8 Conclusions

Following the meeting of the Group of Twenty (G20) in Hamburg, Germany, on 7–8 July, 2017, the American National Standards Institute (ANSI) issued a press release to support the final declaration, of which paragraph 11 'encourage[s] the development and use of market- and industry-led international standards for digitised production, products and services' (American National Standards Institute, 2017a). ANSI was right to be pleased! The careful wording used in the declaration not only matches its view on standardisation; with the G20 summits having reached centre stage on international economic governance in the wake of the global economic crisis, it is likely to become a significant landmark for future policy orientations regarding service industries increasingly embedded in IT-related technologies. This is just one more example of the non-conventional forms of power that international standards reflect in the organisation of contemporary capitalism. In many ways, the enquiry which underpins this book has carried me on a long journey with multiple detours and uncharted waters. They include the wide range of low- and high-skill activities provided by the Indian 'office of the world', the new frontiers of insurance markets being found with ageing populations and increasing natural catastrophes, the particulars of prudential standards devised for doubling the security of insurance policies, the intricacies of the European and American standardisation systems, and the likely impact of the new generation of preferential trade agreements on standards. To understand the relationship among globalisation, the expansion of services, and the power of standards, this book proposes several responses to the three questions that have guided my analysis from the beginning: what non-conventional form of power do international standards epitomise in the organisation of contemporary capitalism? Why have they become such prominent tools in global governance? Could they become as prominent for the service sector as for manufactured goods? Before tackling larger implications of my analysis, let me start by recalling my main arguments and the evidence provided throughout the book.

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The book has proposed three arguments inferred from the power of ambiguity, the ambiguity of standards, and the rise of services. The first argument is that the pervasive influence of standards rests on the ambiguous dimension of non-conventional forms of power. While a number of scholars in international relations and social sciences use the concept of hybrid to characterise such transformations of power in world politics and patterns of regulation in contemporary capitalism, such use usually remains on a second-best – or default – basis, by emphasising the rise of private actors and standards, as well as the elusive combination of contradictory logic at work in fluid configurations of power. In such a 'neither/nor' context, the idea of hybrid may support ill-defined global governance policies that enable the exercise of authority in wide-flung areas without full attribution of sovereignty. At the same time, it leaves the ontological properties of such non-conventional forms of power and regulation virtually undefined. By drawing on insights from critical approaches in international political economy, semiotics, studies in science, technology, and society, and post-colonial approaches, the book shows that the semantic field of hybridity actually conveys an overall substantive attribute, ambiguity. The concept of *transnational hybrid authority* describes such an ambiguous juxtaposition of instances of power that confers authority on new actors and new issues across sovereign spaces even as they transform the relationship between transnational capitalism and territorial sovereignty. In contrast to most studies on transnational private governance, my analysis is not only concerned with the private or public status of actors and organisations likely to exercise a recognised authority in international affairs. By bringing together the new range of state and non-state actors involved, the scope of the issues on which they operate and the spaces through which their authority may be recognised, my three-dimensional analytical framework includes all three categories of the subjects, objects, and spaces of authority. This approach charts a comprehensive analysis of global governance and the broad spectrum of power instruments it conveys, such as international standards.

So why have standards become so prominent? The book provides ample and diverse evidence of how ambiguity may lend support to the transnational hybrid authority of standards. In contrast to neo-institutionalist analyses focused on how supply and demand factors should meet to make standards alternative forms of private and voluntary regulation, my account demonstrates the ambiguous content of power relations in the regulatory authority of standards across borders, their need in creating new markets, and how this may yield substantial struggles to define and conform to them. It can be characterised as a

