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Spontaenous Standardization and the New Lex maritima

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THE ROLE OF ARBITRATION IN SHIPPING LAW

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E. Conclusion

3.61 This chapter has sought to explain, by means of illustrative case studies, the current process whereby unarticulated rules of so-called 'spontaneous law' that evolve organically as a result of repeated and frequent interactions on the basis of standard terms between commercial parties are recognized and applied by the English courts. As a result of the frequent use of arbitration, the process of articulation of these rules is informal and can be inconsistent. This chapter argues that increased consistency is desirable.

3.62 A more methodical approach to the articulation of emergent market understandings that inform the interpretation of standard contract terms is particularly important in view of the ever-changing commercial landscape. The development of new technologies will inevitably result in new ways of doing business. In turn, new rules underlying these new business processes, which may be partially or even almost wholly unarticulated, are bound to evolve and it appears that their articulation, particularly in the maritime field, will be in the hands of private arbitrators. The full and consistent engagement of the latter with the process of meaningful articulation is therefore essential to the continued development of the law in this field.

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SPONTANEOUS STANDARDIZATION AND THE NEW *LEX MARITIMA*

Bryan H. Druzin

A. Introduction

4.01 Transnational shipping by definition spans multiple jurisdictions.[1] This gives rise to an important question with respect to shipping law. Given the absence of a dominant legislative authority, will a standardized corpus of transnational shipping law emerge or is it destined to become a fragmented, polycentric jumble of conflicting legal practices and norms? Without the guiding hand of a central legislative authority, what mechanism—if any—can be relied upon to ensure the emergence of a standardized body of rules? Building upon the concept of network externalities, this chapter posits a theory as to how legal standardization may occur in a decentralized spontaneous fashion, and discusses how formal law may reinforce or hinder this process. To that end, the new *lex maritima* is taken as a case study. The term "legal standards" is used throughout the discussion. This should be understood primarily as contract terms; however, it also captures less formal commercial practices and norms in that the parties' agreements often draw upon or directly incorporate existing merchant practices.[2]

4.02 It is argued here that rule standardization may occur without a centralized body to do the standardizing. While important for the development of the *lex maritima*, this insight has broader implications for the future of private international law. The aim of the present discussion is to lay the crude foundations for a larger theory of spontaneous legal standardization. Unfortunately, the constraints of space dictate that only the broad strokes of the model may be sketched here. But it is my hope that theorists can build

[1] Assistant Professor and Deputy Director of LLM Programs, Faculty of Law, The Chinese University of Hong Kong. PhD in Law, King's College London; LL.M, LL.B., B.A., University of British Columbia. The ideas outlined here are the basis of a more detailed exposition of the theory published in article form.

[2] Where these customary practices become relevant to parties' agreements they will be incorporated into contracts. Also included here are draft rules created by trade associations in that they simply lend formal expression to commonly used industry practices and norms.

upon and further explore the theoretical framework provided below. Examination of an empirical nature is especially invited as such research would go far in bolstering the theory's claims. My argument proceeds as follows. Section B unpacks the concept of network effects and explains how they may trigger self-standardization. Applying the concept of network effects, section C articulates a theory of self-standardization. Section D examines the obstacle of legal polycentrism to spontaneous standardization. Section E then discusses why international shipping is especially susceptible to network effects. Section F then examines the role that soft and hard law plays in the process of spontaneous legal standardization. Section G concludes.

B. Network Effects Explained

4.03 The key to spontaneous standardization, I submit, is the concept of network effects. Migrating from the domain of economics, the concept of network effects explains the ascendency of certain products or services in the market place.[3] They explain how, without central planning, standardization may manifest through the uncoordinated actions of individuals guided by their rational self-interest without any intention of forging a universal standard. Nevertheless, a universal standard is the ultimate outcome of their actions. A network effect is the idea that *the implicit value of a product or service increases as the number of other agents using the same product or service grows, which, crucially, in turn draws more users.*[4] Network externalities arise from the need for compatibility.[5] How network effects function exactly may be clearer in the context of a simple example. Consider the humble telephone: a telephone will increase in value to the user as more consumers purchase telephones, simply because the user has more people whom they can call as a result. If there were in fact only one owner of a telephone, it would provide no value. This is because the item's utility turns on its ability to help users interact. Thus, "the utility that a

[3] For how the concept of network effect has been applied in the literature of path dependence, see W. B. Arthur, *Competing Technologies, Increasing Returns, and Lock-in by Historical Events*, 99 ECON. J. 116 (1989); W. B. Arthur, *Positive Feedbacks in the Economy*, 262 SCIENTIFIC AMERICAN 92 (1990); S. J. Liebowitz and S. E. Margolis, *Path Dependence, Lock-in and History*, 11 JOURNAL OF LAW, ECONOMICS AND ORGANIZATION 205 (1995). I have explored the potential of network effects to trigger standardization. See, e.g., B. Druzin, *Buying Commercial Law: Choice of Law, Choice of Forum, and Network Externalities*, 18 TUL. J. INT'L & COMP. L. 131, 151 (2009) (arguing that network effects induce standardization in choice of law and choice of forum clauses in transnational commercial contracts). See also B. H. Druzin, *Opening the Machinery of Private Order: Public International Law as a Form of Private Ordering*, 58 ST LOUIS U. L. J. 423, 465 (2013) (arguing that treaties that require positive actions, as opposed to merely the absence of action, induce compliance and treaty longevity, in that this allows for signalling).

[4] *See* S. J. Liebowitz, et al., *Network Externalities, in* THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 671, 671 (P. Newman ed., 1998).

[5] Note I am referring here to what is known as direct as opposed to indirect network effects. For the distinction between the two kinds of network effects, see B. Druzin, *Buying Commercial Law: Choice of Law, Choice of Forum, and Network Externalities*, 18 TUL. J. INT'L & COMP. L. 131, 140–144 (2009).

given user derives from the good depends upon the number of other users who are in the same 'network'. . . ."[6] As more users begin to use the product, and its utility grows, more consumers begin to use the product, and on it goes, creating a kind of snowball effect as more and more users flock to the product. This kind of positive feedback loop lies at the heart of a network effect. The dynamic reinforces bourgeoning patterns, causing these patterns to become progressively more entrenched over time. When a market has settled upon a single standard with all competing technologies having left, the market is said to have "tipped."[7] Networked markets exhibiting multiple equilibria are considered extremely *tippy*.[8] It is difficult for multiple standards to coexist in networked markets. A single standard will eventually come to dominate the entire market. Examples of self-standardization through the aegis of network effects abound. The classic example of a network effect is perhaps language.[9] Because the value of a language is to enable communication between users, it is fundamentally predisposed to a network effect.[10] The more people who speak English, the more useful English is to each one of its speakers, creating a positive externality. Fluency in a language provides no value if you are the only speaker of that language. Conversely, the value of speaking a language grows as the number of people who also speak the language, and with whom one therefore can communicate increases. As a language grows in popularity, so too does its implicit value, encouraging further growth—a network effect.[11]

4.04 There are countless other examples of network effects—telephone networks, railway gauges, computer software, credit cards, videotape standards, time zones, currencies, electrical outlets, screw thread sizes, machine parts. It is not necessary to

[6] M. L. Katz and C. Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AMERICAN ECONOMIC REVIEW 424, 424 (1985).

