



RESEARCH ARTICLE

Strangely inspired: Recovering a neo-Strangean approach to power, authority and knowledge for IPE

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Abstract

The academic imprint of Susan Strange, long considered a pioneer in the field of IPE, no longer resonates with contemporary debates about the organization and structure of the global political economy. We argue that her analytical framework continues to be a productive way to think about important current developments, most importantly in relation to what can now be called the digital age and its emergent form of capitalism. We therefore modify and update Strange's framework to highlight its unique analytical potential, and to set out the operational principles of what we want to call a 'neo-Strangean' framework of authority. We then apply it to what Strange identifies as the finance or credit structure. By focusing on a core domain of political-economic power, we demonstrate our principal claim that a neo-Strangean framework of authority points towards an understanding of how new actors and imperatives are reshaping the global political economy. We close by outlining the analytical benefits that a neo-Strangean research agenda promises for the field of IPE, which for us centre on emphasizing the dynamics and disruptive consequences of a knowledge-infused global political economy in a way that pays sufficient attention to ideational and material factors.

Keywords: authority; credit; knowledge; power; Susan Strange; technology

Introduction

Susan Strange has been long acknowledged as a founder of the modern discipline of International Political Economy (IPE), and is described by Benjamin Cohen as one its 'Magnificent Seven' early pioneers.¹ Her scholarly footprint includes theoretical contributions to leading-edge debates on power and US hegemony² as well as prescient empirical work highlighting the instability of a global financial system that experienced a crisis in 2008 almost exactly as she predicted.³ Despite these contributions, however, her intellectual imprint has waned in the quarter century since her death in 1998. It is now quite rare for IPE scholarship to engage with Strange's conceptual framework to

¹ Benjamin J. Cohen, *International Political Economy: An Intellectual History* (Cambridge, MA: Princeton University Press, 2008), pp. 8–10; cf Roger Tooze, 'Susan Strange, Academic International Relations and the Study of International Political Economy', *New Political Economy*, 5:2 (2000), p. 280; Craig N. Murphy and Douglas R. Nelson, 'International Political Economy: A Tale of Two Heterodoxies', *The British Journal of Politics and International Relations*, 3:3 (2001), p. 393; Paul Langley, 'Power-knowledge estranged: from Susan Strange to poststructuralism in British IPE', in Mark Blyth (ed.), *Routledge Handbook of International Political Economy (IPE): IPE as a global conversation* (New York: Routledge, 2009), p. 126.

² E.g., Susan Strange, 'The Persistent Myth of Lost Hegemony', in Roger Tooze and Christopher May (eds), *Authority and Markets: Susan Strange's Writings on International Political Economy* (Basingstoke: Palgrave Macmillan, 2002), pp. 121–40.

³ E.g., Susan Strange, *Mad Money* (Ann Arbor: University of Michigan Press, 1998b).

any serious extent.⁴ Strange has transitioned from a disciplinary founder to a footnote: her ideas remain in circulation but as curious artefacts in an otherwise dynamic disciplinary history.⁵

This relative neglect needs to be corrected. We argue that, suitably modified, Strange's trademark framework of structural power offers two specific advantages to contemporary IPE scholarship that can assist efforts to better understand our current historical moment. First, her framework embraces the global political economy as a 'big picture' that can provide the intellectual scaffolding for a multifaceted and holistic conceptualization of how power operates across a range of domains anchored in arrangements that generate significant global structures (which she identified in terms of security, production, credit and knowledge). She understands these arrangements to be interactive and cross-cutting, rather than siloed and static, which avoids what Thomas Oatley calls the 'reductionist gamble', where the 'big picture' is inferred from a narrow singular category.⁶ We find this to be hugely valuable in periods of significant disruption and transformation.

Second, her framework is particularly attuned to the possibility of transformational changes that arise out of the advent of new organizations and practices whose impact can spill over from one structure to another. This focus on the potential for change alerts Strange to the ways in which interconnections among structures enable values and ideas to combine with technical innovations to generate critical decisions that can disrupt and reshape the entire global political economy. This draws our attention to how new actors and their ideas are shaping existing arrangements.

Taken together, these two advantages – a holistic conception of the big picture and a focus on change as the critical frame of reference – suggest that Strange's conceptual approach continues to have considerable purchase as a lens to understand our era of disruptive and transformational change. In what follows, we argue for the necessity of IPE scholars to re-engage with the work of Susan Strange, most crucially because her framework of power is able to incorporate control over, and through, knowledge (particularly commodified knowledge) that has become a key vector for the exercise of economic, social and political authority in the twenty-first century.⁷ To do this, we propose a modified neo-Strangean framework of authority that more precisely expresses how control over the regulation and legitimation of knowledge interacts with other key features of the global political economy to shape our contemporary era.