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social institution in its broadest sense only because it introduces a distinct form of domination in the organisation of contemporary capitalism. Following my three-dimensional analytical framework, such ambiguity helps overcome the distinction between the public and private spheres in which mandatory regulation and voluntary standards are usually confined. There is arguably no better case than the European system to epitomise such endeavour to blur the public and private poles of the institutional continuum of standardisation. Ambiguity also supports the surge of all sorts of new and increasingly ubiquitous standards along a material continuum. Like Latour's quasi-objects, all standards link technical and physical specifications to contentious social values and institutions; but some more – and more explicitly – than others. We saw for instance that data exchange standards used in the insurance industry do not just solve interoperability issues; they tackle the content of risks covered too. Finally, we saw that compliance to standards spans a spatial continuum across multiple jurisdictions. Here again ambiguity helps conflate two interlocking principles of the dual nature of sovereignty: the endogenous logic of territorial sovereignty, on the one hand, and, on the other, the exogenous logic reinforcing the transnational underpinning of contract law for capitalist markets. Besides the extent to which ISO and European standardisation systems differ from the American one – let alone the jungle of management tools and certifications – this is why, to take just one example, the mechanisms of regulatory cooperation designed in the new generation of preferential trade agreements raise so much concern. There is a good chance that bodies such as the Regulatory Cooperation Forum established by the Canada–European Union Comprehensive Economic and Trade Agreement (CETA) will trigger concealed transfers of authority outside existing state regulatory agencies and recognised standards-developing organisations.

Finally, could international standards be as important for the service sector as for manufactured goods? A conventional answer would be: probably not – pointing to the intrinsic characteristics of many services, asymmetries of information, uncertainty, or institutional embeddedness for market regulatory or public interest purposes. Such restrictive hypotheses view the standards-defying nature of services as an obstacle to their internationalisation, as shown by the roughly unchanged 25/75 ratio of trade and foreign investment to overall employment and GDP figures in services over the last quarter century. We saw, however, that during the same period developing and emerging countries have practically doubled their share in trade and investment in services. Furthermore, such activities are increasingly diversified, sophisticated, and deeply integrated with manufacturing processes related to global

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production networks. It is not just the economy that is more services-dependent on an increasingly global level; services themselves are standards-dependent. They rely on standards to respond to all sorts of quality and security requirements.

My argument on the rise of services is thus underpinned by an extensive hypothesis, according to which the ability to set standards for services depends less on distinct sectorial characteristics and domestic institutions than on the power of hybrids, i.e. the ambiguous status of actors setting such standards, of the issues eventually standardised, and of the space on which they are recognised. From this perspective, service standards per se neither hinder nor support a global integration of services; they rather prompt contradictory forces and opposing political economy objectives. Unsurprisingly, their content has never been and will never be a matter of science-based consensus, as shown by the long-standing divide between imperial and metric units. A broader case in point has been the struggle between advocates of so-called horizontal and vertical standards in setting the agenda of the European standardisation strategy regarding services. While the former, chiefly represented by the powerful British Standards Institution (BSI), are in favour of only defining generic attributes supporting a market-based management standard system available on a horizontal basis across the widest range of services, the latter (supported by a majority of European standardisation bodies) give preference to more substantial technical specifications likely to be applied on a distinct sectorial basis in order to define how services can be co-produced and used reliably with shared expectations regarding their quality. We saw that in the end the question boils down to what a service is and is meant to be, and that, considering the importance of the issue, the European Commission could only suggest a 'hybrid combination' in the hope of overcoming such antagonism.

Looking more closely at the assumption that the ability to define standards supporting the internationalisation of services does not vary with the specificity of the activity or domestic institutions concerned, the book studies two contrasted cases, namely insurance and business process outsourcing. Both can be viewed as 'crucial cases' (Eckstein, 1975), in the sense that they score either low or high values on the main characteristics differentiating the service economy, and so can represent the most- and least-likely cases of service standardisation, respectively. Without here repeating the detail and nuances of both cases, my account has provided evidence in support of my extensive hypothesis. While the study of the insurance industry concerns activities far from the ideal type of relational, non-material services, we saw that setting standards for such a most-likely case remains fraught with difficulties, notwithstanding

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their significance for market creation and regulation. Conversely, the wide range of standards existing in the ideal-typical case of intangible and relational business process outsourcing is also counter-intuitive, as it concerns a least-likely case and thus supports my argument that the power of standards in the globalisation of services should not be viewed as sector specific. Moreover, my analysis, essentially based on the examination of how India has become a world office, has shown that the power of those standards is more ambiguous than is usually assumed in terms of public involvement, societal implications, and territorial recognition.