[7] W. Page, et al., *Network Externalities*, in ENCYCLOPEDIA OF LAW AND ECONOMICS 952, 960 (B. Bouckaert and G. DeGeest, eds., 2000). See also T. C. Schelling, MICROMOTIVES AND MACROBEHAVIOR 92–94, 98–99 (W. W. Norton & Company 1978).

[8] T. Weitzel, ECONOMICS OF STANDARDS IN INFORMATION NETWORKS 24 (Springer Science & Business Media 2004). Such markets are also termed "hyperselective." R. Bekkers, MOBILE TELECOMMUNICATIONS STANDARDS: GSM, UMTS, TETRA, AND ERMES 196 (Artech House 2001).

[9] For a very good overview of other network effect examples in a wide range of contexts, *see* J. Ferrell and P. Klemperer, *Coordination and Lock-In: Competition and Switching Costs and Network Effects*, in HANDBOOK OF INDUSTRIAL ORGANIZATION, Volume 3 (M. Armstrong and R. Porter, eds., Elsevier B.V. A. 2007) 46–54.

[10] M. Lemley and D. McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 494 (1998) ("Language, for example, is the fundamental medium of communication and could be said to have both negligible inherent value to the first speaker and increasing value over the range of additional speakers."); see also S. J. Liebowitz and S. E. Margolis, *Network Externality: Uncommon Tragedy*, 8 J. ECON. PERSP. 133, 136 (1994); A. Aviram, *A Network Effects Analysis of Private Ordering* 15 (Berkeley Program in Law and Economics, Working Paper Series, 2003). For a more in-depth analysis of the network effects of language, see, e.g., J. Church and I. King, *Bilingualism and Network Externalities*, 26 CAN. J. ECON. 337 (1993).

[11] *See* B. Druzin, *Buying Commercial Law: Choice of Law, Choice of Forum, and Network Externalities*, 18 TUL. J. INT'L & COMP. L. 131, 151 (2009).

examine more examples. The principle is the same in all these cases: the value of the thing in question grows with each additional user because this enhances the user's ability to synchronize with other users, which draws in more users, giving rise to a recognized standard. Any system possessing the following four criteria will produce a network effect: (1) the utility of the thing in question lies substantially in its ability to allow users to interface with other users; (2) the standard must be compatible to achieve this end; (3) agents frequently interact with a relatively large pool of other users (the more frequent the better) thereby creating a high degree of interconnection; and (4) agents can choose the standards under which they wish to operate. If these conditions are present, a network effect *will* arise.

C. A Model of Spontaneous Legal Standardization

4.05 From this it is possible to construct a theory of legal self-standardization. In a nutshell the idea is this: legal standards are subject to the influence of network effects comparable to certain products in the marketplace.[12] The "market" for legal standards possesses the constituent elements for a network effect. Because legal standards are instruments that facilitate interaction with a larger group, the inherent value of a legal standard as a means to that end increases with the number of other people who also subscribe to and employ the same legal standard. Legal standards, particularly transnational commercial legal practices, meet the four criteria for spontaneous legal standardization outlined above: (1) the usefulness of a legal standard is that it allows those who subscribe to it to successfully interact with other users; (2) legal standards must be compatible, that is they must be commonly employed (at the very least, by the two parties involved in the commercial interaction); (3) commercial legal standards regularly relate to trade across disparate regions involving vast numbers of people who frequently interact; and (4) in crafting their contracts, commercial actors can choose the terms that will regulate their interaction. It is the very nature of trade to reach across the thresholds of national and regional boundaries. And it is the nature of trade, provided it is profitable and the market can bear it, to increase in volume. Thus, left to their own devices, network effects will reliably induce standardization within the "market" for commercial legal practices. I have argued elsewhere that the impact of network effects may be discerned in respect to choice of law and choice of forum clauses in transnational contracts.[13] However,

[12] The basic definition of a network effect is: "Network effects arise where current users of a good gain when additional users adopt it." P. Klemperer, *Network Goods (Theory)*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW (S. Dunlauf and L. Blume, eds., 2nd edn. 2008).

[13] See B. Druzin, *Buying Commercial Law: Choice of law, Choice of Forum, and Network Effect*, 18 TUL. J. INT'L & COMP. L. 131 (2009). In the paper, I noted some broader applications of the idea: "Arguably, the spread of legal norms, business usages, standard terms of contract, rules of arbitration, centers of arbitration, and even entire legal systems—in short, all the elements of the modern

this holds true for any regulatory environment that lacks a dominant rule-setting authority and meets the criteria described above. With respect to the shipping field, there are of course regulatory bodies that draft rules for the sector. Prime examples are trade associations such as BIMCO and INTERTANKO. As well, there are international conventions developed by states that apply in this field: the Hague Rules, the Hague-Visby Rules, the Hamburg Rules, and the Rotterdam Rules. However—and this is a crucial point—there is no single, dominant legislative authority with coercive force. There are several authorities and they mostly lack enforcement power. Moreover, legislative intervention in this sector by states has been relatively rare. The ability of these rules to achieve large-scale standardization can be traced to another source—network effects. The impact of these instruments is discussed again later. An important point that should be noted here is that while commercial legal standards meet the criteria above, this is not the case with non-commercial areas of law—particularly, the third and fourth criteria are not satisfied. Such areas of law, criminal law, tort etc., must therefore rely on some centralized authority to enact it. Transnational commercial law, however, is a prime candidate for standardization through network effects.

4.06 This is a powerful supposition because, if true, it provides an account of how legal standards can self-standardize, rendering the concept of stateless legal order—at least with respect to international commercial legal order—significantly more plausible. As there is no need for a central judicial body to legislate the rules of English grammar, there is no need for a centralized authority to create legal standards. Legal standards can self-standardize as the result of network effects and increasing returns in the "market" for legal standards. This single insight diminishes the importance of the state as a producer of law, one of the two core functions of centralized legal power—the other main function being enforcement. Given the nature of network effect markets, substantial standardization can emerge in the absence of external coercion.[14]

law merchant—may be attributed to the effects of network externalities. A case could be made that increasing returns underlie the development of the modern law merchant, as was equally true for its medieval forerunner. This is a compelling topic that invites further study." *ibid* at 137–138 (footnotes omitted). The present chapter attempts to make good on this promise for further study.