⁴Our research assistant, Morgan McJannet, undertook a citation analysis of Strange's intellectual footprint between 2000 and 2019. Using the Omni academic search tool, which links the library catalogues of 14 Ontario, Canada-based universities, including their journal holdings, she identified 926 articles that contained her name. Of these, 42 were not available online, leaving a final sample of 884 articles. A year-by-year qualitative assessment was undertaken to identify each article's major focus, the 'Strangean' concepts or empirical work referenced, and whether Strange's work is a primary or secondary focus of the article. An example of a secondary focus would be a situation in which Strange's work, for example on structural power, was cited without further elaboration alongside other scholars' work on power. Over this period, the number of articles referencing Strange per year ranged from a low of 24 in 2002 to a high of 69 in 2000 and 2007; on average her name appeared in 45 articles per year. The vast majority of her citations each year were of a secondary focus, with 2017 being an exception due to a special issue of the *Journal of Information Policy*, on the knowledge structure, which yielded five articles that engaged directly with her work (Blayne Haggart, 'Introduction to the Special Issue: Rise of the "Knowledge Structure": Implications for the Exercise of Power in the Global Political Economy', 7 (2017), pp. 164–75). Most often her work is invoked as a pointer towards pre-existing work, simply one among many who are cited.

⁵Even though her Google Scholar citation count exceeds 33,000 citations as of February 2025, we can identify only two volumes published since her death in 1998 that engage directly and at length with her ideas (Thomas Lawton, James Rosenau, and Amy Verdun (eds), *Strange Power: Shaping the Parameters of International Relations and International Political Economy* (London; New York: Routledge, 2000); and Randall Germain (ed), *Susan Strange and the future of global political economy: Power, control and transformation* (London: Routledge, 2016a)), and four other works that feature Strange's ideas as a core element of their theoretical frameworks (Randall Germain, *Global Politics and Financial Governance* (London: Palgrave Macmillan, 2010b); Monica Horten, *The Closing of the Net* (Cambridge, MA: Polity, 2016); Blayne Haggart, Kathryn Henne, and Natasha Tusikov (eds), *Information, Technology and Control in a Changing World: Understanding Power Structures in the 21st Century* (New York: Palgrave, 2019); and Blayne Haggart and Natasha Tusikov, *The New Knowledge: Information, Data and the Remaking of Global Power* (Washington, DC: Rowman & Littlefield, 2023).

⁶Thomas Oatley, 'The Reductionist Gamble: Open Economy Politics in the Global Economy', *International Organization*, 65:2 (2011), p. 313.

⁷Cf Lynn K. Mytelka, 'Knowledge and structural power in the international political economy', in *Strange Power*, pp. 39–56.

Our argument proceeds in three steps. First, we make the case for why we need to re-engage with Strange's work by emphasizing the unique insights which her approach promises in analytical terms. We also flag important criticisms of her ideas that need to be addressed for her framework to achieve its potential. Second, we modify Strange's framework by recasting the weight of the knowledge structure and detailing its interpolation throughout all other structures. We depart from Strange's original formulation by privileging the footprint of the knowledge structure, which is her least-articulated structure of power even though we believe it to be her most dynamic and consequential one. We close this section by operationalizing our neo-Strangean framework to highlight the importance of tracking the changing nature of wealth creation as well as the changing combination of actors, bargains and arrangements that together constitute a structure of authority. Third, we illustrate the utility of this framework with a schematic exploration of the contemporary credit structure, paying particular attention to how recent transformations in the knowledge structure impact and shape contemporary financial and monetary developments. We conclude by considering what a future neo-Strangean research agenda might look like and how it might contribute to IPE scholarship.

Why Strange Now: from power to authority

Our argument for the necessity of re-engaging with Strange's work arises from the confluence of two significant trends we see at work over the past quarter century: 1) the pervasive spread and disruptive impact of new forms of knowledge and technology in the global political economy; and 2) the irruption of new actors within the knowledge structure which have seized the mantle of authority to make impactful decisions about the distribution of wealth that will affect a huge swath of the world's population over the near and medium term. We believe that the intellectual scaffolding of Strange's framework of structural power is uniquely suited to engage with these changes and map their consequences.

Why is her approach so appealing? One reason is that it is not focused on a single type of actor or category of actions as the ultimate source of power and therefore authority. Her intervention in debates in the 1980s and 1990s over US hegemonic decline were predicated on a careful distinction between the direct relational power of the US government to achieve its objectives, which appeared to be weakening, and the indirect but effective structural power of US regulatory agencies and their ideas and values, together with the market-defining role of US-domiciled commercial firms, which on her account remained as powerful as ever.⁸ These interventions led to the development of her trademark framework of structural power, with its emphasis on interaction among its core elements depicted in terms of a state/market balance shared across four primary structures and modeled as a pyramid⁹ Critically, she insists that power is not and never has been the property of the state alone to dispense, but rather is generated by combinations of agents acting in a structured but fluid environment. For Strange, who exercises structural power in a given situation is always up for investigation and cannot be assumed.¹⁰ Figure 1 depicts Strange's original formulation of her structural power framework.

⁸Susan Strange, 'The Persistent Myth of Lost Hegemony'; Strange, *States and Markets: An Introduction to International Political Economy* (London: Pinter, 1988); Strange, 'The Future of the American Empire', *Journal of International Affairs*, 42:1 (1988), pp. 1–17; Strange, 'Name of the Game', in Nicholas Rizopoulos (ed), *Sea Changes: American Foreign Policy in a World Transformed* (New York: Council on Foreign Relations, 1990), pp. 238–73.

