WE, THE ROBOTS?

Should we regulate artificial intelligence (AI)? Can we? From self-driving cars and high-speed trading to algorithmic decision-making, the way we live, work, and play is increasingly dependent on AI systems that operate with diminishing human intervention. These fast, autonomous, and opaque machines offer great benefits – and pose significant risks. This book examines how our laws are dealing with AI, as well as what additional rules and institutions are needed – including the role that AI might play in regulating itself. Drawing on diverse technologies and examples from around the world, the book offers lessons on how to manage risk, draw red lines, and preserve the legitimacy of public authority. Though the prospect of AI pushing beyond the limits of the law may seem remote, these measures are useful now – and will be essential if it ever does.

Simon Chesterman is Dean and Provost's Chair Professor of the National University of Singapore Faculty of Law and Senior Director of AI Governance at AI Singapore. His work has opened up new areas of research on public authority – including the rules and institutions of global governance, the changing functions of national security agencies, and the emerging role of AI and big data.

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Regulating Artificial Intelligence and the Limits of the Law

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CAMBRIDGE UNIVERSITY PRESS

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre,
New Delhi – 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781316517680
DOI: 10.1017/9781009047081

First published 2021

Printed in the United Kingdom by TJ Books Limited, Padstow Cornwall

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloging-in-Publication Data
Names: Chesterman, Simon, author.
Title: We, the robots? : regulating artificial intelligence and the limits of the law / Simon Chesterman, National University of Singapore.
Description: Cambridge, United Kingdom ; New York, NY, USA : Cambridge University Press, 2021. | Includes bibliographical references and index.
Identifiers: LCCN 2021010083 (print) | LCCN 2021010084 (ebook) | ISBN 9781316517680 (hardcover) | ISBN 9781009048316 (paperback) | ISBN 9781009047081 (ebook)
Subjects: LCSH: Artificial intelligence – Law and legislation.
Classification: LCC K564.C6 C44 2021 (print) | LCC K564.C6 (ebook) | DDC 343.09/99–dc23
LC record available at https://lccn.loc.gov/2021010083
LC ebook record available at https://lccn.loc.gov/2021010084

ISBN 978-1-316-51768-0 Hardback

Nic není člověku cizejšího než jeho obraz.
Nothing is more alien to a man than his own image.
Karel Čapek, R.U.R. (Rossum's Universal Robots) *(1921)*

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PREFACE

Artificial intelligence is transforming modern life. From self-driving cars and high-speed trading to algorithmic decision-making, the way we live, work, and play is increasingly dependent on AI systems that operate with diminishing human intervention. Regulation of these developments is made difficult by the pace of change and wariness of constraining innovation, but also conceptual and practical challenges that AI poses to traditional regulatory models. These challenges comprise the speed of modern computing, the autonomy of certain AI systems, and their increasing opacity. This book examines how existing legal tools can be adapted to the new environment, as well as what additional rules and institutions are needed – including the role that AI can and should play in regulating itself.

Most work in this area concentrates on the activities of lawyers, their potential clients, or the machines themselves. This book focuses on those who seek to regulate those activities and the difficulties that AI systems pose to government and governance more generally. Rather than taking specific actors or activities as the starting point, the book emphasizes structural problems that AI poses for meaningful regulation as such. A key contribution is the use of three lenses to distinguish among discrete regulatory dilemmas: the practical management of risk associated with new technologies, the morality of certain functions being undertaken by machines at all, and the legitimacy gap when public authorities delegate their powers to algorithms.

The central argument is that regulation, in the sense used here to mean public control, requires active involvement of states. Yet the qualities of AI – speed, autonomy, opacity – make the issue of its regulation impossible for any one state to confront alone. In normal circumstances, international law and institutions could play a co-ordinating role, as they do in areas from weapons of mass destruction to climate change and pandemics. A second hurdle, however, is that those states at the forefront of AI development – China and the United States – are, for

different reasons, among those wariest of international law and institutions constraining their economic development and political independence. The result is that the states with the greatest leverage to establish global norms on AI presently have the least interest in doing so.

By offering a public law and international law perspective on these questions, the book offers lessons on how to manage risk, draw red lines, and preserve the legitimacy of public authority. Though the prospect of AI pushing beyond the limits of the law may seem remote, these measures are useful now – and will be essential if it ever does.