[14] Beyond network effect pressures, informal mechanisms, such as group sanctions in form of commercial ostracization and reputational costs can, as many have argued, provide sufficient coercive force. However, a full exploration of this concept lies beyond the scope of the present discussion. Many have argued such informal enforcement mechanisms sustained the *lex mercatoria*. For the foundational literature in this vein, see, e.g., B. L. Benson, *The Spontaneous Evolution of Commercial Law*, 55 SOUTHERN ECON. J. 644, 650 (1989); L. E. Trakman, THE LAW MERCHANT: THE EVOLUTION OF COMMERCIAL LAW 10 (1983). However, this literature is not without its detractors. See, e.g., S. Sachs, *From St. Ives to Cyberspace: The Modern Distortions of the Medieval Law Merchant*, 21 AMERICAN UNIVERSITY INT'L L. REV. 685 (2006), ; E. Kadens, *The Myth of the Customary Law Merchant*, 90 TEX. L. REV. 1153 (2012); E. Kadens, *The Medieval Law Merchant: The Tyranny of a Construct*, 7 THE JOURNAL OF LEGAL ANALYSIS 1 (2015); C. Drahozal, *Busting Arbitration Myths*, 56 KANSAS L. REV., 663 (2008); O. Volckart and A. Mangels, *Are the Roots of the Modern Lex Mercatoria Really Medieval?*, 65 SOUTHERN ECON. J. 427 (1999). I discuss these

4.07 Because legal standards within trading communities facilitate commercial interaction, like telephones and language, the value of a legal standard increases as the number of people who use it grows. There is thus an implicit value in adopting legal standards that are commonly employed. Because it reduces what is known in the literature as switching costs. Indeed, switching costs lie at the heart of a network effect.[15] Merchants learn to use a legal standard as one would learn to use a language, and, like learning a language, this entails a certain investment in terms of gaining proficiency in the language. The legal standards that merchants use will invariably dictate and inform the business strategies they adopt. Thus, as merchants engage in commercial ventures with different parties, a common "legal language" is not only convenient, the lack of it may mean financial loss.

4.08 It is more practical, therefore simply to use one language, ideally the one that most people "speak." Imagine the tremendous transaction costs involved in having to learn a new language upon each encounter with a new person. Similarly, there would be significant transaction costs involved in having to adopt a different, and perhaps unfamiliar, legal-business practice with each new commercial transaction. Provided that no specific legal standard boasts an inherent advantage beyond that of simply agreeing on a predetermined rule to regulate the transaction (like agreeing on left or right-hand drive), there is every reason to adopt the standard that is employed by the majority of other merchants in that its value is greatly enhanced through wider recognition. In fact, even where an alternative legal standard offers an advantage of some kind, if the dominant legal standard already possesses a large user-base the fact that the standard is already widely adopted may compensate for this, allowing the standard to maintain its dominance as a preferred standard.[16] Like a telephone with no one to call, or a language that no one speaks, there is little value in subscribing to a legal standard if it is only you who does so. The fundamental benefit of standardization is the ability of agents to synchronize their interactions.[17]

mechanisms in detail elsewhere. For a general discussion along these lines, see B. Druzin, *Anarchy, Order, and Trade: A Structuralist Account of Why a Global Commercial Legal Order is Emerging*, 47 VANDERBILT J. TRANSNAT'L L. 1049 (2014).

[15] S. J. Liebowitz, et al., *Policy and Path Dependence: From QWERTY to Windows 95*, 3 REG: CATO REV. BUS. & GOV'T 33, 33 (1995).

[16] The idea of "lock-in" is of particular relevance here. Lock-in occurs when a customer becomes dependent on a vendor's products or services, and as a result is unable to switch to an alternative vendor because of high switching costs. The phenomenon of lock-in predicts the possible persistence of sub-pareto legal practices as the result of network effects. This is a weighty insight. Such an examination, however, lies beyond the scope of the present, short discussion. However, the reader should note that it has far-reaching implications to the efficiency of prevailing terms. The present discussion is confined to a descriptive account of spontaneous standardization rather than a normative exposition of the process. There is no guarantee that the process of spontaneous legal standardization is conducive to "good" law. The lock-in problem is just one example of the potential for sub-optimal standards.

[17] S. J. Liebowitz and S. E. Margolis, *Should Technology Choice Be A Concern Of Antitrust Policy?*, 9 HARVARD JOURNAL OF LAW & TECHNOLOGY 283, 292 (1996).

This is known in the literature simply as synchronization. Synchronization is "the benefit received by users of a standard when they interact with other individuals using the same standard."[18] Synchronization effects will increase with the number of people using the same standard.[19]

4.09 It is submitted here that network externalities play a pivotal role in the spread of and coalescence around a specific legal standard where a centralized legislating authority is absent—particularly those of a commercial nature (because commerce encourages far more expansive interconnection than other areas of human interaction that requires regulation).[20] Network benefits rather than centralized codification are what drives the adoption and diffusion of set legal standards in the absence of a centralized legislative authority. Commercial legal practices, in that they facilitate successful trade between large numbers of people, possess an inherently high synchronization value and thus are particularly susceptible to the effects of network externalities. Provided there is a sufficiently high degree of interaction between participants, powerful network effects will appear in the market for legal standards as more and more users independently flock to particular standards. Provided that there is no strong incentive to not embrace the existing standard, there is every incentive to adopt the prevailing standard as one "plugs into" a new network of legal norms. This is not to deny the influence of other factors; however, over the long run, once network effects arise, they will exert a powerful influence and drive spontaneous convergence.

D. The Problem of Polycentricity: Interconnection and Insulation

4.10 Yet there are limitations to this kind of uncoordinated, network-effect-induced standardization. As stated, a key element here is the degree and scope of interaction: provided that there is a sufficiently high degree of interaction, a single network effect will come to dominate, smoothing out local inconsistencies and driving users towards a single standard. This, however, is not the case if the scope and intensity of interaction is not sufficiently high. In cases where there is a low degree of interaction, multiple localized network effects will emerge, generating

[18] S. J. Liebowitz & S. E. Margolis, *Should Technology Choice Be a Concern of Antitrust Policy?*, 9 HARVARD JOURNAL OF LAW & TECHNOLOGY 283, 292 (1996).

[19] S. J. Liebowitz & S. E. Margolis, *Should Technology Choice Be A Concern Of Antitrust Policy?*, 9 HARVARD JOURNAL OF LAW & TECHNOLOGY 283, 292 (1996).