⁹Strange, *States and Markets*, pp. 24–9. While Strange explicitly considers her conception of structural power in multiple publications over the last decade or so of her career, she nowhere defines what she calls a 'structure'. However, in her many descriptions of these so-called structures, she provides common sense signposts towards a core definition, which we can summarize as a set of institutional arrangements which bound an arena of activity to a logic and a matrix of decision-making that defines how such activities are normally pursued. For example, she defines the production structure as 'the sum of all the arrangements determining what is produced, by whom and for whom, by what method and on what terms... it is about how people at work are organized and what they are producing.' (Strange, *States and Markets*, p. 62).

¹⁰Strange, *States and Markets* p. 23.

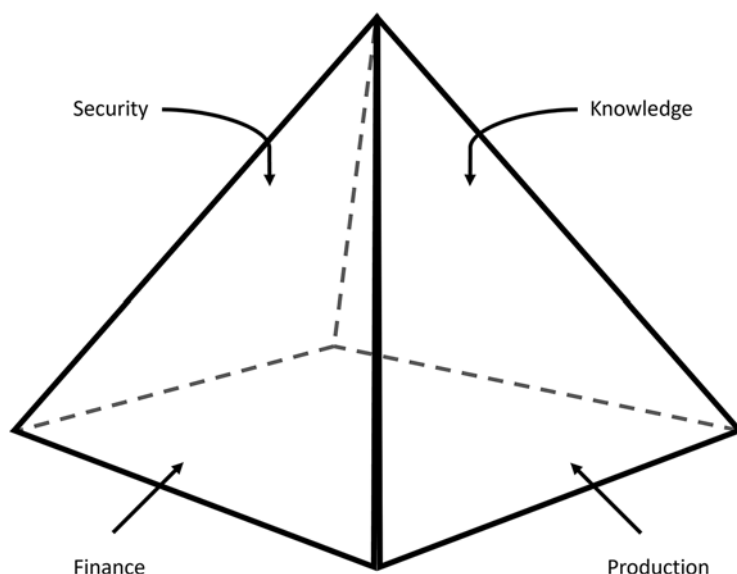


Figure 1. Strange's original framework of structural power.

A second reason we find her framework appealing is that it can incorporate not only the consequences of the intersection of multiple state and non-state actors, old and new, but also the impact of developments driven by both immaterial and material factors. This openness to recognizing the significance of immaterial as well as material factors stems from her elevation of bargains among actors as a critical location of authority, where the authority to make decisions becomes validated. In *States and Markets*, which remains her most comprehensive articulation of her theory and method, she describes networks of bargains – the setting by actors of an underlying framework of rules and norms – as the most important marker affecting the range of choices open to particular actors within any given structure.¹¹ Here, Strange emphasizes a focus on decision-making and outcomes as the clearest way to track the exercise of power in analytical terms, precisely because this allows for new agents and dynamics to be included as core features of the global political economy.¹² As we will argue below, making such bargains a principal focus of analysis reveals the growing significance of the knowledge structure for the construction of authority and legitimacy within the contemporary global political economy. It is contestation over the expertise necessary to issue authoritative claims about the future that we need to understand in a holistic manner, and Strange's framework provides an instructive method for this effort.

Of course, Susan Strange is not the only scholar to consider the role knowledge plays in generating disruptive change. In a useful survey of such efforts, Sara Bannerman and Angela Orasch¹³ consider important interventions by Daniel Bell, Yochai Benkler,¹⁴ Manuel Castells and Nick

¹¹ Strange, *States and Markets*, pp. 39–42.

¹² Cf Christopher May, 'Strange fruit: Susan Strange's theory of structural power in the international political economy', *Global Society*, 10:2 (1996), pp. 184–5; Ronen Palan, 'Susan Strange 1923–1998: A Great International Relations Theorist', *Review of International Political Economy*, 6:2 (1999), p. 127; A. Claire Cutler, 'Strange bedfellows? Bankers, Business(men) and Bureaucrats in Global Financial Governance', in *Susan Strange and the Future of Global Political Economy*, pp. 135–6; Roger Tooze, 'Ideology, Knowledge and Power in International Relations and International Political Economy', in *Strange Power*, p. 288; Tooze, 'Susan Strange, Academic International Relations and the Study of International Political Economy', p. 176.

¹³ Sara Bannerman and Angela Orasch, 'A Strange Approach to Information, Network, Sharing, and Platform Societies', in *Information, Technology and Control in a Changing World*, pp. 53–80.

¹⁴ Manuel Castells, *The Information Age: Economy, Society and Culture* (Malden: Blackwell Publishers, 1998)

Srnicek, all of whom have made significant contributions to understanding the global ramifications of technological and knowledge-driven changes in the global economy.¹⁵ They found that those scholars who most reflect the Strangean emphasis on interacting primary power structures (Bell and Srnicek) produced the most accurate assessment of the promises and perils of the emerging global knowledge economy/society; those who focused primarily on digital technology itself tended to be overly optimistic about its effects. Bannerman and Orasch consider Strange's framework to be a superior starting point for understanding our current knowledge-driven moment, despite the conceptual gaps that need to be addressed before it can be applied to a world that has moved on from how it was configured during her lifetime.¹⁶ Considering these gaps is a necessary step to adapt Strange's framework for the contemporary period.

