



# Communications Infrastructure, Technological Solutionism and the International Legal Imagination

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## Abstract

This article considers the role played by communications infrastructure within the international legal imagination. It engages with contemporary debates regarding the power of corporate digital platforms and their model of information capitalism. An international legal historical perspective is adopted in order to contextualise international law's present infrastructural turn and connect current debates over big tech with their precursors. The history of international legal engagement with the development of communications infrastructure reveals a recurring pattern of looking to technological infrastructure for solutions to global problems. This can act to empower private actors and contribute to an ongoing absence of meaningful international legal regulation of communications. The contemporary interest in infrastructure, and its implications in terms of fostering the private power of big tech over global communications, is in many ways a return. But it could also take account of alternative visions for international law which were present at key moments during the League of Nations era and the Cold War. Connecting current debates with those earlier moments in international legal history can help to highlight and counter continuing patterns of technological solutionism within the international legal imagination.

**Keywords** Infrastructure · Materiality · Communications Technology · International Law · Technological Solutionism · International Legal Imagination · International Legal History

This article contextualises the current turn to infrastructure in international law by examining selected historical international legal debates over communications infrastructure which both prefigure and continue to shape contemporary developments.

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Re-examining the place of communications technology within the international legal imagination points to international law's own contributions to developing forms of information capitalism and their effects. Information capitalism here refers to 'the alignment of capitalism as a mode of production with informationalism as a mode of development' (Cohen 2019, p. 5). This has also involved a pattern of looking to technological infrastructure for solutions to global problems. In the context of the internet Evgeny Morozov has called this pattern 'technological solutionism' (Morozov 2013).

Martti Koskenniemi has focused on the international legal imagination as a central means of examining the history of international law and 'to think about law in the context of power' (Koskenniemi 2021, p.8). Koskenniemi conceives of legal imagination as '*bricolage*' operating as 'a form of institutional action that takes place in the context of controversy through the authoritative use of language' (Koskenniemi 2021, pp. 2, 8). Here I draw on that approach with its attention to both the public and private elements of international life to examine some key debates in the evolution of communications infrastructure which have shaped both international law and the changing technological contexts within which it operates. Thinking infrastructurally also helps to expand our concept of the international legal imagination to encompass infrastructure and its shaping of the international field of 'action'. As Benedict Kingsbury reflects, '[c]onsideration of how infrastructures affect or shape international law entails consideration of how relations, processes and imaginations of particular infrastructures interact with law, and vice versa' (Kingsbury 2023, p. 1). The article is structured as follows.

First, I examine the implications of turning to infrastructure as a way to order the world and in response to the rapid technological changes involved in digitalisation. I consider the potential and problems associated with thinking about international law as infrastructure. A key danger involves returning to a form of technological solutionism in imagining the future for international law. This connects with wider concerns regarding the power of private digital platforms and the networked communicative infrastructure they maintain for trade, commerce and information flows (Cohen 2019, pp. 40–41). Turning to infrastructure may result in a failure of the international legal imagination in so far as it results in strengthening private forms of monopoly power and precludes alternative ways of governing technology.

Second, I consider the evolution of international organisations in late nineteenth and twentieth century infrastructure ordering, with a focus on telecommunications. The standard account here is one focused on international organisations as emerging in response to increasing patterns of globalisation and consequent requirements for inter-state co-ordination (Klabbers 2012, pp. 228–230). But considering this earlier history reveals other factors at play including colonial competition for power and resources. Also, too often underemphasised is the role that non-state actors such as private corporations and transnational commercial interests played in the development of the international legal system (Lustig 2020). Focusing on international law's earlier engagement with communications infrastructure can help bring these dynamics to the surface. The development of communications infrastructure in the nineteenth century further enabled global interaction, while simultaneously fostering the emergence of transnational corporate power acting in concert with, and over time undermining, a state-centric system of international law.

Third, to unravel this story further, and to generate productive resonances with our own time, I examine later debates pointing to the relationship between communications infrastructure and violence. These debates contain important alternative paths for approaching such technologies and provide a wider context for the technological solutionism which has captured the international legal imagination. At a time when idealism and reality collided in the failed experiment of the League of Nations, technology was configured as futuristic and modern. It was conceived both as a means to further peace and stability, but also as a threat to it. Concerns regarding state control and manipulation of communications infrastructure continued through to the Cold War and underpinned later moves to liberalise the telecommunications sector and downplay the role for public international regulation of the internet.