[20] Marcel Kahan and Michael Klausner (and Klausner alone) examine increasing returns in corporate contract terms, arguing that network effects can induce standardization in firm contracts. See M. Kahan and M. Klausner, *Path Dependence in Corporate Contracting: Increasing Returns, Herd Behavior, and Cognitive Biases*, 74 WASH. U. L. Q. 347, 350–353 (1996); M. Klausner, *Corporations, Corporate Law, and Networks of Contracts*, 81 VA. L. REV. 757 (1995).

degrees of polycentricity (multiple centers of isolated standardization).[21] In the literature, this constrained impact of network externalities is known as a *local network effect*.[22] Local network effects can be distinguished from *global network effects*, which encompass the entire (or at least a larger conglomeration of) a networked system.[23] Adoption of a standard by people "with whom the individual communicates more often or more intensively creates higher network effects than the adoption of people with a lower frequency or intensity of communication."[24] Indeed, the impact of a network effect ends precisely where the need for compatibility ends. Put simply, if I never leave the small town in which I live then I only need to learn the language of my small town. As such, market insulation will create islands of polycentrism.

4.11 The degree of interconnectivity between trading networks, and thus the need for standards compatibility that arises in relation to this, will determine the extent of standardization. The less interconnection a trading network has to other trading networks, the more it is insulated, and thus the less susceptible it is to the impact of large-scale network effects and standardization. A sufficiently insulated trading network will generate its own network effect much like the dialect of an isolated community. Within insulated trading networks, the standardization of certain legal structures will remain localized while a greater standardization of more general practices will result. We will see localized network effects. Indeed, this accounts for existing and historic polycentricism with regards to legal standards. It is important that we are clear exactly what we mean when we speak of "markets"—the housing market, the credit market etc. While network effects may be highly discrete, the concept of a market is not. Given sufficient interconnection, standardization will occur across markets. If applicable, similar legal standards will emerge across disparate markets and generalized legal standards will tend to evolve. The relative insulation of a trading network will determine its susceptibility to network effects and its ability to also maintain localized standards. Thus, so long as some trading networks enjoy relatively robust insulation, polycentrism will continue to persist on certain levels. Indeed, this is precisely what we see in many quarters

[21] Fuller famously used the term to describe the difficulty of tinkering with interlocking complex networks with the image of pulling on a net of connected spider webs. *See* L. Fuller, *The Forms and Limits of Adjudication*, 92 HARVARD L. REV. 353 (1978).

[22] There is a relatively new and bourgeoning literature in Economics on *local* network effects. For some early contribution in this vein, see A. Sundararajan, *Local Network Effects and Complex Network Structure*, 7 B. E. JOURNAL THEORETICAL ECON., 1 (2007); B. Dutta and M. Jackson, NETWORKS AND GROUPS: MODELS OF STRATEGIC FORMATION (Springer Science & Business Media 2003); M. Y. An and N. M. Kiefer, *Local Externalities and Social Adoption of Technologies*, 5 J. EVOL. ECON. 103 (1995).

[23] J. Goldenberg, et al., *The Chilling Effects of Network Externalities*, 27 INTERN. J. OF RESEARCH IN MARKETING 4, 5 (2010).

[24] M. Voeth and M. Liehr, *Adoption of Communication Products and the Individual Critical Mass*, in 1 ENCYCLOPEDIA OF MULTIMEDIA TECHNOLOGY AND NETWORKING 2 (M. Pagani ed., 2005).

with respect to standards: the same industry may exhibit a broad range of regional standards and practices.[25] This can largely be attributed to network insulation.

4.12 It is interaction between trading networks, and thus the need for standards compatibility that arises in relation to this, that induces a single standard to emerge. The more interconnected areas of trade are, the more standardization will occur as a result of network effects.

4.13 Consider the simple example of shipping containers and other equipment used for container carriage. There is an implicit advantage to using standardized shipping containers that could be transported with minimum interruption, simplifying the logistical process.[26] Because "intermodalism," as it is called, provides a synchronization advantage to all parties involved in these networks of sea transport, containerization, first developed in the 1950s, quickly evolved into a common standard across the shipping world and became "the backbone of global trade."[27] Containers required standardization "so that they could be most efficiently stacked and so that ships, trains, trucks and cranes at the port could be specially fitted or built to a single size specification. This standardization would eventually apply across the global industry."[28] In 1961, the International Organization for Standardization (ISO) set standard sizes for shipping containers, the dimensions which are still used today.[29] Although adoption of ISO standards is entirely voluntary, the interconnectivity of the shipping world and the need for synchronization drove standardization. Enforcement was not necessary to achieve standardization—it is self-enforcing (we return this point below in our discussion of soft law). However, if interconnectivity is low, network effects will not manifest as powerfully and will invariably generate local network effects, giving rise to legal polycentrism. The crucial point here is that high interconnectivity will generate network effects and spontaneous standardization—insulation will inhibit it.

[25] With regards to the *lex mercatoria*, a recent expanding literature questions the true sweep of market-induced uniformity in the law merchant, arguing that customary commercial law often exhibits pronounced "polycentrism." See B. Benson, *The Law Merchant Story: How Romantic is it?*, in LAW, ECONOMICS AND EVOLUTIONARY THEORY (G. Calliess and P. Zumbansen eds., 2011). Benson has defined the law merchant as "a distinct, but not independent, system of polycentric customary law evolving spontaneously from the bottom up through the interactions of merchants..." B. Benson, *The Law Merchant Story: How Romantic is it?*, in LAW, ECONOMICS AND EVOLUTIONARY THEORY 72 (G. Calliess and P. Zumbansen eds., 2011).

[26] The World Shipping Council, "History of Containerization", http://www.worldshipping.org/about-the-industry/history-of-containerization.

[27] The World Shipping Council, "Industry Globalization", http://www.worldshipping.org/about-the-industry/history-of-containerization/industry-globalization.

[28] See The World Shipping Council, Industry Globalization, "The Birth of Intermodalism", http://www.worldshipping.org/about-the-industry/history-of-containerization/the-birth-of-intermodalism.

[29] See The World Shipping Council, Industry Globalization, "The Birth of Intermodalism", http://www.worldshipping.org/about-the-industry/history-of-containerization/the-birth-of-intermodalism.

E. Why International Shipping is Especially Susceptible to Network Effects

4.14 Now that we have unpacked the idea of network effects and examined their ability to spur self-standardization, let us apply this concept to the *lex maritima*. The theory of self-standardization articulated above applies to customary commercial law in general—the law merchant. The *lex maritima* may be understood as a subset of the law merchant.[30] In its basic composition, the *lex maritima* "is composed of the maritime customs, codes, conventions and practices from the earliest times to the present, which have had no international boundaries and which exist in any particular jurisdiction unless limited or excluded by a particular statute."[31] For our purposes, the *lex maritima* is the ideal case study in that it is especially receptive to network effects because it exhibits particularly high levels of interconnection. Indeed, interconnection is the very essence of shipping—it is implicitly inter-regional. The section that follows is brief but crucial—it provides a structuralist account of why the *lex maritima* should in theory be especially susceptible to network effects.