One gap is identified by Benjamin Cohen, who argues that Strange's framework of power is not well-equipped to identify the sources of authority in the credit structure because of the welter of new actors now involved. For Cohen, authority to govern finance has become diffuse, and increasingly the product of informal norms rather than formal rules; this leads not to 'ungovernance', the term Strange uses in *The Retreat of the State*,¹⁷ but to 'leaderless diffusion'.¹⁸ This criticism follows earlier assessments of her work that recognize a limitation in the logic of her conception of knowledge, due in part to its eclecticism but also to an inability to clearly account for how ideas and values actually shape material reality.¹⁹ We correct for this critique in the next section by specifying more precisely how the knowledge structure fits into the other primary structures of the global political economy, or as we express it below, is interpolated among them.

A second aspect of our modification concerns how her framework is operationalized. Norrlöf²⁰ is critical of the lack of precision and clarity about the benchmarks Strange uses, noting that, especially in relation to the role of currencies, her taxonomic typology cannot distinguish between political versus economic characteristics: her categorization is therefore 'theoretically questionable and empirically impractical'.²¹ More promising is the interactive potential built into Strange's structural power framework, which points to how advantages in one structure or domain can be leveraged in other structures. Still, Norrlöf notes that Strange fails to provide a compelling account of how these structures interact, thereby undercutting the analytical potential of her framework.²² We correct for this critique by operationalizing what we consider to be the most tractionable features of a modified neo-Strangean framework. And while we do not follow Norrlöf entirely down a more behaviourally oriented operational schema, we try to meet her objections by clarifying the

¹⁵Daniel Bell, *The Coming Of Post-Industrial Society* (New York: Basic Books, 1976); Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* (New Haven, Conn.: Yale University Press, 2006); Nick Srnicek, *Platform Capitalism* (Cambridge: Polity, 2017).

¹⁶Bannerman and Orasch, 'A Strange Approach to Information, Network, Sharing, and Platform Societies', pp. 76–7.

¹⁷Susan Strange, *The Retreat of the State: The Diffusion of Power in the World Economy* (Cambridge: Cambridge University Press, 1996), p. 14.

¹⁸Benjamin J. Cohen, 'Money, power, authority', in *Susan Strange and the Future of Global Political Economy*, pp. 122–5; cf Cohen, 'The international monetary system: diffusion and ambiguity', *International Affairs*, 84:3 (2008), pp. 455–70.

¹⁹Stefano Guzzini, 'Strange's Oscillating Realism: Opposing the Ideal – and the Apparent', in *Strange Power*, p. 218; May, 'Strange fruit', pp. 170–3; Langley, 'Power-Knowledge Estranged', p. 131.

²⁰Carla Norrlöf, 'Dollar hegemony: A power analysis', *Review of International Political Economy*, 21:5 (2014), pp. 1055–6; Norrlöf, 'The international political economy of money, macro-money theories and methods', *Review of International Political Economy*, 24:4 (2017), p. 729.

²¹Norrlöf, 'Dollar hegemony', p. 1056. Strange first outlined her currency taxonomy in *Sterling and British Policy* (*Sterling and British policy: a political study of an international currency in decline* (London: Oxford University Press, 1971)), where she considers the political nature of international currencies as one of four types: top, master, negotiated and neutral. This typology informs much of her later analysis of international money, and has been widely engaged with in IPE. See Benjamin J. Cohen, *The Future of Sterling as an International Currency* (London: Macmillan, 1971); and Cohen, *Currency Power: Understanding Monetary Rivalry* (Princeton, New Jersey: Princeton University Press, 2015); Eric Helleiner, *The Status Quo Crisis: Global Financial Governance After the 2008 Meltdown* (Oxford; New York: Oxford University Press, 2014); Carla Norrlöf, 'The International Political Economy of Money, Macro-Money Theories and Methods', pp. 1042–70.

²²Norrlöf, 'Dollar hegemony', p. 1056; cf Norrlöf, *America's Global Advantage: US Hegemony and International Cooperation* (Cambridge: Cambridge University Press, 2010), p. 66.

types of actors that should command our attention, as well as the emergent forms of authority now at work in the knowledge structure. Doing so reveals important new dynamics at play in the credit structure.

Our modifications also build on critical engagements with Strange's ideas that highlight tensions in how she conceptualizes the knowledge structure in terms of its relationship with the three other primary structures. Here we follow Tooze and May²³ to shift an important part of Strange's apparent emphasis on the public exercise of power, to consider it more broadly as an attribute of authority.²⁴ Authority as a concept has a long history, and we pick up on those discussions which position authority between coercion and persuasion, as an enabling feature that permits some agents to provide leadership and others to accept or confirm leadership.²⁵ In this sense, authority is the counterpart to power in that it is an integral frame through which control is practiced.²⁶ There have been many historical variations on how authority has been constructed, consolidated and sustained, and a part of our argument below is that attributes of the knowledge structure have become formative for the construction of authority in the global political economy. In our usage, knowledge has become an *interpolated* feature of authority.

