crossings surge in remote areas as Congress and the White House weigh major asylum limits*. AP News. <https://apnews.com/article/arizona-border-wall-breaches-asylum-immigration-beddd2ca0ffd02884ce0d0ad1785f538>
- Speculative EDU. (2019, July 23). *Critical about critical and speculative design*. <https://speculativeedu.eu/critical-about-critical-and-speculative-design/>
- Speri, A. (2021, June 10). *The NYPD is still stopping and frisking black people at disproportionate rates*. The Intercept. <https://theintercept.com/2021/06/10/stop-and-frisk-new-york-police-racial-disparity/>
- Stanford Center on China's Economy and Institutions. (2022, September 15). *Who supports social credit systems in China?* <https://sccei.fsi.stanford.edu/china-briefs/who-supports-social-credit-systems-china>
- Stein, S.M. & Harper, T.L. (2013). Designing for meaning: the ethical designer's responsibility. In C. Basta & S. Moroni (Eds.), *Ethics, design and planning of the built environment* (pps. 143-166). Springer Dordrecht. https://doi.org/10.1007/978-94-007-5246-7_10
- Structural racism and discrimination. (2023, February 23). *National Institute of Minority Health and Health Disparities*. <https://www.nimhd.nih.gov/resources/understanding-health-disparities/srd.html>
- Sullivan, A. (2021, May 25). *U.S. freeways flattened Black neighborhoods nationwide*. Reuters. <https://www.reuters.com/world/us/us-freeways-flattened-black-neighborhoods-nationwide-2021-05-25/>
- Surfrider Foundation. (n.d.). *Wave pools: environmental concerns outweigh their value*. Surfrider. <https://www.surfrider.eu/learn/news/wave-pools-environmental-concerns-outweigh-their-value/>
- Swan, R. (2024, January 6). *The Golden Gate Bridge suicide nets are nearly finished. The milestone comes with warnings from the future*. San Francisco Chronicle. <https://www.sfchronicle.com/sf/article/golden-gate-bridge-suicide-18589579.php>
- Szondy, M. & Fazekas, P. (2024). Attachment to robots and therapeutic efficiency in mental health. *Frontiers in Psychology*, 15. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2024.1347177/full>. <https://doi.org/10.3389/fpsyg.2024.1347177>
- Temperton, J. (2023, July 21). *'Now I am become death, the destroyer of worlds.'* *The story of Oppenheimer's infamous quote*. Wired. <https://www.wired.com/story/manhattan-project-robert-oppenheimer/>
- Testa, J. (2022, September 1). *The people's republic of Shein*. The New York Times. <https://www.nytimes.com/2022/09/01/style/shein-clothing.html>

- The Associated Press. (2022, August 21). *China plans to use chemicals to generate rain to protect its grain harvest*. NPR. <https://www.npr.org/2022/08/21/1118683699/china-grain-harvest-cloud-seeding>
- The Atlanta Constitution. (1962, December 19). *Atlanta wall 03* [Photograph]. <https://dilemmadotnet.files.wordpress.com/2021/02/1962-december-19-atlanta-wall-03.jpg>
- The Death Designer. (n.d.). *Designing a better deathcare for everyone*. The Death Designer. <https://www.thedeathdesigner.com/>
- The Humane League. (2020, December 3). *Everything you should know about battery cages*. <https://thehumaneleague.org/article/battery-cages>
- The Intercept. (n.d.). *Border Patrol Strategic Plan 1994 and Beyond*. <https://www.documentcloud.org/documents/5987025-Border-Patrol-Strategic-Plan-1994-and-Beyond.html>
- The International Crime Prevention Through Environmental Design Association. (n.d.). *What is CPTED?* <https://www.cpted.net/>
- The Nature Conservancy. (2019, October 14). *Python patrol: stopping a Burmese python invasion*. Nature. https://www.nature.org/en-us/about-us/where-we-work/united-states/florida/stories-in-florida/stopping-a-burmese-python-invasion/?gad_source=1&gclid=CjwKCAiA-vOsBhAAEiwAIWR0TYgB3jGDGjnqUgErsxm5N-venWNH-hEP5ZLeDM9N_8PDIOPpTWSggRoCUUsQAvD_BwE&gclidsrc=aw.ds
- The University of Texas at Austin Energy Institute. *The timeline and events of the February 2021 Texas electric grid blackouts*. <https://energy.utexas.edu/research/ercot-blackout-2021>
- The White House. (2023, October 5). *Remarks by President Biden before national security team briefing on Ukraine*. <https://www.whitehouse.gov/briefing-room/speeches-remarks/2023/10/05/remarks-by-president-biden-before-national-security-team-briefing-on-ukraine/>
- Thierer, A. (2024, October). *Defining "Technology."* Medium. <https://medium.com/@AdamThierer/defining-technology-0c5c95c8360d>
- Thomas, S. (2011). *Situated empathy: constructed theoretical discourse addressing the empathetic motivations shared by fashion design for sustainability, and the potential of socially engaged Buddhist ethics to inform design practice*. Ph.D. Royal Melbourne Institute of Technology University. https://s3-ap-southeast-1.amazonaws.com/ap-st01.ext.exlibrisgroup.com/61RMIT_INST/storage/alma/78/9C/66/BF/AE/B1/8B/46/60/D5/1B/FC/A2/E1/7B/9E/Thomas.pdf?response-content-type=application%2Fpdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20240119T185140Z&X-Amz-SignedHeaders=host&X-Amz-Expires=119&X-Amz-Credential=AKIAJN6NP MNGJALPPWAQ%2F20240119%2Fap-southeast-1%2Fs3%2Faws4_request&X-Amz-Signature=436f24d4410537aad5abfbcaf71cbea25c3a626a408dbff9a790b58345763cea
- Thomas, S. (2018). *Fashion ethics*. Routledge. <https://doi.org/10.4324/9781315109367>

