

Introduction

Jorge L. Contreras

As noted in the Introduction to the companion volume, technical interoperability standards are ubiquitous in the modern networked economy. They enable products made and sold by different vendors to interact with little to no consumer intervention. They allow new market entrants, small and large, to innovate on top of established technology platforms, bringing technological advances to all corners of the globe. They expand consumer choice, eliminate duplicative development efforts, and accelerate product and feature design. Standards have enabled connected systems for more than a century, beginning with railroad tracks and telegraph lines and today forming essential elements of the modern communications, computing, manufacturing, healthcare, and transportation industries. And in the near future, technologies such as automated vehicles, power distribution, artificial intelligence, and the Internet of Things will be made possible through the use of standardized technologies.

Given their importance to the global technology marketplace, it is not surprising that technical standards and standardization have become increasing topics of legal regulation, policy debate, and litigation. Yet despite this attention, the scholarly analysis of standards and standardization has been fractured. The development of standards, primarily by industry associations and governmental bodies, has been analyzed through the lenses of industrial organization, game theory, and neoclassical microeconomics. The complex relationships among standards developers and the actions that they take in the marketplace have been scrutinized under antitrust and competition laws. Standards themselves are often protected by intellectual property rights such as patents and copyrights, which have been the subject of extensive analysis. And the role of standards in governmental rules and regulations have likewise attracted significant attention in the fields of administrative law, public health, and political science.

This volume, like its companion volume, addresses the legal aspects of technical standards and standardization. The companion volume described the role of technical standards in the modern global marketplace and the institutional infrastructure under which technical standards are developed, the analysis of standards development organizations (SDOs) under competition and antitrust laws around the world, and the impact on these systems of patents that are essential to the implementation of technical standards. In this volume, a distinguished group of international scholars address a range of legal, technical and economic issues that arise with respect to standardization at the intersection of public and private law. That is, how the largely private activity of standardization is overseen, regulated, and constrained by a range of legal frameworks including international trade law, administrative law, tort law, copyright, trademark, and certification. This volume is unique in its coverage of topics across different realms of public and

private law, both in the United States and Europe and offers the reader an unprecedented survey of the legal landscape affecting standardization today.

Part I addresses the direct influence that public law mechanisms have over standardization. In Chapter 1, Panagiotis Delimatsis explores current issues involving standardization and the WTO Agreement on Technical Barriers to Trade (TBT), particularly the influence that WTO rules have had on the internal rules of SDOs. He argues that, given its potent dispute resolution mechanisms, the WTO can, and should, become a more powerful driver of change within international standard-setting. In Chapter 2, Emily Bremer focuses on governmental use of standards in the United States and Europe, critically analyzing the similarities and differences in the legal and policy frameworks employed by each.

Part II turns to the legal constraints on standardization motivated by health and safety considerations. In Chapter 3, Timothy Lytton addresses health and safety regulation using, as a detailed case study, the U.S. regime for food safety regulation. And in Chapter 4, Paul Verbruggen explores health and safety issues from the perspective of private tort liability in both the United States and Europe.

Part III addresses some of the many copyright issues raised by technical standardization. In Chapter 5, Pamela Samuelson and Kathryn Hashimoto question the very notion of copyright in standards, arguing that standards may be unprotectable as utilitarian or informational systems and under the *scenes a faire* and merger doctrines. They also consider the impact of incorporating standards into law on an SDO's copyright in a standards document, an issue that has resulted in significant controversy in recent years. In Chapter 6, Daniel Sheffner offers an in-depth analysis of the effect of a government's incorporation of standards into law or regulation, and what such incorporation means for public access to the content of incorporated standards and to the copyrights held by standards developers. And in Chapter 7, Björn Lundqvist addresses the incorporation and access issues from a European perspective, focusing on the effect of the EU's "New Approach" to standardization. Finally, in Chapter 8, Andrew Hernacki and I examine the effect on standards documents of statutes permitting the creator of a copyrighted work to terminate assignments and licenses of that work – a statutory scheme that was implemented to protect neophyte artists, musicians and authors, but which could arguably be invoked in the very different world of technical standards.

Part IV explores the legal landscape surrounding standards that are implemented in software. In Chapter 9, Jay Kesan focuses on the complex status of "open standards," which play a large role in governmental procurement and purchasing programs for software and other information assets. In Chapter 10, Martin Husovec explores the ecosystems underlying the development of technical standards and open source software, arguing that perceived differences between these seemingly incompatible methodologies for developing technological solutions are not as different as one might expect. In Chapter 11, David Kappos also discusses the use of open source software in technical standards, particularly the compatibility of open source licensing with SDO requirements that patents be licensed on "fair, reasonable and nondiscriminatory" (FRAND) terms (itself a topic extensively covered in the companion volume).

Part V turns to the law relating to the labeling and branding of technical standards and the certification of standardized products. In Chapter 12, I discuss the role that trademarks, service marks and certification marks play with respect to technical standards. The final two chapters then turn to the understudied question of product certification and offer proposals for the improvement of certification systems for standardized products based on the experience of other industries. In Chapter 13, Jeanne Fromer discusses the wide latitude that owners of certification marks have to certify, or refuse to certify, certain products, and recommends that

more robust procedural regulation be applied to certification standard-making and decision-making, with a particular focus on the case of the Swiss Made certification for watches. And in Chapter 14, Jonathan Barnett examines the role of certification intermediaries, particularly in view of the prominent failures of certification in the financial services and other sectors. He concludes that even though certification intermediaries may periodically fail, such failures are inherent to well-functioning markets for certification services, and certifier performance may best be enhanced not through legal penalties, but through regulatory action that influences certifiers' organizational choices.

As with the companion volume, it is hoped that this comprehensive examination of legal issues affecting standardization will serve as a useful tool for scholars, practitioners, judges, and policy makers as they wrestle with these complex issues, and that the diverse perspectives offered by the contributors to this volume will give rise to new understanding, theory and resolution as standards continue to shape the global technology marketplace.