What, then, are the broader implications of conceiving the power of service standards as a transnational hybrid authority defined by its constitutive ambiguity rather than by sectorial or institutional specificities? I will return to the issues of power and ambiguity, of the ambiguity of standards, and of the rise of services, with distinct reference to the contrasted industries chosen for each case studied.

First, regarding the relation between power and ambiguity, the emphasis on ambiguity might arguably be considered a truism from a linguistic or semiotic perspective. Language and signs do not convey transcendent meanings. Their ambivalence is part and parcel of any semantic field whose plurality of simultaneous readings are, as seen in Chapter 2, what Bakhtin (Bakhtin, 1981) referred to as hybrids. There is more to it, however. Ambiguity also entails a pragmatic dimension. Just as Bakhtin saw the reconstruction of language by novelist as an intentional hybrid serving his creative strength, the power of ambiguity opens up several alternatives in practice and expands the range of actors likely to act. Needless to say, this is widely used in politics and in diplomacy. Days after the unexpected election of Emanuel Macron as French President in May 2017, *L'Obs* (a weekly with a large readership in France) quoted the well-known aphorism of Cardinal de Retz (1613–1679) 'on ne sort de l'ambiguïté qu'à ses dépens' in the irony made about a conversation picked up between the new president and his minister of foreign affairs on a first meeting with trade union leaders, in which he said: 'It went well … Er! … I told them nothing.'[1] As Villar (2005: 60) emphasises, ambiguity 'appears functional because it creates space to manoeuvre'. Jegen and Mérand (2014) show for instance that ambiguity lies at the core of the communicative strategy used by political entrepreneurs in the construction of coalitions in European public policy. From a broader anthropological perspective, Mallard (2014) thoroughly studied the role that ambiguity – in contrast to transparency and opacity – played in the counter-intuitive

[1] *L'Obs*, No 2743, 1 June 2017, p. 14; the aphorism could be translated as 'You cannot get away from ambiguity without damage.'

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vagueness of international legal commitments surrounding the Treaty on the Non-proliferation of Nuclear Weapons. Another case in point is the purposeful governance strategy of financial institutions that accommodates distinct forms of ambiguity so as to increase tolerance towards a diversity of expectations (Best, 2005: 28–32).

Besides routine political and diplomatic practices, such ambiguity should not be considered only as a challenge to sovereignty, democratic representation, and the interstate system. As briefly mentioned at the end of chapter 2, it has broader implications for critical approaches in the field of international relations. It should help clarify the 'range of possible alternatives' (Cox, 1981: 130) away from the prevailing order and, therefore, facilitate an assessment of the current potential for emancipatory transformation and change. The holistic historicist epistemology of critical approaches opens up spaces of progressive practices in the face of structural forces and temporalities of *longue durée* not even thought of otherwise. This work has been very important in its own right. Yet it can land itself in the dire situation of neglecting the concrete mechanisms that channel the potential for change and on which to build progressive alternatives. With a focus on standards as non-conventional forms of power in contemporary international relations and global political economy, this book has provided ample and widely diverse evidence of the prominence of such mechanisms between macro structural forces and micro individual practices. As Guzzini points out, such focus on modes and mechanisms of global governance reflects a diffusion of power whose pioneer studies go back to the strand of critical realism inaugurated by Strange as well as to Foucault's poststructuralist analysis of 'productive' power and informal rule (Guzzini, 2012). Indeed, Strange, in her call for an 'extensive survey of the extent and limits of non-state authority' considered that the latter 'can only be determined on the basis of outcomes' that she viewed in the shared responsibility with states in the 'complex web of overlapping, symbiotic or conflicting authority in any sector or any who gets what issue'(Strange, 1996: 91, 95, 99). For his part, Foucault was interested in the many ways in which liberalism turns power upside down by taking its distance from the state's coercion and repression capacities, nurturing the suspicion of always governing too much (Foucault, 1994: 820ff). A distinct technology of government is thus needed to induce individuals to create their own disciplinary behaviour. This is basically what prompted Foucault to analyse in great detail the instruments used to translate such disciplinary power in productive forms, that is to say likely to be in conformity with a genuine participation to economic, political, and social orders.