As well, our effort also incorporates recent attempts to refine Strange's framework in ways that respond to advances in the knowledge structure. Particularly helpful is the work of Herman Mark Schwartz and Maria Gwynn. Schwartz's research clarifies how the operation of the credit structure privileges the US economy by more precisely tracing the impact of the global flow of dollars on the resources available to the US state, which amplifies its globalized capacity to act in important ways.²⁷ He adds to this the effects of the knowledge structure on the global intellectual property rights (IPR) regime for US-domiciled leading-edge firms.²⁸ Using Strange's structural power framework, Schwartz is able to specify more exactly how the credit and knowledge structures interact to generate authority claims with real world effects, which in our view helps to address the problems earlier identified by Cohen and Norrlöf.

Maria Gwynn's research clarifies how Strange's four primary structures interact to generate power and capacity that can be diffused to weaker agents in the global political economy. Gwynn focuses on the operation of international law and institutions – two features of world politics that Strange did not hold in high regard – to track how relational power can sometimes translate into structural influence and therefore also authoritative proposals and decisions. She considers the knowledge structure in relation to US policy responses to Facebook's activities, and how these have generated potential capabilities which weaker actors might utilize across multiple regimes.²⁹ This adaptation of Strange's framework nuances the somewhat instrumental conception of knowledge used by Strange herself, enabling scholars to pinpoint more precisely how the ideas, beliefs and values that underpin structural power become part of the fabric of authority in the global economy. Gwynn's work thus points towards a stronger operationalization of Strange's framework.

²³Roger Tooze and Christopher May, 'Authority and Markets: Interpreting the Work of Susan Strange', in Roger Tooze and Christopher May (eds), *Authority and Markets: Susan Strange's Writings on International Political Economy* (New York: Palgrave, 2002), p. 6; cf A. Claire Cutler, 'Theorizing the No-Man's Land Between Politics and Economics', in Strange Power: Shaping the Parameters of International Relations and International Political Economy, pp. 159–74; Tooze, 'Ideology Knowledge and Power in International Relations and International Political Economy'.

²⁴In *Retreat of the State*, Strange offered a *mea culpa* regarding her emphasis on the primacy of the state in relation to the market that she believed characterized much of her prior work. She even suggests that *Markets and Authorities* would have made for a more accurate title of her 1988 textbook *States and Markets* (Strange, *Retreat of the State*, pp. x and 185).

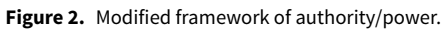
²⁵Bruce Lincoln, *Authority: Construction and Corrosion* (Chicago: University of Chicago Press, 1994), pp. 3–4; A. Claire Cutler, 'Locating "Authority" in the Global Political Economy', *International Studies Quarterly*, 43:1 (1999b), pp. 63–5.

²⁶Lincoln, *Authority*, pp. 3–4; see also Haggart and Tusikov, *The New Knowledge*, pp. 133–43; and Tamar Sharon, 'Blind-sided by privacy? Digital contact tracing, the Apple/Google API and big tech's newfound role as global health policy makers', *Ethics and Information Technology*, 23:Suppl 1 (2020), pp. 545–57.

²⁷Herman Mark Schwartz, 'Strange power over credit; or the enduring strength of US structural power', in *Susan Strange and the Future of Global Political Economy*, pp. 70–6.

²⁸Herman Mark Schwartz, 'American hegemony: intellectual property rights, dollar centrality, and infrastructural power', *Review of International Political Economy*, 26:3 (2019), pp. 491–3.

²⁹Maria A. Gwynn, 'Structural Power and International Regimes', *Journal of Political Power*, 12:2 (2019), pp. 212–3 and 216.



Operationalizing a neo-Strangean Framework: knowledge, expertise, authority

³⁰We are here following Chris May and Roger Tooze, who have argued that privileging the knowledge structure enables a more compelling account of Strange's framework of structural power. (May, 'Strange fruit', pp. 194–5; Tooze, pp. 187–90.)

(and the moral conclusions and principles derived from those beliefs); what is known and perceived as understood; and the channels by which beliefs, ideas and knowledge are communicated, which always involves including some people and excluding others.³¹ This definition identifies and conflates two intertwined but analytically separable forms of power through knowledge. Correcting for this conflation allows us to specify the unique properties of the knowledge structure which have enabled it over the past three decades to wield an outsized influence on the structures of security, production, and credit.

We call the first form of power *knowledge-regulation*. This is the power to control the creation, dissemination and use of knowledge. As such, *knowledge-regulation* is similar to the structural power conferred via the other three structures: to allow, to create, and to deny. However, power in the knowledge structure also involves what we call *knowledge-legitimation*: the ability to determine what is considered to be legitimate, socially valuable knowledge, including ‘the moral conclusions and principles derived from those beliefs’. This is the second form of power enabled by the knowledge structure.