4.15 Maritime law, on a basic structural level, is particularly predisposed to self-standardization through network effects. The networks of trade that spanned across medieval Europe were also, on a basic structural level, predisposed to the emergence of network effects in that such trade involved high degrees of interconnection (as this is the nature of trade). However, the *lex maritima* is an even more distilled version of this structure: it involves the tight, interlaced connection of otherwise insulated ports. It is, by its very nature, a vast network of interconnectivity, its patterns of connection akin to a modern telephony system or broadband grid. While the medieval *lex mercatoria* for the most part spanned across Europe, the *lex maritima* spilled out across the oceans. Historically, networks of shipping lines have grown commensurate with the growth of inter-regional trade, and as they did, they not only transported the goods they carried in their holds—they literally transported the customary practices that regulated international trade. The critical role that interconnection played in the medieval ascendance of the *lex mercatoria* is unmistakable: "Merchants began to transact business across local boundaries, transporting innovative practices in trade to foreign markets. The mobility of the merchant carried with it a mobility of local custom from region to region [growing] into dominant codes of custom of transterritorial proportions."[32]

[30] W. Tetley, *The General Maritime Law—the Lex Maritima*, 20 SYRACUSE J. INT'L L. & COM. 105, 109–110 (1995).
[31] Ibid, 108.
[32] L. Trakman, *The Evolution of the Law Merchant: Our Common Heritage*, 12 J. MAR. L. & COM. 1, 3 (1980).

4.16 Indeed, this has been the case historically, and it is very much true in the present age. Not only have the connections expanded, but, crucially, the volume of international seaborne trade has grown tremendously over the centuries. As the intensity of repeated interaction increases, network effect pressures increase as the need for synchronization grows. The result is existing standards not only become universalized but also become deeply entrenched. The basic structural dynamic of international shipping makes it especially receptive to this process hence it is the perfect case study for network effect-induced legal standardization. Maritime merchants are literally shipping legal standards across regions.

F. The Role of Formal Law in Redirecting Spontaneous Standardization

4.17 Legal standards as they relate to the world of international shipping are intrinsically interregional. Thus, if left unhindered, such standards are bound to slip from the leash of local jurisdictions and tend towards inter-regional standardization. In the early nineteenth century U.S. Supreme Court Justice Joseph Story wrote: "... from the natural tendency of maritime usages to assimilation, and from mutual convenience, if not necessity, it may reasonably be expected, that the maritime law will gradually approximate to a high degree of uniformity throughout the commercial world."[33] This is a keen insight. While lacking the technical vocabulary, what Justice Story is describing is network-effect-induced standardization. When network effects are present, they can produce powerful pressure towards standardization.

4.18 Thus far we have been discussing standardization arising from a decentralized, spontaneous process without design—what can be thought of as *informal law*. However, designed legal order—*formal law*—plays a powerful role in shaping this process. Formal law can be divided into both soft and hard law.[34] By *soft law* I mean quasi-legal instruments that have no legal binding force, such as non-binding resolutions and declarations, guidelines created by governments and private organizations alike. By hard law I mean binding legal instruments, such as self-executing treaties or international agreements. Both soft and hard law are formal law in that, although distinct, they both involve deliberate design unlike informal law. While some may disagree with the present taxonomy, for the purposes of the present discussion, this division is useful.

[33] J. Story, *Progress of Jurisprudence*, in MISCELLANEOUS WRITINGS 214–215 (1852).
[34] I borrow some of this terminology of the international law literature. In international law *hard law* is used to refer to binding legal instruments and laws, such as self-executing treaties or international agreements.

4.19 An important question here is what role formal law has and continues to play in the emergence of spontaneous standardization. Does formal law hinder or reinforce uniformity? The short answer is that it seems to do both. When formal law seeks to codify pre-existing network-effect-induced standards it reinforces these network effects by providing clarity in the market much like standard-setting organizations do in certain industries. Formal codification may bolster bourgeoning network-effect-induced standards where there are competing network effects: tipping the market so that users rally around one standard, which then comes to dominate the market.[35] However, formal law can also exert an inhibitory effect with respect to universal standardization. By artificially introducing network insulation, formal law can generate polycentrism. Where it attempts to legislate from whole cloth instead of simply formalizing existing standards induced by network effects formal law hinders inter-regional standardization. Recall the question posed at the outset of our discussion: without a dominant legislative authority, can a standardized corpus of transnational shipping law successfully evolve, or is it destined to become a fragmented, polycentric jumble of conflicting legal practices and norms? The answer is that a standardized corpus of transnational shipping law has historically evolved as the result of network effects and indeed will continue to emerge—and formal law (both its soft and hard variants) can either be an obstacle or an aid towards this end.

1. Formal law as a hindrance

4.20 Up until around the end of the sixteenth century in Europe there was a substantial degree of homogeneity in maritime law.[36] This, however, began to change as national legal codes absorbed, transmuted, and distorted this corpus of law. With the emergence of the modern state, the *lex mercatoria* (which the *lex maritima* formed a part) was largely co-opted by national laws and transformed.[37] National laws incorporated existing merchant practices, and to the extent that these legal standards were modified by statute, network insulation resulted, disrupting the process of network-effect-induced standardization. National laws can create insulation, giving rise to legal polycentrism. National legal systems often fragmented the standardization that the *lex maritima* had spontaneously achieved. When national legal systems function in this manner, they can be conceptualized as something similar to tariffs in that they undercut and prevent the flow of legal standards between regions, comparable to how trade protectionism disrupts the natural flow of trade across borders. It is not difficult to see that if competing formal law creates conflicting rules, this will produce polycentrism in that it will generate insulated pockets of standardization.

[35] Even more crucially, formal law can allow parties to sidestep national laws altogether through the use of international arbitration.

[36] W. Tetley, *The General Maritime Law—the Lex Maritima*, 20 SYRACUSE J. INT'L L. & COM. 105 (1995).

[37] L. E. Trakman, THE LAW MERCHANT: THE EVOLUTION OF COMMERCIAL LAW (New York: Fred B Rothman & Co, 1983) at 23.

4.21 I submit that, if they had been entirely left to their own devices, modern commercial legal practices writ large would demonstrate a far higher degree of standardization. By and large, the co-opting of merchant legal practices by nation states stymied the process of network-effect-induced standardization already underway. Of course, polycentrism historically existed in the law merchant.[38] The medieval law merchant was not the unified corpus of law many scholars have made it out to be.[39] However, it is submitted that this was the result of regional insulation: a simple lack of interconnectivity attributable to geographic, political, or market isolation. While it would require a degree of empirical investigation I am unable to undertake here, I posit that wherever there were high levels of interconnectivity, legal standardization emerged.[40] Indeed, on this point the theory presented here has the virtue of being open to falsification. Given that the international community has been growing increasingly less insulated with the ever-increasing pace of globalization and international trade links forging vast networks of interconnection, legal polycentrism (at least with regards to commercially-oriented law with its built in propensity towards inter-regionalism) is destined to fade but for the artificial insulation generated by national legal systems. Where pre-existing legal practices were transformed through codification, the absorption of merchant legal practices by national laws hindered, and indeed continues to hinder standardization on a more global level.[41] Where national laws are open to the continued absorption of emerging (transnational) norms, more standardization not less is produced. The problem is that national laws largely no longer efficiently absorb emerging norms.