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Transposed to present-day concerns regarding the contemporary regime of accumulation, the prominence of such a meso-level of regulation supposes paying attention to what Amin (2004: 226) describes as 'these "small" things … central in influencing who and what gets ruled in and ruled out or rewarded', and yet rarely featured in analyses of globalisation, global governance, and inequalities. In contrast to one-way analyses focused on the structural and disciplinary power of such 'small things', this book tries to keep a dialectical posture without losing track of the contradictory forces and opposing political economy objectives in situating the power of standards. While large manufacturing and service firms uphold considerable leverage in setting standards in their own interest, it is also at this meso-level that the ambiguous juxtaposition of power instances that play out in transnational hybrid authority can be understood in its ability to provide opportunities for those struggling for progressive change. Spanning all three dimensions of what I referred to as institutional, material, and spatial continuums, such a new topology of hybrid power helps make inroads in the long overdue methodological turn in international relations (Knafo, 2017; Montgomerie, 2017). Here, I deliberately borrow the concept of topology from geometry to convey the idea of plasticity of forms and deformation of structures; the existence of deformable frameworks rules out the possibility of rigid analytical frameworks with the purpose of identifying generalisable propositions. Just as Knafo calls for a renewed perspectivism to cast out dualisms such as 'the opposition between theory (general) and history (specificity), between structures and agency, the global and the local, the national and the international, the state and the market, or more recently the human and nonhumans', understanding in more detail the power of ambiguity across the subjects, objects, and spaces of international relations can be viewed as an alternative strategy 'for gaining perspective on world politics' (Knafo, 2017: 249, 250). To this end, I fully agree with Montgomerie when she claims that sufficient consideration should be given to pluralism as a 'defining feature of the critical school', as long as it describes 'a methodology for investigating capitalism that builds a comprehensive, although no necessarily coherent, understanding from a diversity of corroborating sources' (Montgomerie, 2017: 5, 6).

From this standpoint, a hybrid power based on ambiguity is likely to overcome critiques made on the utopian understanding of post-colonial scholarship focused on the protean and agonistic dimensions of hybridity at the risk of flattening out hierarchical and antagonistic forces in the same political space (Acheraïou, 2011: 153). It also lends support to bringing hierarchy back into Latour's early reading of the social embeddedness of science and technology as a symmetrical anthropology in which 'all the collectives similarly constitute nature' (Latour, 1993: 105, fig. 4.4). Such

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hybrid power might rather bear some resemblance to the 'politics of Earth' that Latour recently identified in the contradictory movement of both attachment to a soil and detachment made possible by the multiplication of alternatives provided by globalisation (Latour, 2016, 2017). Such emerging yet conflicting rationalities also contribute to what Kessler (2012) identifies as the functional differentiation between distinct temporalities of world society – a temporal conceptualisation largely missing within the confines of this book. Empirically, such a meso-level analysis would look at ambiguity as a strategic resource in the sense of the 'practice turn' in international relations given by everyday and cultural IPE; it would contribute 'to our understanding of the core questions of political economy: the nature of production, trade and finance, the global patterns of distribution and inequality, and the power relations that sustain and constrain them all' (Best and Paterson, 2010: 22). As Best points out, this supposes attentiveness to 'how actors and practices become connected around concrete problems and strategies rather than through predefined fields [as understood by scholars applying Bourdieu's concepts]' (Best, 2014: 24). For instance, any bureaucratic organisation uses ambiguity to devise practices built on lessons drawn from previous failures. Yet it can also become a lever of contestation: 'the very mutability of ambiguity also means that such strategic deployments are always provisional and liable to failure, as a policy can be reinterpreted in unexpected ways' (Best, 2008, 2012: 87). From a broader and more structural perspective, viewing hybrids as a strategic resource based on ambiguity provides insights into the construction of consensus as understood in the Western tradition of Marxism prompted by the writings of Gramsci. Scholarship in international relations has made extensive use of the Gramscian concept of hegemony to emphasise the importance of shared ideas, cultural artefacts, educational programmes, and a flurry of institutional bodies to exert power via a consensus only armoured by coercion. Ambiguity as such looks like a distinctly helpful resource if we go back to Gramsci's own writings. We saw that from a pragmatic posture it provides space for manoeuvre in building compromises; this also applies to concealing the sacrifices made to this end and which Gramsci sees as the required counterpart of hegemony: 'Without doubt, hegemony presumes that we take into account interests and sympathies of groups which hegemony will bear on, that we reach some balanced trade-off, in other words that the leading group makes sacrifices … [which however] cannot concern the most basic points' (Gramsci, 1978: 388, notebook 13, §18 – my translation into English). Overall, this explains why the transnational hybrid authority of instruments such as standards remains, like all hybrids, Janus-faced if it wants to build the slightest hegemonic momentum.