This second form of power is distinctive because it involves not just control over access to resources (the main attribute of power in the security, production and credit structures), but also over who is considered to be an expert, and what type of policies and norms are considered legitimate. By distinguishing between these two aspects of the knowledge structure we can both track the technical and instrumental effects of knowledge-related innovations (what we identify as *knowledge-regulation*) and trace changes in who is deemed to possess the authority to sanction legitimate knowledge in social, economic, political and even personal matters. Such determinations of expertise – of legitimate authority – may originate from within the knowledge structure, but their effects are interpolated throughout society because they shape and structure the setting of objectives, priorities and values throughout society. As we will outline below, the ability of authority to be interpolated from the knowledge structure across and throughout other structures constitutes one of the primary enabling features that makes *knowledge-legitimation* such a potent source of power.

We also want to be clear that our formulation includes change as an intrinsic feature: the relative importance of a structure will wax and wane over time. A structure is a set of institutional arrangements which bound an arena of activity to a logic and a matrix of decision-making that defines how such activities are normally pursued. A change in a dominant structure implies changes in, or at least challenges by, new actors and combinations of actors to established bargains. The emergence of new social arrangements will almost certainly lead to changes to the dominant logic about how best to organize society.

The increasing authority of the knowledge structure

Emphasizing the control of knowledge and the interpolation of authority (*knowledge-legitimation*) throughout society gives us a language to understand and interpret broader transformations in each of the structures of the global political economy. A neo-Strangean framework points to our current moment as being characterized by the relative rise of the knowledge structure. A knowledge-driven society is characterized by the extent to which the control of knowledge – especially commodified knowledge, digital data and intellectual property rights – is seen to be the leading-edge driver of economic and social activity. Of course, the control of knowledge and its dissemination have always been important. The difference now is in its *relative* importance: where previously knowledge was seen as one of several inputs into other processes (such as intelligence for state-security purposes, or patents for industrial production), today control over knowledge is increasingly understood to be an end in itself, whether as a form of wealth creation or as the means by which the state undertakes algorithmic-driven decision-making.

³¹ Strange, *States and Markets*, p. 115.

The emergence of such a commodified knowledge structure has its roots in US government decisions in the late 1980s to promote the inclusion of strong IP rights in its trade agreements. Most notable here is the 1994 Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), which sanctioned intellectual property rights as a foundational element of the world trade agenda, creating enforceable global rights in IP for the first time.³² TRIPS was the lynchpin demand of the US for signing up to the World Trade Organization.³³ This incorporation of IP rights at the heart of the international trading system has had significant effects. Liberalized trade agreements may be based on a conceptual model of cross-border trade, but enforceable IP rights have enabled the creation of a more structured, hierarchical form of economic organization best exemplified now by global value chains.³⁴

The logic of a heavily commodified knowledge structure can be seen in how production processes have become reoriented around the needs of knowledge technologies. Companies, for example, are actively reshaping their production processes in order to maximize data capture, both for internal (product improvement) and external (sale or service provision) purposes.³⁵ Against this background, company balance sheets are often dominated by intangible rather than tangible assets.³⁶ These processes are similar to ‘financialization’ processes that took hold from the 1980s, where ‘profits accrue primarily through financial channels rather than through trade and commodity production.’³⁷ In both cases, authority over fundamental issues like industrial organization accrues to those who are seen to possess economically and socially valuable knowledge, whether derived from expertise in finance or data collection and analysis. This authority is in turn interpolated throughout society, reflecting the interests and values of those deemed to have appropriate expertise.

In the case of our current knowledge-driven society, the collection of data via surveillance, commodification and digital tracking plays a fundamental role, increasingly taken for granted by government, business and academia.³⁸ It stands in opposition to other – potentially more socially beneficial – ways of regulating knowledge, such as the open knowledge paradigm traditionally favoured by universities and which, as Mazzucato notes, has long served as the unacknowledged foundation of innovative economic activity.³⁹ In our terms, *knowledge-legitimation* has become closely associated with a particular form of authority that embodies the dominant logic of our time. van Dijck identifies this logic as a belief system that is closely connected to the use of data. He calls this ‘dataism’ – the belief that human behaviour and interactions can be objectively quantified through digital data.⁴⁰ We would add to this that it is first and foremost a product of private authority. The increasing privatization of knowledge therefore reflects a fundamental transformation in what is considered to be legitimate, socially valuable knowledge. This is the new dominant belief system that informs the logic of *knowledge-legitimation*.

³²Susan K. Sell and Aseem Prakash, ‘Using Ideas Strategically: The Contest Between Business and NGO Networks in Intellectual Property Rights’, *International Studies Quarterly*, 48:1 (2004), p. 154.

³³Susan K. Sell, *Private Power, Public Law: The Globalisation of Intellectual Property Rights* (Cambridge, UK: Cambridge University Press, 2003), p. 37.

³⁴Cédric Durand and William Milberg, ‘Intellectual monopoly in global value chains’, *Review of International Political Economy*, 27:2 (2020), p. 404; Herman Mark Schwartz, ‘Global secular stagnation and the rise of intellectual property monopoly’, *Review of International Political Economy*, 29:5 (2022b), p. 1450.