Turning to infrastructure as a means of governing the world risks deepening the commodification of international life, now largely imagined in the terms of pluralist solutions to the problems of the future. This vision of international law has antecedents which illustrate the dangers and possibilities generated by thinking infrastructurally. In fact, when we consider earlier debates regarding communications infrastructure alongside current developments, the rise of private actors in the development of international law is continuous with, and a longstanding effect of, the turn to infrastructure – a turn which may be better understood as a return.

## Turning to Infrastructure as a Means of Imagining the Future of International Law

Contemporary infrastructures ‘encompass dynamic networks and assemblages that enable and control flows of goods, people, and information over space’ (Kingsbury 2023). The focus here is on communications infrastructure, but there are a range of further domains where infrastructure has captured the international legal imagination including: rivers, dams, the built environment; digital humanitarianism, governance of energy, electricity, railways, shipping containers, natural resources, borders or time (Yao 2022; Boer et al. 2015; Maisley 2023; Johns 2023; Viñuales 2022; Ojomo 2023; Lost-Sieminska 2019; Quiroga-Villamarín 2020; Hailes 2022; Ticktin 2023; Gordon 2021). Contemporary interest in the regulatory force of infrastructure also draws upon a ‘material turn’ in the international legal imagination (Kingsbury 2019, pp. 173–175; on materiality see further Hohmann and Joyce 2018; Hohmann 2021; Quiroga-Villamarín 2021). Although as Kingsbury reflects, infrastructure now often involves the combination of the ‘physical, informational, or digital’ (Kingsbury 2023, p. 1).

This article seeks to contribute to an emerging body of scholarship considering the international legal significance of infrastructure (Kingsbury 2019, 2023 and the associated *AJIL Unbound* symposium). That infrastructural scholarship responds to the transformations involved with and triggered by technology. Kingsbury writes of the stakes involved for international law as it grapples with technological change and the effects of digitalisation as ‘the stunningly difficult problematique’ of the present times (Kingsbury 2019, p. 176). Digitalisation pushes us to consider how law and legal systems imagine and understand technology’s function and power. Some claim

that technology challenges law and that hitherto public forms of decision-making will come to be determined by algorithms and code, generated by private and public actors both in concert and at times in conflict with each other (Benvenisti 2018).

One important response to this challenge has been to foreground the regulatory role of infrastructure itself. Kingsbury leads the InfraReg project at NYU which has led the charge here and their website explains its mission as follows:

Infrastructures—whether physical, informational, digital—can have regulatory-type effects. These include requiring, preventing, channeling, enabling, and nudging particular human and social behavior. Infrastructures also help to shape second-order regulatory-type actions and structures. When stable, these infrastructures exert substantial power in social ordering. They interact or compete with law. In these ways, infrastructures have major effects on social relations, identities, roles, capabilities, and possibilities (InfraReg Project 2022).

But what implications arise for a conception of international law as a system when confronted by the recognition of infrastructures as regulation? Kingsbury remains rightly concerned that ‘the infrastructure-scale legal shifts have been very slight when compared to the scale of the issues involved’ as with responding to climate change and ensuring data justice (Kingsbury 2019, pp. 181–182). I would add that a key danger is that turning to infrastructure as regulation might preclude alternative ways of thinking about how international law could address the power of big tech. As Müller and Tworek remind us, alongside hopes for connection and the furthering of economic ambitions, ‘communications infrastructure can [also] perpetuate and create information asymmetry’ (Müller and Tworek 2015, p. 282).

An imaginary of international law acting as an infrastructure for the management of common resources remains, though the fear is that it will be surpassed by the dominance of big tech’s private infrastructure as the neural network for information capitalism (see further Joyce 2020, pp. 155–159). As Kingsbury recognises, international law ‘can itself be thought about as infrastructure... [though it] has come to seem somewhat maladapted for the demands and the weight technological changes have put on it’ (Kingsbury 2019, p. 184). There is also a danger that technological solutionism may offer a dangerous form of sustenance for self-interested conceptions of global ordering even where they are clothed in the language of the universal or global. Questions of economic development and sovereign capacity are tied to infrastructure. Indeed, infrastructure is commonly configured as a national strategic concern and often understood in military terms (Oxford English Dictionary 2018).