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The second area to draw out implications of the argument made in the book is the ambiguity of standards. If ambiguity is a prevailing feature, let alone an ontological attribute, in the ability of standards to create, organise, distribute, and regulate markets and society alike, conventional studies are not enough. Indeed, you cannot just study the economic benefits of standards (DIN, 2000; International Organization for Standardization, 2014), the policy processes in which the institutional supply of standards meets (or not) societal demands for common interest regulation (Spruyt, 2001; Mattli and Woods, 2009), the complementarities between international and domestic institutions (Mattli and Büthe, 2011), or the unrestricted disciplinary power of standards in constituting governmental objects, subjects, and practices (Higgins and Larner, 2010). Laying emphasis on the ambiguous properties of the transnational hybrid authority of standards provides support to underline their intrinsic social contestability, and in turn they may perform opposing political economy objectives and types of relationships between standards and society at large. International standards are unquestionably used as driving forces for broadening the domain and discipline of market self-regulation. As a matter of principle, however, there is no reason to think that they cannot be used as alternative instruments for embedding markets within society. The direction in which the balance will tilt depends, for the most part, on the degree to which society is fairly, substantially, and thoroughly included in standardisation processes; it is also subject to the differentiation of issues likely to be appropriate for such alternative tools of market organisation. This is all the more the case in that standards are not limited to the wide array of topics dealt with by official standardisation bodies such as the ISO but also cover broader sustainability schemes addressing labour and environmental concerns in corporate codes of conduct and multi-stakeholder initiatives. Personal observations drawn from a 'research-action' project devised to support the direct participation of civil society organisations in ISO technical committees have provided evidence that, even with limited resources, it is possible to pool the lay and expert knowledge required for such enhanced participation, to devise strategies likely to support the mobilisation of civil society actors, and eventually exert some (limited) influence over decision making (Hauert et al., 2016; Graz and Hauert, 2019). However, recent scholarship on organic standards shows that many of them keep depoliticising such social contestability and lack international recognition (Fouilleux and Loconto, 2016). A growing literature highlights the complex reality that such supposedly global standards face on the local script of their actual devising procedures and compliance mechanisms (Distelhorst et al., 2015; Bartley and Egels-Zandén, 2016; Mayer et al., 2017; Bartley, 2018).

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This argument leads me to distinguish two patterns in the comprehensive topology that spans the institutional, material, and spatial continuums of the transnational hybrid authority of standards. Such patterns signal opposing trends, even if this book provides evidence of some convergence between them. Future developments are likely to face trade-offs between the following opposing forces: the promoters of further socialisation of international standards applied to distinct and explicitly defined topics on the one hand, and, on the other, the advocates of a commodification of technical specification likely to tacitly cut across domains in the same way as management tools impose their discipline to a wide range of working practices. The former will be content with a hefty transfer of the universal scope of law into a catalogue of ad hoc and sectorial standards developed by recognised standard-setting bodies (and some provisions supporting the participation from civil society organisations), backed by intergovernmental rules such as those laid down in the WTO, the EU, and the new generation of mega-trade deals. In contrast, the latter will struggle for worldwide recognition of minimal generic market-based standards, such as quality management and security requirements provided by consultancy firms and consortia competing on the lucrative market of management methodologies and certification as exemplified by the outsourcing and offshoring of business services studied in Chapter 7.