2. Formal law as reinforcement

4.22 Formal law, however, need not always act as a hindrance to spontaneous legal standardization. In fact, formal law can powerfully reinforce and facilitate standardization. Indeed, where it simply confirmed existing standards, the influence of the *lex maritima* increased where previously the principal source of custom was merely oral.[42] Through codification, pre-existing customs became formalized.[43] A good early example of this was the *Rôles d'Oléron*. Formal law can be

[38] See B. Benson, *The Law Merchant Story: How Romantic is it?*, in LAW, ECONOMICS AND EVOLUTIONARY THEORY (G. Calliess and P. Zumbansen eds., 2011).

[39] Trakman, Benson, and other writers have certainly fallen victim to this, although subsequent publications by Benson step back from the argument. See, e.g., B. Benson, *The Law Merchant Story: How Romantic is it?*, in LAW, ECONOMICS AND EVOLUTIONARY THEORY 72 (G. Calliess and P. Zumbansen eds., 2011).

[40] Indeed, such empirical investigation is invited.

[41] This is ironic because national laws are a powerful source of domestic legal standardization; however, this is limited where the nation's borders end. Indeed, that is precisely the problem.

[42] W. Tetley, *The General Maritime Law—the Lex Maritima*, 20 SYRACUSE J. INT'L L. & COM. 105, 109 (1995).

[43] Ibid, 110.

instrumental in providing greater clarity as to what is the recognized standard. This clarity can levy a critical influence on tipping markets experiencing multiple standards. Indeed, in commercial markets exhibiting network effects, multiple equilibria are often a problem. If networks overlap significantly—that is, if there is a high degree of connectivity—multiple standards cannot coexist indefinitely. Competing network effects supporting conflicting standards can persist for some time, but if there is sufficient interconnection the market will eventually tip decisively in the direction of one network standard.[44] This is not, however, the case if there is a high degree of natural network insulation. In such cases, multiple standards can "survive if network effects are primarily localized within subgroups of adopters, segmenting the market . . . ."[45] While shipping is highly interconnected, there still exist degrees of natural insulation between different sectors within the shipping industry. This condition in which the market is splintered, unable to coordinate, is "a dysfunctional equilibrium with multiple small and consequently unsuccessful networks instead of one large and successful one. The solution to this dilemma requires a leadership-like ability to focus on 'let's all do X instead'".[46] Indeed, a state of competing network standards can be quite inefficient for actors forced to switch between them.

4.23 There are many commercial examples of this problem. The standards war between AC/DC current in the nineteenth century, known as the "Battle of the Systems," fought between Edison vs. Westinghouse in Electric Power, lasted decades,[47] with AC current finally achieving market dominance (due mainly to technological innovations that lobbied against the use of DC).[48] A not widely known fact is that fax technology was actually invented in 1843 but stalled for well over a century until broad standardization between incompatible fax systems materialized in the late 1970s.[49] RCA and CBS fought a protracted battle over the U.S. standard for color television in the 1940s and early 1950s, which was only resolved by the FCC eventually regulating an official standard thereby enabling compatibility (an example of hard law directing network-effect-induced standardization).[50] Industry standards can be set by organizations such as the ISO. In fact, most standards wars in commercial markets are resolved in this manner by an industry standard-setting

[44] D. Dranove and N. Gandal, *Surviving a Standards War: Lessons Learned from the Life and Death of DIVX* (June 2003). CEPR Discussion Paper No. 3935 page 9.

[45] J. Ferrell and P. Klemperer, *Coordination and Lock-in: Competition with Switching Costs and Network Effects*, Working Paper 1, 85 (2006).

[46] Ibid, 60.

[47] C. Shapiro and H. R. Varion, *The Art of Standards War*, 41 CALIFORNIA MANAGEMENT REV. 8, 10 (1999).

[48] Ibid, 11.

[49] J. Ferrell and P. Klemperer, *Coordination and Lock-in: Competition with Switching Costs and Network Effects*, Working Paper 1, 61 (2006).

[50] C. Shapiro and H. R. Varion, *The Art of Standards War*, 41 CALIFORNIA MANAGEMENT REV. 8, 12 (1999).

body or public agency.[51] The ISO has no enforcement powers—it can develop standards but the industry is then free to adopt them. It is argued here that, in the absence of coercive mechanisms, the adoption of ISO standards is driven by network externalities implicit in commercial markets (an example of soft law directing network-effect-induced standardization). In the market for commercial legal standards, formal law can function as a standard-setter, providing a powerful signal to the market that can cause users to coalesce around a specific standard.

4.24 This function is eminently clear in the case of industry-developed soft law. International documents and understandings that have no actual legal authority, such as BIMCO bills of lading, standard form charter parties, and the York-Antwerp Rules 2004 on general average can powerfully reinforce standardization. A voyage charterparty entered into in any part of the world has terms that are universally understood.[52] International bill of lading and charterparty forms, couched in universal terms and practices widespread throughout the shipping world do not require legal codification (in the form of hard law) precisely because—and this is a crucial point—they are already robustly supported by network effect pressures. Other examples of soft law documents forging standards in the world shipping community include the Uniform Rules for Sea Waybills 1990 of the Comité Maritime International (CMI), and the Voyage Charter Party Laytime Interpretation Rules 1993. Such instruments exist "without any national or international legislation. Similarly, many bill of lading forms have been adopted for international use, with internationally accepted meanings, without the benefit of any intervention by national or international governments."[53] Just as the rules of English grammar do not require enforcement, the standards created by soft law do not require enforcement. Indeed, dictionaries do not enforce linguistic standards; they merely clarify them. Many observers may be tempted to conclude that soft law has relatively limited force because it lacks enforcement mechanisms.[54] However, when network effects underlie soft law, this is very much not the case—they can exert tremendous compliance pressure. The clarity that such instruments provide reinforces the power of the pre-existing network effect. Standards underpinned by these network effects often need only be enunciated clearly to trigger a greater coalescence around them and an abrupt abandonment of competing standards. The impact of soft law within the realm of transnational commercial law is being increasingly recognized: to an "ever increasing extent, legal rule-making is affected

[51] V. Stango, *The Economics of Standards Wars*, 3 REV. OF NETWORK ECONOMICS 1, 13 (2004).

[52] W. Tetley, *The General Maritime Law—the Lex Maritima*, 20 SYRACUSE J. INT'L L. & COM. 105, 133 (1995).