Kate Crawford argues that ‘the telegraph – paired with the transatlantic cable – enabled imperial powers to maintain more centralized control over their colonies’ (Crawford 2021, pp. 80–81). The role of infrastructure as a parochial political practice of global ordering continued into the twentieth century and to the present day. Key examples include the post war US Marshall Plan with its emphasis on economic reconstruction, the subsequent activities of the World Bank through and after the Cold War, and contemporary debates over China’s Belt and Road strategy (Orford 2021, pp. 179–189). Today in a fractious global political environment the US and its allies have responded to the rise of China and to Russian violence and interference by

emphasising the protection and development of critical infrastructure with a focus on the growing digital (and information-driven) economy (US Cybersecurity & Infrastructure Security Agency 2022).

Kingsbury writes that ‘[t]hinking infrastructurally involves (at times) thinking forward’ (Kingsbury 2019, p. 183). This is a characteristic it shares with international law in its liberal internationalist genres. There is a danger then that in seeking to counter the challenges currently faced by international law its practitioners will turn to technology for answers, rejuvenation and future relevance. Proponents for technology’s role within globalisation have long equated its effects with freedom, but a range of contemporary scandals involving big tech have revived earlier anxieties regarding the role played by technology in international life. Hopes that automation would generate time for leisure and improve lives at work and in the home are now shadowed by the intensification of work, rising global inequality and the fear that the robots of our imagined future may displace rather than enable us (Runciman 2018, p. 129). In considering the dangers posed by AI, Naomi Klein points to ongoing failures to regulate big tech and questions its underlying claims of disruptive innovation:

We know this move: charge ahead into lawless territory; claim the old rules don’t apply to your new tech; scream that regulation will only help China – all while you get your facts solidly on the ground. By the time we all get over the novelty of these new toys and start taking stock of the social, political and economic wreckage, the tech is already so ubiquitous that the courts and policymakers throw up their hands (Klein 2023).

The turn to infrastructure as a form of technological solutionism for international law involves similar dangers. Though, as discussed below, law is often deeply implicated in these domains and the failures of regulation capturing Klein’s critical attention (see further Johns 2023, pp. 178–179). In critiquing solutionism in the internet era, Morozov counsels against the automatic conferral ‘of legitimacy upon a panoply of new, clean, and efficient technological solutions’ presented by big tech companies (Morozov 2013, p. 7). He recognises that solutionism is not a new mode of responding to problems, but critiques such an approach for putting the answer ahead of the question, foreclosing deeper investigation of the problem(s) (Morozov 2013, p. 6). De-politicisation and utopian thinking are further characteristics of technological solutionism with resonance for the international legal imagination as it grapples with technology (Morozov 2013, pp. 8–9). This can also contribute to a conviction that we must look forward rather than backwards in managing and fixing the ‘unique, revolutionary’ and urgent problems of the moment – a way of thinking that chimes also with Hilary Charlesworth’s classic critique of the mindset of perpetual crisis too often limiting the horizons of international legal imagination (Morozov 2013, pp. 15–16; Charlesworth 2002).

The emergence of international organisation of communications infrastructure helped to shape a managerial approach to governance, but also sustained a role for private actors alongside states which continues to the present day (Clements 2019, pp. 150–153). Examining these recurring dynamics contained within an infrastruc-

tural imaginary of international law can help reveal the political stakes involved in contemporary debates over the governance of communications technology.

## Communications Technology and the History of International Organisation

International organisation itself arose in part to ‘manage practical problems of transport and communication’, and the role of international law as an underlying coordination mechanism for international communication can be traced back to the rise of the telegraph and the transnational postal service (Klabbers 2002, p. 26). Prior to World War One efforts were made to generate ‘the great net-work of treaties on such subjects as arbitration, copyright, patents, money, railways, posts and telegraphs’ (Higgins 1910, p. 25). These developments in turn depended on communication technologies such as the telegraph and on forms of global transportation which drove the global trade and commerce of the time. As the historian Eric Hobsbawm has written of the era, ‘[m]odern technology was not only undeniable and triumphant, but highly visible’ (Hobsbawm 1995, p. 27). Influential international legal accounts of this era point to the role played by international law and lawyers in managing these developing technological affordances to bridge space, time and distance (Lowe 2007, pp. 10–11; Crawford 2019, p. 156). As Jan Klabbers has argued:

Whatever activity one wishes to engage in at the beginning of the twenty-first century, be it the sending of a postcard to a friend or the purchase of a television set produced in a foreign country, it is more than likely that the activity is in some way or another regulated by... an international governmental organization (Klabbers 2002, p. 1).