- Thoreau, H. D. (1917). *Walden, or, Life in the woods*. Chicago, New York: Scott, Foresman and Company.
- Thunberg, G. (2019). *Full speech to world leaders at UN Climate Action Summit*. [Video]. YouTube. <https://www.youtube.com/watch?v=KAJsdgTPJpU>
- Tobón, S. (2022). Do better prisons reduce recidivism? Evidence from a prison construction program. *The Review of Economics and Statistics*, 104(6), 1256–1272. doi: https://doi-org.proxy1.library.jhu.edu/10.1162/rest_a_01007
- Torrella, K. (2023, December 12). *We raise 18 billion animals a year to die – and then we don't even eat them*. Vox. <https://www.vox.com/future-perfect/22890292/food-waste-meat-dairy-eggs-milk-animal-welfare>
- Tseng, P. E., & Wang, Y. H. (2021). Deontological or utilitarian? An eternal ethical dilemma in Outbreak. *International Journal of Environmental Research and Public Health*, 18(16), 8565. <https://doi.org/10.3390/ijerph18168565>
- Tully, J. (1986, December 19). *Einstein letter sold to Forbes*. The Washington Post. <https://www.washingtonpost.com/archive/lifestyle/1986/12/20/einstein-letter-sold-to-forbes/1f5d23ff-47e3-43ba-a7c0-0199643f1933/>
- Tyson, A. & Kennedy, B. (2023, October 25). *How Americans view future harms from climate change in their community and around the U.S.* Pew Research Center. <https://www.pewresearch.org/science/2023/10/25/how-americans-view-future-harms-from-climate-change-in-their-community-and-around-the-u-s/>
- U.S. Department of Transportation. (2023, September 23). *Federal Aviation Administration*. https://www.faa.gov/sites/faa.gov/files/Report_to_Congress_Reentry_Disposal_of_Satellites.pdf
- U.S. General Services Administration. (n.d.). *Alton Lennon Federal Building and U.S. Courthouse, Wilmington, NC*. U.S. General Services Administration. <https://www.gsa.gov/real-estate/historic-preservation/explore-historic-buildings/find-a-building/all-historic-buildings/alton-lennon-federal-building-and-us-courthouse#:~:text=At%20the%20turn%20of%20the,entering%20or%20leaving%20the%20port.>
- Ufer, D. (2023, April 24). *Farm animal welfare policies cover breeding sows, veal calves, or laying hens in 14 U.S. states*. USDA Economic Research Service. <https://www.ers.usda.gov/amber-waves/2023/april/farm-animal-welfare-policies-cover-breeding-sows-veal-calves-or-laying-hens-in-14-u-s-states/>
- UN Environment Programme. (2022, September 30). *Why you should rethink your next fashion purchase*. <https://www.unep.org/news-and-stories/story/why-you-should-rethink-your-next-fashion-purchase>
- United Nations. (2011, October 18). *Solitary confinement should be banned in most cases, UN expert says*. United Nations. <https://news.un.org/en/story/2011/10/392012>
- United Nations. (2021, October 3). *UN chief promotes 'enormous' benefits of greener cities*. United Nations. <https://news.un.org/en/story/2021/10/1101992>