ACKNOWLEDGEMENTS

Writing may be a solitary endeavour, but it is rarely completed alone. I am grateful to Kumaralingam Amirthalingam, Damian Chalmers, Tracey Evans Chan, Denise Cheong, Gabriel Gan, Miriam Goldby, Andrew Halpin, Christian Hofmann, Hu Ying, Arif Jamal, Jeong Woo Kim, Koh Kheng Lian, Kenneth Khoo, Shantini J Krishnan, Pavitra Krishnaswamy, Lau Kwan Ho, Lee Yee Teng, Emma Leong, Brian Y Lim, Lim How Khang, Mark Lim, Lin Lin, Burton Ong, James Penner, Nicole Roughan, Nivedita S, Daniel Seng, Sharon Seah, Alec Stone Sweet, David Tan, Patrick Tan, Tan Zhong Xing, Hans Tjio, Joel Trachtman, Jacob Turner, Umakanth Varottil, Josefine Wallat, Vlasta Wallat, Wee Meng Seng, Ryan Whalen, Christian Witting, Wong Chee Leong, Yeong Zee Kin, You Chuanman, Nico Zachert, and several anonymous reviewers for their comments on earlier versions of this text. Some of the ideas were floated in presentations at the National University of Singapore Faculty of Law, the Lee Kuan Yew School of Public Policy, SG Innovate, the Internet of Things Asia, TechLaw.Fest, McGill Law School, the University of Exeter, the British Institute of International and Comparative Law, Xi'an Jiaotong University, and other forums. At NUS, Jenny Thian helped carve out precious hours in my calendar with the simple agenda item: 'write'. Invaluable research assistance was provided by Violet Huang, Eugene Lau, Ong Kye Jing, and Yap Jia Qing. Thank you also to the team at Cambridge University Press – in particular Joe Ng and Finola O'Sullivan, who saw the book's potential, and freelance copy-editor Lori Heaford, who polished the text. Errors and omissions are attributable to the author alone.

The book builds on some material first published in article form, including 'Artificial Intelligence and the Problem of Autonomy' (2020) 1 Notre Dame Journal on Emerging Technologies 210; 'Artificial Intelligence and the Limits of Legal Personality' (2020) 69 International & Comparative Law Quarterly 819; '"Move Fast and Break Things": Law, Technology, and the Problem of Speed' (2021) 33 Singapore Academy of

Law Journal 5; and 'Through a Glass, Darkly: Artificial Intelligence and the Problem of Opacity' (2021) 69 American Journal of Comparative Law (forthcoming). Permission to draw on the relevant sections is gratefully acknowledged.

Last and most, thank you to M, V, N, and T – beta testers for all my best and worst ideas. This book is dedicated to them.

ABBREVIATIONS

ADS	automated driving system
ADSE	automated driving system entity
AI	artificial intelligence
ATLAS	Advanced Targeting and Lethality Automated System (United States)
CEO	chief executive officer
CIWS	close-in weapon system
CNIL	*Commission nationale de l'informatique et des libertés* [National Commission on Informatics and Liberty] (France)
COMPAS	Correctional Offender Management Profiling for Alternative Sanctions
DARPA	Defense Advanced Research Projects Agency (United States)
DNA	deoxyribonucleic acid
DOJ	Department of Justice (United States)
DPIA	data protection impact assessment
EPO	European Patent Office
EU	European Union
FTC	Federal Trade Commission (United States)
GAO	Government Accountability Office (United States)
GDPR	General Data Protection Regulation (European Union)
GPAI	Global Partnership on AI
HFT	high-frequency trader
IAEA	International Atomic Energy Agency
IAIA	International Artificial Intelligence Agency (hypothetical)
ICANN	Internet Corporation for Assigned Names and Numbers
ICRC	International Committee of the Red Cross
IED	improvised explosive device
IEEE	Institute of Electrical and Electronics Engineers
IHL	international humanitarian law
ILC	International Law Commission
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
ITU	International Telecommunication Union
LRASM	long-range anti-ship missile
MiFID II	Markets in Financial Instruments Directive II (European Union)

NPT	Nuclear Non-Proliferation Treaty
NTC	National Transport Commission (Australia)
OECD	Organisation for Economic Co-operation and Development
PMSC	private military and security company
SAE	Society of Automotive Engineers
UN	United Nations
USPTO	United States Patent and Trademark Office
VIX	Volatility Index (Chicago Board Options Exchange)
WHO	World Health Organization
WIPO	World Intellectual Property Organization
XAI	explainable artificial intelligence