A number of international organisations were formed to oversee this infrastructure for the co-ordination of common resources and for transnational economic activity. However, the economic benefits which accrued from advances in communications and other forms of globalising technologies were not equally available (Hobsbawm 1995, pp. 28, 73). Standardisation, interoperability and public oversight of common infrastructure were key modes of advancing this vision for global order. One such organisation is the International Telecommunications Union (ITU). The ITU’s history can be traced back to early efforts to co-ordinate and control global telegraphic networks. These networks and their cables have in turn provided the material foundations for the emergence of the internet, generated by the conjoining of computing software and telecommunications hardware. But this vital global communications infrastructure is ‘often privately owned, vulnerable to interference and unequally distributed’ (Joyce 2020, p. 95). Today it is the UN specialised agency focused on information and communications technologies and it has played a role within more recent efforts to generate a global information society and digital compact. But it has also struggled to maintain its relevance in light of regional developments, the rapid liberalisation of the telecommunications sector since the 1980s and the convergence

of infrastructure and content that has occurred with digitalisation as seen most markedly in the fields of internet and now platform governance.

In the mid-nineteenth century a number of developments in the field of electricity allowed for signals to be sent along cables (and subsequently also through the air). The role played by electrification in globalisation and in connecting governance and innovation is fascinating though often underemphasised in international legal accounts.<sup>1</sup> As Toby Walsh notes, electricity ‘invisibly permeates all aspect of our lives’ (Walsh predicts that AI will one day play a similar function: Walsh 2022, p. 2). One illustrative example of these developments was the breakthrough made by the painter and inventor Samuel Morse with the single-wire telegraph and Morse code. Such advances in harnessing electricity for communications in turn developed into the broader field of telegraphy with the first telegraphic cable connecting Britain and France laid in 1850 and a transatlantic cable established in 1858. This required regional cooperation and consideration of standardisation of technology and approaches to interoperability and regulation.

Stephen Humphreys connects the history of these transoceanic cables with the French Revolution and notes that the ‘first underwater telegraph cable was laid by the East India Company’ (Humphreys 2018, p. 197). The mix of public and private power in state influence and support entwined with commercial interest, pre-figures the geo-economic rivalries attached to the digital economy today. Humphreys argues that the development of undersea cables was ‘initially dominated by the great Victorian British state, but the initiative would soon pass (with occasional subsidised support) to American private enterprise. The very first Atlantic Telegraph Company set the tone, combining public and private, British and American capital’ (Humphreys 2018, p. 197, see also pp. 198–199). Kate Crawford reflects that ‘[I]ike artificial intelligence, the telegraph was hailed as a unifying technology that would expand the capabilities of human beings’ and notes that it became ‘dominated by one of the first great industrial monopolies, Western Union,’ shaping conditions for the emergence of monopoly capitalism (Crawford 2021, p. 80; drawing also on Carey 1983).

European states met in Paris for an International Telegraphic Conference resulting in agreement of the *International Telegraph Convention* in 1865 and the establishment of its related organisation the International Telegraph Union (the precursor to today’s ITU). This treaty and the process through which it was established was viewed by the eminent American international lawyer Manley Hudson as a ‘turning point’ in the move towards the use of treaties as multilateral frameworks with a quasi-legislative character to structure and order international co-operation (Friedmann 1962, p. 124 at footnote 14). Subsequent conferences were held to revise and consolidate the regulations for a uniform system of telegraphy and to guarantee the effective functioning of the nascent global telecommunications system.

This communications infrastructure would ultimately lead to the internet and today’s digital economy and platforms, but over the course of the twentieth century the ITU was involved in radio, telephony, satellites, space and a host of infrastructural and development activities. The ITU’s work was characterised as technical which had benefits in terms of encouraging state participation (Klabbers 2002, p.