- United Nations. (n.d.). *Sustainability*. United Nations. <https://www.un.org/en/academic-impact/sustainability>
- United States Environmental Protection Agency. (2024, April 10). *EPA history*. <https://www.epa.gov/history>
- United States Geological Survey. (n.d.). *How many homes can an average wind turbine power?* <https://www.usgs.gov/faqs/how-many-homes-can-average-wind-turbine-power>
- University of Michigan. (2019, June 20). *Moral concerns override desire to profit from finding a lost wallet*. ScienceDaily. www.sciencedaily.com/releases/2019/06/190620153447.htm
- van de Poel, I. (2013). Translating Values into Design Requirements. In Michelfelder, D., McCarthy, N., Goldberg, D. (eds) *Philosophy and Engineering: Reflections on Practice, Principles and Process*. *Philosophy of Engineering and Technology*, vol 15. Springer, Dordrecht. https://doi-org.proxy1.library.jhu.edu/10.1007/978-94-007-7762-0_20
- Vander Zanden, M.J. (2005). The success of animal invaders. *Proc Natl Acad Sci USA*, 102, 7055–7056. <https://doi.org/10.1073/pnas.0502549102>
- Verbeek, P.-P. (2005). *What things do: Philosophical reflections on technology, agency, and design*. Pennsylvania State University Press. <https://doi.org/10.1515/9780271033228>
- Verbeek, P.-P. (2006). Materializing morality: Design ethics and technological mediation. *Science, Technology & Human Values*, 31(3), 361–380. <https://doi.org/10.1177/0162243905285847>
- Verbeek, P.-P. (2011). *Moralizing technology: understanding and designing the morality of things*. The University of Chicago Press. <https://doi.org/10.7208/chicago/9780226852904.001.0001>
- Viacorka, F. [@franaviacorka] (2022, April 5). *Ukrainians are locating their devices on the territory of the Homiel region, Belarus, where part of the Russian army retreated*. [Post]. X. <https://twitter.com/franakviacorka/status/1511297092836278283>
- Wang, Y. & Shi, Q. (2022). The impact of municipal solid waste sorting policy on air pollution: Evidence from Shanghai, China. *PLoS ONE*, 17(11). <https://doi.org/10.1371/journal.pone.0277035>
- Wasley, A. (2018, July 5). *Two amputations a week: the cost of working in a US meat plant*. The Guardian. <https://www.theguardian.com/environment/2018/jul/05/amputations-serious-injuries-us-meat-industry-plant>
- Watson, J. & Crick, F. (1953). Molecular structure of nucleic acids: a structure for deoxyribose nucleic acid. *Nature*, 171, 737–738. <https://doi.org/10.1038/171737a0>
- Waymo. (n.d.). *The world's most experienced driver*. Waymo. <https://waymo.com/>
- Webster, C. & Glasze, G. (2002). The global spread of gated communities. *Environment and Planning B: Planning and Design*, 29(3), 315–320. https://www.researchgate.net/publication/23541307_The_Global_Spread_of_Gated_Communities. <https://doi.org/10.1068/b12926>