Those two poles oppose trends towards a socialisation of international standards and commodification of technical specifications. Between them, all sorts of variations are likely to span the segments of the institutional, material, and spatial continuums of standardisation. The response made by the American National Standards Institute (ANSI) to the request for comments on the renegotiation of the North American Free Trade Agreement launched by US President Trump in 2017 is a good case in point. ANSI restated its adherence to the principles of the WTO Technical Barriers to Trade (TBT) Agreement guiding the development and implementation of international standards, yet in a way that is likely to reinforce a commodification of technical specifications. According to ANSI, 'Ultimately, the U.S. standardization community supports the fact that there are multiple paths to global relevance – as articulated by the World Trade Organization (WTO) Technical Barriers to Trade (TBT) Agreement – and that it is the marketplace that decides the utility or applicability of any given standard' (American National Standards Institute, 2017b: 1–2). Incidentally, this posture is also consistent with the American tendency to overlook the specificity of services and the distinct types of standards that they may require.

A question remains. As standards are ambiguous but at the same time exert their power by their ability to establish differentiation with opposing political economy objectives, does that power result from their ability to

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draw boundaries by such differentiation or from being boundary objects blurring varied social orders? My analysis has situated standards along segments of three continuums of a three-dimensional framework in order to appraise the institutional, material, and spatial dimensions which span their authority. As they mix the private and public sphere, physical attributes, and societal values, as well as compliance mechanisms that are both endogenous and exogenous to the principle of territorial sovereignty, standards reflect the idea of 'boundary objects' that Jasanoff uses to describe products of science and technology occupying a 'valued social or moral position precisely because they resist being disambiguated' (Jasanoff, 2005: 27). They create what Winickoff and Mondou (2016: 9) call 'epistemic jurisdictions', whose power stems from their ability to 'produce or warrant technical knowledge for a given political community, topical arena, or geographical territory'. At the same time, as we saw for instance when discussing the Indian office of the world in Chapter 7, standards belong to the 'differentiation strategy' undertaken by firms when competing for markets (Banerjee and Duflo, 2000; Athreye, 2005: 408). As emphasised by Parthasarathy and Srinivasan (2008: 280), standards thus only deliver economic benefits 'by drawing boundaries between those who conform and those who do not'. A third view might be more helpful here: standards *are* and at the same time *draw* boundaries. From this view, the ambiguity of standards is a resource to differentiate markets. The argument made here is akin to the one advanced by Busch. In describing standards as 'recipes for reality', he makes a case for taking full account of the extent to which they 'span the material and the ideal, the positive and the normative, the factual and the ethical, the sacred and the profane', and at the same time are used to differentiate adequately to create new demand for a vast variety of goods and services – what he refers to as 'standardized differentiation' (Busch, 2011: 3, 189). In other words, if standards simultaneously are and draw boundaries, their power rests on their ability to shape thick boundary lines rather than distinct and well-defined epistemic jurisdiction. Just as jurisdictions beset social and political practices that cannot be reduced to the principle of exclusive territoriality of the modern state system, such boundary lines combine enough elements of the opposite poles of their institutional, material, and spatial dimensions to balance the conflicting imperatives of the power of standards.

This brings us to my third point: what are the implications of the power of standards for the rise of services? My syncretic approach has substantially drawn on economic sociology and scholarship inspired by the French *régulation* theory to emphasise the socio-political foundations of standards likely to support the internationalisation of services. According

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to du Tertre (2008, 2013), two opposite types of institutional outcomes result from the distinct labour relations of services and the potential for standards only lies within one type: the so-called neo-Taylorist option designed to reduce the time needed for establishing the relationship between provider and beneficiary. Such industrial logic involves greater use of machines, information, and communication technology, and stereotypical behaviour. In contrast, standards are ruled out of the opposite strategy of so-called professionalisation, which establishes deontological principles committing providers and beneficiaries alike. My extensive hypothesis emphasising the ability of service standards to meet opposing political economy objectives has led me to explore how standards can apply to both types of institutional outcomes. For instance, management standards, the instruments used in the life insurance market, or the capability business models used in service offshoring in India and elsewhere – all of them clearly rest on an industrial logic. Yet, in other cases, they do not neglect deontological principles that du Tertre sees as limited to the national framework of regulated professions. A case in point is the intense power play in which the European Insurance and Occupational Pensions Authority (EIOPA), the body in charge of the new regulatory power sanctioned by Solvency II, was dragged in to defend the general and consumers' interests against companies' repeated attempts to avoid the implementation of new technical standards resulting in undue increases of their capital buffers. Arguably, another case is the ability of Nasscom, the voice of the IT service industry in India, to turn the Indian service offshoring industry from a standard taker to a standard maker, with the development beginning in 2008 of a new ISO/IEC standard specifically dedicated to India's competitive edge in IT-enabled services and business process outsourcing which was eventually published in 2016 as ISO/IEC 30105.