<sup>1</sup> An important exception is the recent scholarship of Edefe Ojomo (Ojomo 2023).

26). It also reflected debates over the changing character of international law and the ambitions of those who sought to shape and define its future. An example of a preference for positive, technical international law as opposed to calls for international law as morality can be found in the work of Hans Kelsen, who wrote in 1935:

There is no greater delusion than to imagine that the value and significance of international organisation is enhanced by attributing to it a moral and not a legal character... If the League of Nations Covenant had said a little less about justice and had paid a little more attention to the technical side of the formation of law, it would have better performed its task (Kelsen 1935, p. 11).

But as Mónica García-Salmones Rovira argues, this project of positivism, with which Kelsen and other key figures were associated, ‘is economic, in the sense that the new positivist normativity is designed to be at the service of commercial exchanges and offers a means to resolve conflicts of interests between private and public entities’ (García-Salmones Rovira 2013, p. 1).

A simpler narrative told of the emergence of international organisation as an inevitable response to technologies of globalisation risks underplaying this economic significance of infrastructure, and the roles assigned to corporations and private actors in the development of international law itself. As Doreen Lustig has powerfully illustrated more broadly, ‘modern international law constitutes a framework within which businesses and governments allocate resources and responsibilities – a framework that began to operate as early as the late-nineteenth century and continued throughout the twentieth century’ (Lustig 2020, p. 1). The development of communications infrastructure is an important but generally underappreciated case in point here.<sup>2</sup> As Lustig argues, ‘while private business corporations rarely appeared as a stand-alone issue in the international legal texts of the twentieth century’ international regulation was a key factor in their historical development (Lustig 2020, p. 3). And they played a significant role in the creation of communications infrastructure for a globalising world. As Müller notes in her pioneering global history of telegraph networks, ‘submarine telegraphy followed the logic of private enterprise’ and states relied on ““neutral” cable companies to mediate between them’ where otherwise state-centric notions of jurisdiction and territorial sovereignty would impede the ‘wiring of the world’ (Müller 2016, p. 13, pp. 3–5).

The emergence of telegraphy ‘enabled capitalist exchange’ and ‘supported the development of particular global capitalist systems’, consolidating markets involving Europe and America, but also subsequently creating ‘new markets, such as the Pan-American and Pacific markets’ (Müller and Tworek 2015, p. 262). As Roxana Vatanparast reflects, considering the physical infrastructure here helps to reveal ‘the exercises of power and forms of politics that the materiality of cables enable and their entanglement with technological, legal, and social orders’ (Vatanparast 2020b, p. 7; see also Müller 2016, pp. 7–8). In the process Müller and Tworek reflect that ‘the

<sup>2</sup> An important exception can be found in the work of Roxanne Vatanparast who adopts an STS-inspired approach to examine the co-production of cable empires, international law and technology (Vatanparast 2020a).



interaction between telegraphy and capitalism reinforced social orders that excluded most of the world's population based on concepts of race, gender, and class from participation in global communication' (Müller and Tworek 2015, p. 262). The international legal imagination as regards communications and technology was in many ways limited from the beginning by its reliance on private actors and their economic ambitions. These limitations continue to shape approaches to internet governance and emerging technologies. Turning to technological infrastructure for solutions involved strengthening the position of corporations and ceding control of the regulatory environment.

Despite the ITU's efforts to wrestle back control of communications infrastructure in the internet era, the reality is that private power has now eclipsed that involved in the international regulation offered by the ITU over these key communications technologies. This leaves the ITU less relevant and more dependent on its private partners, despite its remaining the oldest continuing international organisation within the UN system. Along with standardisation, liberalisation has become the dominant mode (at times under the cover of seemingly public development activity) of its operations. Liberalisation of telecommunications as an industry has also enabled the internationalisation of dominant national companies and played into their commercial interest in expansion in developing markets and also national interests in consolidation of influence and geo-economic power (Hills 2007; Clifton et al. 2011). Similar dynamics can be seen in the tech industry with internet freedom a cover for US influence through the dominance of Silicon Valley tech companies in the global marketplace (Goldsmith 2020). The ITU's efforts to contribute to internet governance through the framework of the World Summit on the Information Society have been largely sidelined by both states and multinational tech companies who have instead championed a model of multi-stakeholder governance which prioritises a neoliberal tech agenda (including the interests of states who benefit from it such as the US) over a more public model of global governance (Joyce 2020, pp. 96–99).