- Wellcome. (2003, March 30). *Francis Crick's controversial archive on first public display*. Wellcome. <https://wellcome.org/press-release/francis-cricks-controversial-archive-first-public-display>
- NEOM. (n.d.). *What is NEOM?* NEOM. <https://www.neom.com/en-us/about>
- Williams, E. E. & DeMello, M. (2007). *Why animals matter: the case for animal protection*. Prometheus Books.
- Winner L. (1986). *The whale and the reactor: a search for limits in an age of high technology*. University of Chicago Press.
- Winner, L. (2014). Technologies as forms of life. In Sandler, R.L. (eds) *Ethics and emerging technologies*. Palgrave Macmillan, London. https://doi.org/10.1057/9781137349088_4
- World Association of Zoos and Aquariums (2016). Future of zoo and aquarium design. *WAZA Magazine*, 17. https://www.waza.org/wp-content/uploads/2019/02/Gusset__Chin_2016.pdf
- Wray, B. (2017). *Rise of the Necrofauna: The Science, Ethics, and Risks of De-Extinction*. US: Greystone Books.
- Youth v. Gov. (2023). *Historic climate trial: Held v. State of Montana*. <https://www.youthvgov.org/held-v-montana>
- Zink, T., & Geyer, R. (2016). There is no such thing as a green product. *Stanford Social Innovation Review*, 14(2), 26–31. <https://doi.org/10.48558/G401-WQ16>
- Wroclawski, D. & Bradley, M. (2024, March 12). *The ultimate guide to recycling K-Cups, Nespresso Capsules, and other coffee pods*. Consumer Reports. <https://www.consumerreports.org/home-garden/recycling/recycle-k-cups-nespresso-capsules-coffee-pods-a3276889649/#:~:text=But%20the%20best%20solution%20to,preground%20or%20whole%2Dbean%20coffee>
- Zinsser, W. (2006). *On Writing Well (30th ed.)*. HarperCollins.

Index

A

Abramović, Marina, 114
affordances, xi, 50, 51, 52, 53, 54,
55, 58, 80, 94, 96, 115, 142, 193,
217
AirTag, 43, 44, 45, 191, 192, 226,
228
Amager Bakke, 67, 68, 69
Anthes, Emily, 49, 93, 112
anti-homeless architecture, 16, 56
Ariely, Dan, 93
Asimov, Isaac, 178, 180, 211, 231
ASPCA, 124, 204, 214
assemblage, 54, 55
Atlanta's Berlin Wall, 65
automation bias, 102
autonomous vehicle, 175, 176, 177,
178

B

Balkan, Aral, 12, 13
Bejan, Adrian, 73
Bentham, Jeremy, 29, 30, 108, 118,
173, 190, 221
Brunsing, Fabian, 59
built environment, xi, xii, 3, 11, 14,
19, 37, 41, 47, 48, 49, 50, 55, 56,
61, 64, 67, 68, 71, 75, 96, 97, 127,
152, 156, 173, 184, 192, 195, 214,
225, 232
Buttigieg, Pete, 64

C

Camden bench, 57, 58
Carlson, Tucker, 64, 66, 146, 194,
214
Caro, Robert, 62, 63
Carr, Nicholas, 139, 174, 184
Checklist for Ethical Evaluation of
Systems, Products, and
Processes, 46, 102
climate refugees, 126
common good, 9, 10, 11, 12, 14, 27,
28, 61, 67, 68, 84, 87, 124, 145,
183, 184, 187, 229
Constructal Law, 73
CopenHill, 67
COVID-19, 30, 53, 148, 156
Crime Prevention through
Environmental Design, 98
CRISPR, 144, 145
Critical and Speculative Design
CSD, 39

D

Darwin, Charles, 71, 142
defensive design, 16, 60
deGrasse Tyson, Neil, 197, 230
Deontology, 29, 32
design ethics, 1
DIGNITAS, 157
Drone Paradox, 179
Dunne, Anthony, 38, 40

E

ecobuilding, 69

ethical design, xi, xiii, 1, 3, 8, 9, 12, 13, 15, 24, 27, 32, 36, 42, 43, 44, 45, 50, 53, 73, 74, 78, 91, 100, 102, 105, 109, 110, 112, 116, 119, 122, 130, 151, 156, 172, 181, 183, 184, 191, 227