³⁵Srnicek, *Platform Capitalism*; Natasha Tusikov, *Chokepoints: Global Private Regulation on the Internet* (Berkeley: University of California Press, 2016).

³⁶Cf Schwartz, ‘Global Secular Stagnation and the Rise of Intellectual Property Monopoly’.

³⁷Greta R. Krippner, ‘The financialization of the American economy’, *Socio-Economic Review*, 3:2 (2005), p. 174.

³⁸José van Dijck, ‘Datafication, dataism and dataveillance: Big Data between scientific paradigm and ideology’, *Surveillance and Society*, 12:2 (2014), p. 198.

³⁹Mariana Mazzucato, *The Value of Everything: Making and Taking in the Global Economy* (London: Allen Lane, 2018), p. 174. See also Peter Drahos and John Braithwaite, *Information Feudalism: Who Owns the Knowledge Economy?* (London: Earthscan Publishing, 2002), pp. 211–2.

⁴⁰van Dijck, ‘Datafication, dataism and dataveillance’, p. 197.

Knowledge and the construction of legitimate authority

Being recognized as having the ability to command socially valuable knowledge confers authority on actors, which enables them to exercise relative power over other actors whose activities are dependent on this form of knowledge. Whereas scientific knowledge is characterized by a deference to highly specialized forms of expertise, dataism is characterized by the belief that no special skill other than data analytics and a large-enough dataset is necessary to enter sectors as diverse as urban planning,⁴¹ finance (discussed below) or health.⁴² Such a view of expertise privileges computer programmers over economists, for example, and private companies over government departments. Dataism also embraces the superiority of algorithmic regulation predicated on the assumption of data neutrality, which suggest that managing and controlling data alone will provide more effective results than traditional, more bureaucratic practices.⁴³

Like any belief system, dataism empowers certain groups of actors as legitimate knowers. In the contemporary period, expertise is increasingly linked to the ability to generate data and build the networks that collect, process and validate data, as well as the ability to exercise some form of control over the creation, dissemination and use of the types of knowledge we identify with the knowledge structure. Hence, tech experts (and companies) become relatively more important as experts than, for example, bankers and the financial institutions that rely on their networks. Neither can exist without the other, but the relative value they are able to extract from the relationship has changed, as has their perception of how best to realize their objectives. This is how the authority of *knowledge-legitimation* has become interpolated across other structures in the world market economy.

Our argument so far is that control over the legitimation, creation, dissemination and use of knowledge, and the related construction of legitimate authority, is a fundamental expression of a neo-Strangean framework of authority. By paying close attention to how knowledge is controlled and interpolated throughout key structures of power in society, we can better understand how such changes are unfolding. Furthermore, by focusing on who is regulating knowledge and for what purposes (i.e., asking what types of knowledge actors are being privileged), we can highlight ideological inflection points, such as when commodified knowledge becomes privileged as IPR and later as (commodified) data, and when new groups of experts become empowered as authorities in certain domains. As the push toward incorporating algorithmic governance, large language models and machine learning tools into all areas of society increases in intensity, the ability to understand how authority is established and interpolated in and through the knowledge structure will only become more important. A neo-Strangean framework thus suggests that research in this area – as well as in the global political economy generally – can usefully involve the following steps:

1. Identify relevant bargains by focusing on how rules and norms are negotiated to guide the evolution of issue areas where actors attempt to shape an arena of interaction.
2. Identify all of the relevant actors connected to such bargains, including new actors and those who for whatever reason might be excluded. The focus here is on how such actors relate to the arena they are trying to organize.
3. Assess the relative influence of those actors who set the rules, and consider changes in their relative influence, with special attention directed toward the logic employed by the various actors. Here, the focus is on the *cui bono* question of whose interests are reflected in the final bargain, and which structure's logic is dominant.
4. Assess how the resulting bargain is interpolated throughout the other key structures.

⁴¹ Rob Kitchin, 'The Real Time City? Big Data and Smart Urbanism', *GeoJournal*, 79 (2014), pp. 1–14.

⁴² Haggart and Tusikov, 'The New Knowledge', pp. 133–43; Sharon, 'Blind-sided by privacy?'.

⁴³ Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (New York: St. Martin's Press, 2018).

Next, we offer a schematic example of how our neo-Strangean framework might allow us to better understand the emergence of new imperatives within a key structure of the global political economy, finance (or what Strange often called credit). Rather than a product of deep empirical research, it is a roadmap that should be assessed in terms of how it enables us to understand the disruptive features of our contemporary historical moment.

Applying a neo-Strangean Framework: new imperatives at work in the global credit structure since the global financial crisis

Our analysis of the evolution of the global credit structure after the 2008/2009 global financial crisis (GFC) is guided by two key interdependent considerations: (1) recognizing how knowledge has become a dynamic attribute of financial innovation; and (2) identifying how public forms of authority have become disengaged in important ways from the process of technological change. Understanding these developments in the aftermath of the GFC helps to clarify how our modifications to Strange's framework reinforce its analytical traction today. We take each attribute in turn.