As explored above, the development of communications technology as a form of infrastructure for international life reveals ongoing connections with empire, exploitation and commodification (see further Hills 2007). The contemporary debate over the power of big tech and who should control global communications infrastructure could take greater account of this earlier history. As Julie Cohen warns in the present day, 'infrastructures may be managed as commons but need not be' (Cohen 2019, p. 40). I now turn to examine a different set of ideas concerning communications technology which developed during the League of Nations and into the Cold War. In doing so the following section examines international law's reckoning with the relationship between technology and violence, generating calls for greater regulation and reflecting anxiety concerning state control and potential misuse of communications infrastructure. These examples offer a counterpoint to earlier ways of understanding the significance of communications technology as global infrastructure. The League of Nations period involved a model of international organisation with more overtly political ambition and internationalist sensibility, though its failure risked reinforcing more parochial visions of international law.

## Communications Infrastructure and Violence

The development of communications infrastructure enabled new forms of militarism and violence to emerge which threatened to reshape global order and the international legal imagination. This held enduring implications for peace and security. Communications technology was developed for use as a modality of modern warfare and information was key to public diplomacy, but also espionage, propaganda and other means of interference (Nicholson 1963, pp. 97, 169). Here the role of communications infrastructure held both economic and military strategic significance. This led international lawyers to consider how traditional frameworks should adapt to emerging forms of communications technology not only in peace, but during war. The control of communications and related technologies was incomplete. This would become a central preoccupation for the waging of total war with all infrastructure, whether public or private, captured in strategic efforts and thus also open to targeting.

This double-sided aspect to communications infrastructure led to significant debates over media, truth and power during the interwar period as the League of Nations considered the legacy of violence and its future. Attempts to internationalise and control the cable system under the auspices of the League failed, however, as '[n]eutrality would result in too great a loss of private profits, and of national public power' (Biltoft 2021, p. 21). Another dimension to the activities of the League here involved a focus on 'the role of the press and broadcasting in maintaining world peace' (Biltoft 2021, p. 90). This led to the development of the *International Convention Concerning the Use of Broadcasting in the Cause of Peace* in 1936 (Broadcasting Convention) which entered into force in 1938. Carolyn Biltoft notes that '[g]iven that the production and control of information had been so central to winning the war, it must have seemed rather natural to assume that those tools could be converted toward both securing and keeping international peace' (Biltoft 2021, p. 9).

Parties to the Broadcasting Convention would prevent broadcasting 'of any transmission which to the detriment of good international understanding is of such a character as to incite the population of any territory to acts incompatible with the internal order or the security of a territory' of a party (Broadcasting Convention 1936, Article 1). They were to ensure that broadcasts 'from stations within their respective territories shall not constitute an incitement to war... or to acts likely to lead thereto' in relation to another party (Broadcasting Convention 1936, Article 2). Another provision aimed to prevent broadcasts 'likely to harm good international understanding by statements the incorrectness of which is or ought to be known to the persons responsible for the broadcast' (Broadcasting Convention 1936, Article 3). This echoes current day concerns with fake news and has been raised in contemporary debates as, despite its limitations and its denunciation or limitation via reservation, the Convention remains in force (Baade 2018). In addition, Article 4 of the Convention was directed to ensuring accuracy of information broadcast during moments of crisis within international relations and Article 5 aimed to facilitate the sharing of accurate information between parties (Broadcasting Convention 1936, Articles 4 and 5).

It is interesting to note also that Article 6 of the Broadcasting Convention required the issuing of instructions and regulations for the 'guidance of any autonomous broadcasting organisations' within the jurisdiction of parties (Broadcasting Conven-

tion 1936, Article 6). State control and regulation of communications content in addition to the co-ordination of infrastructure generated concerns regarding free speech which were to intensify during the Cold War period. Another limiting factor regarding the utility of the Broadcasting Convention was that Germany and other significant aggressors in the Second World War were not parties and thus the Broadcasting Convention failed its first significant test.