[53] Ibid, 134.

[54] For a nice succinct overview of soft law theories in relation to financial markets, see C. Brummer, SOFT LAW AND THE GLOBAL FINANCIAL SYSTEM: RULE MAKING IN THE 21ST CENTURY 128–130 (Cambridge University Press 2012).

by 'formulating agencies' in the form of governmental and non-governmental institutions rather than by domestic legislatures. As a consequence, harmonization and creation of the law is no longer initiated 'top-down' by the legislative authority of sovereign states...."[55] Yet what has hitherto not been recognized, indeed what has been completely ignored, is the supporting role of network effects with regards to the impact of soft law. It is useful to distinguish between industry-made soft law and state-made soft law. The former is much more likely to be followed willingly rather than complied with grudgingly (as would be state-made soft law). This is because standardization reflected in soft law instruments created by industry in more likely to reflect pre-existing usages already buttressed by network effects.

4.25 Hard law may play an even more authoritative role in terms of tipping a market exhibiting multiple standards. This may take the form of binding international conventions. Consider, for example, the maritime practice related to salvage. The principle of salvage can be traced back to antiquity.[56] It stipulates that a salvor who provides assistance should be remunerated even if the salvage is unsuccessful.[57] However, salvage custom developed differently in England (likely due to a higher degree of network insulation) being based on a "no-cure-no-pay" principle.[58] The 1910 Salvage convention,[59] to which the majority of maritime nations are a party, tipped the entire market and established the "no-cure-no-pay" principle as the recognized standard the world over.[60] The 1910 Salvage convention effectively sponsored (to use the terminology from the network effect literature) the network standard established by English law, allowing it to achieve total market dominance.[61] Hard law can be very useful for smoothing out blockages in network interconnectivity that lead to polycentrism. However, where there is hard law, even in the form of an international convention, there is a more pronounced danger of ossification and failure to take into account emerging unarticulated rules. For example, this appears to be the case with the entrenched quality of the Hague Rules (1924) and the Visby protocol (1968), in spite of their age. Two other conventions have since been adopted by UNCITRAL but neither has achieved anything like the same level of acceptance by major maritime nations. Unfortunately, as is often

[55] K. P. BERGER, THE CREEPING CODIFICATION OF THE NEW LEX MERCATORIA 43 (Kluwer Law International 2010) (footnotes omitted).

[56] W. Tetley, *The General Maritime Law—the Lex Maritima*, 20 SYRACUSE J. INT'L L. & COM. 105, 133 (1995).

[57] Ibid, 132.

[58] Ibid.

[59] Adopted at Brussels, September 23, 1910.

[60] W. Tetley, *The General Maritime Law—the Lex Maritima*, 20 SYRACUSE J. INT'L L. & COM. 105, 132 (1995).

[61] The close of the twentieth century saw the introduction of Special Compensation remuneration for salvors—the Special Compensation P&I Clause (SCOPIC)—by salvors, P&I Clubs, underwriters, and other parties. SCOPIC took effect in 1999. The most recent edition is SCOPIC 2011.

the case with hard law, it is more likely than not a force for polycentrism rather than harmonization.

G. Conclusion

4.26 What was presented here was not so much a fully formed theory of spontaneous legal standardization as an outline for one. The discussion provided a template for a more complex theory. Due to its structural nature, the *lex maritima* was an ideal case study for the model. On a basic structural level shipping law is perfectly calibrated to produce network effects. Shipping links are like communication networks with nodes mimicking the complex circuitry of social networks. The fluidity in the form of shipping lanes and the highly interconnected nature of transport routes are primed to produce powerful network effects. The crucial role formal law plays in directing network effect pressures was also examined. It was argued that soft and hard law may be both inhibitory and reinforcing. How formal law may function in either capacity is deserving of a far richer examination than was provided here. Such analysis is invited. Finally, the reader should note that the present model does not deny that there is a host of other considerations that may influence actors' choice of legal standards, and thus may blunt the impact of network effects. On a macro level, however, network effect pressures are reliably present and so levy a significant influence, inducing degrees of spontaneous standardization. Ultimately, the question of whether common legal standards may emerge in the absence of a central legislative authority is like asking who designed the rules of English grammar—it is the product of a decentralized system exhibiting network effects. Legal standards can emerge, and indeed often do emerge through a similar process.

5

STANDARDIZATION THEORY AND THE LIMITS OF ITS APPLICABILITY

Reflections by Andromachi Georgosouli

I read Professor Druzin's chapter with great interest.[1] I found his thesis ambitious in its inception and his methodology elegant although not without shortcomings. For the purposes of my 'Reflections' note, I will try to sketch his contribution to the literature on the basis of what I understand to be the nature of his project. Against this backdrop, I will proceed to highlight some aspects of his analysis that I found problematic or in need of further clarification and elaboration. **5.01**

Professor Druzin tries to answer the following question: Without a central legislative authority, who will create the rules of the game? How will international commercial law, for example shipping law, be standardized? To this effect, he proposes a preliminary framework for a theory of spontaneous legal standardization. In addition, he offers an account of the limitations of spontaneous legal standardization. He draws on the field of economics and, in particular, the model of network externalities to identify four criteria. When these criteria apply, the network effects are satisfied and standardization occurs albeit subject to certain limitations. **5.02**

These criteria are the following: **5.03**

1. The usefulness of a legal practice in the sense that it allows those who subscribe to it successfully to interact with others.
2. Legal practices must be compatible, that is they must be commonly employed (at the very least, by the two parties involved in the commercial interaction).
3. Commercial legal practices regularly relate to trade across disparate regions involving vast numbers of people who frequently interact.
4. In crafting their contracts, commercial actors can choose the terms that will regulate their interaction.

[1] I wish to thank Professor Roy Goode and Dr Miriam Goldby for their comments on an earlier version of this chapter. Any errors are my own.

5.04 The *lex maritima* is used as a case study. There is a very simple reason for this: due to certain features of its structure—notably those of the fluidity and the highly interconnected nature of transport routes—it is perfectly calibrated to produce network effects. An implication of this theory is that in the future it is possible to witness the emergence of transnational commercial law where the shadow of national laws recedes.

5.05 Professor Druzin does not aim to offer a comprehensive theory of spontaneous legal standardization; he only sketches the broad strokes of this theory. However, even at this early stage of development, it is not difficult to see the potential of his work and the contribution of his project to the literature of transnational commercial law. Specifically, it engages with at least three central themes in this literature: (a) The possibility of State-less transnational commercial law; (b) legal standardization as an essential mechanism for the promotion of legal certainty and predictability in international commercial transactions in a cost-efficient manner; and (c) uniformity as a goal of legal standardization.