This book has only made a first foothold on further possible developments with regard to the tensions between industrial and deontological principles underpinning a global service economy. The role of standards in supporting either industrial or deontological principles likely to reinforce worldwide integration of services in domains such as automation, big data, and artificial intelligence will deserve further attention besides concerns as legitimate as those regarding civil liberties, ownership, privacy, or access. In Chapter 7, I showed that even if fully integrated with artificial intelligence, it is unlikely that the future outsourcing of business services could be automated without some form of intermediation that would require a standard to assess quality and security expectations. Similarly, the rise of big data does not rest only on the industrial bedrock to design ever more intricate interoperability standards likely to simultaneously connect

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billions of devices over the Internet and provide vast power to those in a position to control and exploit such information (Tilley, 2016). Standards can have immense implications beyond technological disputes and market power – and thus pass on industrial and deontological principles alike. They fuel big power policy and ideological rivalry as shown by Chinese early moves to build a rival Internet network or Russian cyberpolitics meddling in electoral processes. As the production and exchange of digital data affects ever more social, cultural, economic, and political spheres, they increasingly belong to what Howard sees as the civilisational choice of Pax Technica – the new era in which we face the challenge of designing the Internet of things in such a way that it may 'either lock us up or set us free'. According to Howard's somehow messianic argument, 'the major battles may no longer be fought by militaries but by corporations with competing technical standards and a vested interest in making systems interoperable or closed' (Howard, 2015: 228, 231). Making big data work for the common good and 'become a robust civic infrastructure' (Howard, 2015: 254) obviously implies a number of preconditions supporting the ability to set standards rather than follow them; but this would lead us too far. Suffice it here to say that while Howard sets progressive potential within the general framework of liberal internationalism and global governance, others situate such potential more explicitly in a post-human ontology viewing a material continuum between the physical and societal materiality of the world. A case in point is Bratton's far-reaching account of what he calls The Stack, a new kind of 'platform sovereignty', in which overlapping layers of a 'standards-based technical-economic system' shape a 'thickened vertical jurisdictional complexity'; against such background of planetary-scale computation, prospects of progressive agency should 'forget human-centered design' and instead carve 'defensible space around the nonhuman *User* [sic] in order to explore the literatures by which human beings can become part of their set' (Bratton, 2015: 7, 42, 4, 288). According to Chandler, big data entails such big promises as 'post-human forms of governance', whose 'empowering and capacity-building relies upon the reconstruction of societies as self-governing, as self-reproducing' (Chandler, 2015: 851, 844).

In a similar vein but more specifically focused on how standards have become ubiquitous in all areas of governance, Busch reckons we have 'some serious (re)thinking about standards to do'. This includes inventing a new form of democracy with an emphasis on deliberative processes and applying a division of powers in the wake of Montesquieu, with its strict separation between bodies setting standards and those enforcing them (certifiers) and still others adjudicating them (accreditors). This would be a precondition to ending the conflicts of interests

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that plague the current system. It would also require the recognition of standards as ‘ontological tools’ that bring worlds into being as mobile phones or airports have done, ‘so that they can receive the attention they need from various concerned publics *before* they are enacted’ (Busch, 2017). With such high stakes, it is surprising that standards likely to shape core socio-technical choices of the future have not aroused more substantial political mobilisation and civic activism. It is less so when we see that standards are still all too commonly regarded just as private voluntary technical specifications geared towards the organisation of markets. I can only hope that this book has made the case for rethinking the power of standards very seriously indeed.

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