Communications technologies such as radio, which drove the development of the Broadcasting Convention, could manifest and intrude upon state sovereignty and were seen by some as requiring international legal regulation and concern. Nevertheless, the difficulties in securing a broader consensus for a more formal international regulatory response during the interwar years continued during the Cold War (Joyce 2020, pp. 72–79). For example, the *UNESCO Mass Media Declaration* of 1978 aimed to build upon post war concerns regarding propaganda and incitement and to ‘ensure greater availability and diversity of information’ by addressing ‘inequalities in the flow of information and issues of racism and colonialism’. But as with the League of Nations period, the more overtly political issues raised by questions involving the content of communications deepened, rather than transformed, the challenge involved in developing a stable image of global order through its infrastructure.

International lawyers working in democratic contexts feared the damage that communications infrastructure, commodification or state control might wreak on liberal political systems (McDougal et al. 1980, p. 819). Wolfgang Friedmann wrote:

the increasing importance of the individual in international relations is countered by the helplessness and malleability which flows from the development of modern techniques of mass communication, the concentration of physical power as well as the control of communications and the media of opinion in a few hands and the consequent subjection of the average individual to decisions that he is in theory but not in fact able to control (Friedmann 1962, pp. 43–44).

His views here echoed more pessimistic scholarship in the social sciences regarding the commodification of communications technology and infrastructure which drew attention to its utility for social control and manipulation (Marcuse 2002).

So, we can see from this historical perspective that communications technology and infrastructure were viewed as both a threat to peace and as a mechanism through which to secure it, as a framework to build global community but also to undermine it. While the initial emphasis on communications infrastructure came to overlap with, and at times be obscured by, a content-focused view of the role of communications within international law, Biltoft explains of the interwar years that: ‘immaterial signs and material reality had become coconstitutive in new ways through the intermingling of media, markets, and power politics’ (Biltoft 2021, p. 9). Here Biltoft highlights the ongoing role of material infrastructure in the ordering work of the League and its connections to broader efforts to generate a vision of a global public sphere, arguing:

As with the metaphor of the cable and the wire, the structures, infrastructures, and financial architectures of the modern world were both material and immate-

rial. While messages and funds began to move as quickly as lightning, cables still required tremendous time and resources to construct, install, and maintain. Information flows depended on relay stations and explicit acts of encoding and decoding (Biltoft 2021, p. 9).

These insights speak powerfully to the present day and a return to consideration of the ordering role and political economy of communications technology infrastructure.

It is tempting to view contemporary developments involving international law and infrastructure as presenting a novel challenge to the more traditional conception of international law as a system of rules, dispute settlement and organisation. But as we have seen in the case of communications technology, even at an earlier time the international legal imagination was captured by infrastructure. This engagement has over time resulted in the consolidation of private forms of infrastructural power without meaningful public forms of accountability. When we recall earlier developments with regards to telecommunications, we are reminded of a field of international activity with a complex history illustrating public and private characteristics, soft and hard forms, and containing a co-constitutive conception of infrastructure's relationship to global ordering (Tworek and Müller 2015; Vatanparast 2020b, pp. 7–8).

Distinctions between public and private modes of international law are giving way to greater realisation of the role and power of infrastructure and private actors alongside states, including in earlier eras. This unsettles some powerful stories that international lawyers have told themselves and others about the nature of international society, the actors with authority to govern and the mechanisms by which such ordering is to occur. It can also help to locate political processes involved in terms of infrastructure 'located elsewhere than in the public arena of political debate' (Leander 2021, p. 163). Geoff Gordon's innovative work on international law and an infrastructure of time argues for a reconstitution of 'the reality of the infrastructure as a political vector' (Gordon 2021, p. 349). As Nahuel Maisley has argued in the context of architecture, 'the actual publicness of the [international legal] system is also shaped – sometimes in combination with the law, sometimes in competition with it – by the infrastructure of international law-making' (Maisley 2023, p.21). If, as this article has revealed, the architecture of global public communication and its governance is grounded in a history of private action and control, and this is only further intensifying in the present day, this carries serious implications for the publicness of any future international law system.