5.06 Professor Druzin's thesis has two key merits. On the one hand, its methodology which is inter-disciplinary in nature and, on the other hand, the fact that the implications of his thesis go beyond commercial law and shipping law not least because legal standardization and the optimal level of harmonization of legal norms are themes that cut across a wide range of other legal domains as, for example, that of regulation, especially the regulation of a financial system which is by and large global in nature.

5.07 This preliminary theoretical framework suffers from three major flaws.

5.08 The first one concerns the nature of the question that it tries to answer: To my knowledge, no one would disagree with the contention that some sort of market-based (liberally described 'spontaneous') standardization is possible. Historically, the development of *lex mercatoria* could be described as such. If this is correct, then the theory of legal self-standardization draws on the model of network externalities to state the obvious. Further, in international commercial transactions, market-based standardization is driven by jurisdictional competition, with the states offering the context against which this market-based standardization emerges and evolves. If this holds true, then the proposition of legal standardization 'in the absence of States' does not quite make sense and in any case it calls for further clarification.

5.09 The second major difficulty concerns the nature of the theory of spontaneous legal standardization that Professor Druzin puts forward. Is this theory only descriptive of the process of legal standardization in the absence of State law or is it also intended to offer the basis for normative judgements about the properties of 'good' transnational commercial law? This is not made sufficiently clear. If there is a normative element into this theoretical framework, then a question that comes

immediately to mind is the following: Is the process of spontaneous legal standardization that this theory describes conducive to 'good law'?

5.10 Suppose that a carrier and a commercial merchant (one of its clients) enter into a voluntary agreement according to which the carrier will always provide the client with the container in which the cargo is to be packed at no extra charge. The client agrees to this because it cuts down the cost of sea transport. The carrier makes this offer because it is a new entrant in the market. Other merchants and shippers take notice of it. So in order to successfully interact with the parties in my example, other 'like-minded' members of the commercial community also adopt the same legal practice. The first criterion, namely the usefulness of the legal practice, is satisfied in the sense that it allows those who subscribe to it to successfully interact with each other. So is the second criterion. The legal practice of my example is compatible in that it is followed already by two members of the commercial community and soon it is followed by others. The third and fourth criteria are also satisfied: The legal practice that I am describing relates to trade across disparate regions involving vast numbers of people who frequently interact and in my hypothetical scenario commercial actors are assumed so that they can choose the terms that will regulate their interaction when drafting their contracts (without the State or anyone else interfering).

5.11 Does that make a good law? I think not. It does not make good law because it does not take into account the discrepancy in the bargaining power between the two parties. Furthermore, this practice becomes problematic if carriers start to supply old and defective containers so that insurance costs go up or if very expensive specialized containers are required for certain types of cargo. Do we really want to standardize this legal practice for the sake of certainty and predictability? Again, I think not, although I should acknowledge that a counter-argument here might be that the commercial community knows best what works for it. It is not the right place here to elaborate why this counter-argument is not convincing but I believe that the above brief points highlight a crucial feature of Professor Druzin's theoretical framework, namely that it is neutral as far as the question of 'good law' is concerned and as such it is not tailor-made to address controversial questions like the above.

5.12 The third major difficulty concerns several assumptions that seem to be embedded into the network externalities theory as an explanandum of the phenomenon of spontaneous legal standardization (rather than as a normative theory).

5.13 The members of the commercial community are assumed to act as rational utility maximizers. Are they? Economic rationality in commercial transactions may be the norm or it may not be. It is a matter of empirical evidence which is yet to be established with any certainty. In any case, it cannot be precluded. This brings me to the next point. Rational or irrational, the behaviour of the members of the commercial community is calculated. This does not look like a 'spontaneous' kind of

behaviour to me. So how spontaneous is this market-based standardization process that it is described as 'spontaneous'? A further difficulty with the conceptualization of market-based legal standardization as 'spontaneous' is the following: Even if we are prepared to accept that rules emerge out of contractual interaction 'organically', this does not mean that their *exportation* outside their original context is spontaneous. Once the rule becomes articulated, its continued application (and its exportation) is likely to be conscious and deliberate.

5.14 One might further question whether this spontaneous legal standardization actually leads to stateless legal order. In my view, such a proposition blows the perceived autonomy of transnational commercial law out of proportion. I have several reasons to be sceptical about the possibility and indeed the desirability of a 'stateless' transnational legal order. First, it seems to me that it cannot be 'stateless' to the extent in which the judiciary or (even arbitrators) resort to national legal doctrines, principles, and practice to interpret the standards that come about spontaneously and as a result of the network externalities. Second, even in the absence of a State as we know it currently, a legal ordering bearing minimum 'State like' features (e.g. monopolistic exercise of coercive power) would still be required for the enforcement of contract rights and the protection of private property. Third, I am inclined to think that we might actually want to ensure that this spontaneous legal standardization will never result in a form of 'stateless law' precisely because, in the circumstances, the State ought to have some role as the only suitable institution to facilitate this market-based standardization process and/or to guarantee the production and standardization of 'good law' (e.g. by challenging market perceptions as to what constitutes good law in the transnational commercial community).

5.15 At this point, I need to make a parenthesis to briefly note that there is a tendency to glorify the *lex mercatoria* and the *lex maritima* as stateless laws but one should be mindful here that the depiction of these systems of norms as floating free in the firmament ultimately stems from the willingness of national laws to respect business contracts and activities, by prescribing, for example, criteria against which to validate the usages so that things are not left entirely on the uncontrolled power of the merchant community. To be fair, the author himself acknowledges that formal law plays a powerful role in shaping the process of what he describes as 'spontaneous' standardization; sometimes, formal law facilitates this process while other times it works as a hindrance. If this holds true, then, arguably, one is not far from questioning the idea and ontological manifestation of 'stateless law' in the first place.

5.16 The analysis of the theoretical framework that is put forward in this chapter further touches on the issue of legal uniformity; however, it is not clear whether it advocates legal uniformity. If it does, I doubt whether legal uniformity is what we should be aiming for. As a scholar who comes from a financial regulation background, I find quite alarming the creation of cognitive bubbles that can lead to a fully blown financial crisis. Maybe things are different in the commercial world.

Commerce does not face crises, so cognitive bubbles are less fearsome but again, it seems to me that even in the domain of commercial transactions, scope for creative thinking and imagination needs to be allowed in order to be able to come up with new and better responses to novel manifestations of legal problems as they emerge in the future.

5.17 None of these flaws is fatal. By and large, they could be easily addressed by sharpening up the scope of Professor Druzin's theory and by clarifying certain points where appropriate. To conclude, several explanations may be put forward in attempting to account for the market-driven standardization process that underpins transnational commercial law. Marxist, institutionalist, behavioural, private-interest are just some of them. I believe that a theoretical framework that draws on network externalities like the one that is advanced by Professor Druzin could be offered as a complementary and potentially as a more credible alternative to other explanatory models. I look forward to seeing this preliminary theoretical framework eventually becoming a fully-fledged theory.