Ethical Hierarchy of Needs, 12, 13, 87

Ethical Technology Assessment, 163

Eugenics, 142

F

facial recognition, 103, 159, 169, 170, 172, 200, 210, 213, 229

fast fashion, 82, 83, 137, 185, 197, 219

Fisher, Thomas, 68

Foucault, Michael, 109

Friedman, Batya, 15

G

Galton, Sir Francis, 142, 145

Gender Shades, 169, 170, 210, 220

geoengineering, 76, 77

Gibson, James J., 50

Goodman, Paul, 161, 172

Green technologies, 78

H

Halden Prison, 110, 201, 215

Harari, Yuval Noah, 43

Hediger, Heini, 122

Heidegger, Martin, 23, 47, 81

Herzberg, Elaine, 176

Hippo Roller, 183, 211, 222

Hobbes, Thomas, 8, 35, 94

HOK, 106, 201, 222

hostile architecture, 16, 56, 58, 59, 61, 193, 225

hostile design, xi, 16, 18, 37, 56, 59, 60, 120

Howard, John, 107, 108, 111

I

Ihde, Don, xi, 40

immersion principle, 123

intelligent design, 72, 73, 74

J

Jurassic Park, 28, 127, 129

K

Kalbag, Laura, 12

Kamprani, Katerina, 55

Kant, Immanuel, 9, 23, 29, 30

Knight, Isabel, 156, 157

L

Lanier, Jaron, 164

Latour, Bruno, xi, 23, 51, 113

Locke, John, 8, 141

Luddite, 177

M

Magritte, Rene, 53

Managh, Geoff, 95

Manhattan Project, 25, 26, 189, 214

McLuhan, Marshall, 23, 161
 Mercedes, Stephanie, 115
 Merchant, Brian, 177
 Mitchell, W.J.T., 19
 Monteiro, Mike, 114, 182
morals, xi, 1, 3, 4, 5, 7, 13, 19, 20,
 21, 28, 36, 87, 141, 152, 159, 183,
 185
 Moses, Robert, 62, 63, 64, 67, 193,
 194, 216, 224
multistability, 40, 44, 45, 114, 164,
 193, 217
 Musk, Elon, 86, 87, 198, 223

N

necrofauna, 128, 129, 130
 Neil deGrasse Tyson, 84
 NEOM, 69, 195
 Norman door, 24, 52
 Norman, Don, 52, 189
Nuage Articulé, 54

O

Ong, Priscilla, 55, 193, 227
 Operation Lone Star, 150, 151
 Oppenheim, Meret, 55
 Oppenheimer, J. Robert, 23, 26,
 189, 223, 226

P

Paalen, Wolfgang, 53, 54
 Palas for Pistolas, 115
 Panopticon, 108, 109, 201, 215
 Papanek, Victor, 23, 36, 184
 PETA, 118, 122, 124, 136, 203, 204,
 205, 222, 228
Point Break, 94, 199, 215

Prevention through Design, 154

R

Raby, Fiona, 38
 RAWTools, 115, 202, 229
 Reich, Robert, 9
 Reyes, Pedro, 115
 Roach, Mary, 127
 Rosenberger, Robert, 18, 56
 Ross, Sarah, 18, 19
 Rousseau, Jean-Jacques, 9
 Rybczynski, Witold, 49

S

Sagan, Carl, 78
 Seife, Charles, 165
 Selinger, Evan, 114
 SHEIN, 82, 83, 197
 Ship of Theseus, 141, 206, 224
 Sinclair, Upton, 133
 Singer, Peter, 91, 117, 124, 198,
 203, 228
 social contract, 8, 9, 11, 12, 13, 45,
 84, 94, 100, 112, 184
 Social Credit Plan, 171
 Social Life Project, 17, 188, 225
 solitary confinement, 107, 111,
 112, 202, 216, 219, 224
Space environmentalism, 84, 86
speculative design, 39, 40, 45, 191,
 216, 228, 232
 Suicide Deterrent System, 155, 156
 Sustainable Development Goals
 SDG, 78, 83, 182, 211

T

technological somnambulism, 47,
176
teleology, 73, 195, 223
The Death Designer, 156, 209, 233
The Equivalence Principle, 167
The Line, 69, 195, 215
The Markkula Center for Applied
Ethics, 27
The Mosquito Anti-Loitering
Alarm, 60
The Values Hierarchy, 16
Thomson, Judith Jarvis, 34
Thoreau, Henry David, 66, 139
Thunberg, Greta, 181
transhumanism, 140
trolley problem, 32, 33, 34, 37, 190,
225

U

urban renewal, 65, 66, 70, 194, 217

Utilitarianism, 29, 32

V

value-sensitive design
VSD, 15
van de Poel, Ibo, 16
Verbeek, Peter-Paul, xi, 5, 12, 13,
114, 184
virtual reality-based therapy
VRT, 167
visual pollution, 88

W

wave pool, 89, 90, 91, 198, 218
William Zinsser, 140
Winner, Langdon, 13, 19, 23, 47,
176, 183, 184
Woolly Mammoth, 128, 129

Z

Zeroth Law, 180