Technology can perform an ordering role, but it has also been harnessed to disruptive (deregulatory) ends. The often-private digital architecture for the global information economy challenges international law's state-centrism (DeNardis 2014, pp. 11–15). As Stephen Humphreys notes of the current system of data cables, the 'cable map is like the negative skeleton of global sovereign power: private bones for public flesh' (Humphreys 2018, p. 199). For some this provides compelling evidence for the broader critique of international law's future utility in a world turning away from multilateral co-operation. But a focus on infrastructure as offering its own regulatory and ordering potential can act to discourage more direct regulation of infrastructure itself, thereby enhancing private power in the form of monopoly or oligopoly. As Kingsbury recognises, 'infrastructural choices operate as regulation – but these regu-

lators are often themselves only thinly or unevenly regulated' (Kingsbury 2019, pp. 181–182).

As a consequence, private power threatens to eclipse national sovereign power in many, though not all, domains of the digital economy. This is not to deny the imbrication of law and capital in these developments. Global capital and private power have relied on and benefited from legal structures and forms (both domestic and global) (Pistor 2019; Kennedy 2016, p. 11). Lustig argues that the emergence of the private corporation 'on the world scene' is 'parallel to the emergence of international law as a professional field' and draws attention to the means through which 'international law undergirds corporate action' (Lustig 2020, p. 4).

David Runciman points to the deeper connections between the state and corporations that we can also see in the earlier history of communications infrastructure and international law. Runciman reflects that '[n]o corporation, however rich or powerful, can exist without the support of the state. Corporations are created in law and they operate through the web of rules and regulations that the state provides to manage them' (Runciman 2018, p. 132). A critical awareness of the connections between empire and international law in fostering the power of corporations reveals an underlying pattern which has tended to be obscured in contemporary debates over international law and technology. The international legal imagination needs to better account for earlier practices of exploitation and their re-location in modern forms of information capitalism with their reliance on privatised infrastructure for global publics (Couldry and Mejias 2019).

Considering contemporary debates over infrastructure alongside relevant moments in international legal history enables a richer account of the character and potential of international law as it grapples with technology. As Leander notes, this has become an urgent move for those wishing to understand and engage with questions of how to govern the internet: '[i]nfrastructures, the way they are infrastructuring politics and the infrapolitics surrounding these processes have indeed come to occupy a core place in debates about digitisation and internet-governance' (Leander 2021, p. 163). My concern here is not to deny or avoid dealing with these or future developments, but rather to grasp the opportunity to more deeply examine the political stakes involved and to avoid the temptation to 'naturalise' or de-historicise our technological choices. As Morozov reflects:

Once we realize that for the last hundred years or so virtually every generation has felt like it was on the edge of a technological revolution – be it the telegraph age, the radio age, the plastic age, the nuclear age, or the television age – maintaining the myth that our own period is unique and exceptional will hopefully become much harder (Morozov 2013, p. 357).<sup>3</sup>

<sup>3</sup> Adam McKeown makes a parallel argument regarding the presentism involved in much contemporary analysis of globalisation. He asks, '[h]ow can we periodize a process that is continually obsessed with its own newness?', and responds that '[t]he era of globalization is precisely that period in which a sense of living in the midst of unprecedented change has dominated social and personal sensibilities' (McKeown 2007, p. 219).

Turning to technology as infrastructure for global governance in our own time, without a clearer sense of this history and these dynamics risks reinforcing rather than transforming international legal histories of inequality and imbalance all while generating a future-focused fantasy of disruptive progress.

## Conclusion

This article engages with the infrastructural turn in international law by considering the history of communications technology and its place within the international legal imagination. This focus reveals a longstanding blending of public and private power in the creation and governance of communications infrastructure. It also offers a way to trace the role of technological solutionism within the international legal imagination and to evaluate its continuing effects. Further, the article examines alternatives to technological solutionism with resonance for current discussions regarding international legal regulation of big tech. For example, the League of Nations period witnessed significant debates over communications infrastructure and its connection to modernity and violence. And the subsequent Cold War confrontation involving global communications saw a return to interwar preoccupations with misinformation and propaganda.

While the new technologies driving change and re-appraisal within the contemporary international legal imagination are clearly distinct, viewing infrastructure as regulation in the current day requires us to confront continuing patterns of inequality and exploitation in the development of communications technology. There is also a need for international law to address a tendency to look to technology for solutions without an accompanying ambition to restrict its capacity for harm. Uncritically turning to technology for answers, or as a metaphor for an innovative and infrastructural international law, risks the continuation of patterns of response which fail to effectively regulate private forms of power on the international plane. Today private power over global communications infrastructure has only magnified, but it was present from the beginning.

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