Strange had already begun to recognize the interpolated nature of the credit structure in several ways over the last decade of her career. For starters, she recognized that the world's financial system had become reliant on communications technology for its organization and operation in the final decades of the twentieth century.⁴⁴ Over the course of the 1980s she concluded that credit had outgrown the exclusive control of local political and social networks. It had evolved from a product of national cartels (i.e., relatively closed networks of political and social actors) to something which many different actors from many different constituencies could generate.⁴⁵ It was becoming much more clearly a product of communicative technologies rather than social networks (as it had been since its birth in the early modern period). This opened the door to a much more expansive and constitutive role for knowledge in the credit structure. Part of this transformation was conditional upon capital account liberalization, but a further part was conditional upon the triumph of a numerate over a literate mode of communication. This transformation became especially manifest within what we now call global production chains, or what Stopford and Strange simply call 'global alliances'.⁴⁶ Strange was ahead of her time in recognizing that technology, whether as mode of communication, production innovation, managerial practice or disruptive product, had become the key dynamic driving the evolution of financial practices, and it was rippling throughout other economic sectors.⁴⁷

Following our methodological injunction above, where are the bargains that define this new technological domain being negotiated, and who are the principal actors? During the last three decades of the twentieth century, these bargains were negotiated in international venues whose membership was determined almost exclusively by states, such as the Basel Committee on Banking Supervision, the International Organization of Securities Commissions, or the Financial Stability Forum/Board.⁴⁸ There was some involvement from the financial sector, but this was at the

⁴⁴'By the field of finance, I refer particularly to the system by which credit is created, bought and sold and by which the direction and use of capital is determined' (Strange, 'Finance, Information and Power', p. 71; cf Strange, *States and Markets*, p. 88.). For Strange the terms credit and finance are essentially interchangeable, and both are distinguished in her view from money, which is a form of credit that is temporally specific and exchanged as currency.

⁴⁵Strange, 'Finance, Information and Power', pp. 75–8.

⁴⁶John M. Stopford, Susan Strange, and John S. Henley, *Rival States, Rival Firms: Competition for World Market Shares* (Cambridge: Cambridge University Press, 1991), pp. 92–3.

⁴⁷Strange, *States and Markets*, pp. 22–9.

⁴⁸Duncan Wood, *Governing Global Banking: The Basel Committee and the Politics of Financial Globalisation* (Aldershot, Hants, England; Burlington, Vt: Ashgate Publishing Limited, 2005); Tony Porter, *States, Markets and Regimes in Global Finance* (New York: Springer, 1993); Randall Germain, 'Global Financial Governance and the Problem of Inclusion', *Global Governance*, 7:4 (2001), pp. 411–26.

discretion of state-based agencies such as central banks and financial regulators.⁴⁹ And while changes in the power capacities of what we might call financial great powers was underway, this did not materially affect the distribution of power within the credit structure over this period.

Since the early years of the twenty-first century, however, an important change has occurred alongside the technological disruptions noted above, namely that an entirely new set of actors have become key participants in negotiating the bargains to establish the rules and norms of technological innovation in finance. These are the private firms at the forefront of advancing cryptocurrencies and the technology that enables such money to be created and used.⁵⁰ Like much else in the domain of new technology, governments have struggled to establish regulations that subject how these companies operate to clear legal rules concerning how they gather and use information, how they are taxed, and how their products are to be treated. The result is that the rules and norms which govern their activities have been left to the companies themselves to devise, either by acting alone or in concert to establish what will in all likelihood become global standards.⁵¹ In essence, companies such as PayPal, Meta and Binance are becoming what Bütthe and Mattli call ‘new global rulers,’⁵² because they are setting the ground rules for the extension of a parallel monetary universe, or what we are calling its *knowledge-legitimation* foundations. This universe of private money does not yet pose a direct challenge to central bank authority over national currencies, but it is laying the foundations for an epochal change in how money and credit are organized on a global scale.⁵³ While today this monetary universe remains mostly the preserve of high-net-worth individuals, early adopters and risk-taking consumers, plus organized crime, its explosive growth has become validated through the establishment of official exchanges that have widened the community of users while also drawing in global financial institutions as active participants.⁵⁴ In short, a new set of actors are now connected to a fast-growing monetary universe that increasingly intersects with established monetary and credit markets in a way that makes the future of money and finance irrevocably digital. From the perspective of our neo-Strangean framework, this is an epochal change in the credit structure.

A neo-Strangean framework of authority would also point to how this new set of knowledge-based bargains is becoming interpolated throughout other structures of the global political economy. Here we key off of what Strange herself identified as an expansion of empire tethered to the United States in the latter decades of the twentieth century.⁵⁵ She called this a ‘non-territorial American empire,’ driven by a new combination of power and authority grounded in US social relations but expanding to encompass a global terrain. This process is not dissimilar to Panitch and Gindin’s analysis of how the US state ‘superintends’ global capitalism,⁵⁶ except that for us the causal mechanism rests more on the organization of knowledge than on the organization of class.

⁴⁹ Kevin L. Young, ‘Transnational regulatory capture? An empirical examination of the transnational lobbying of the Basel Committee on Banking Supervision’, *Review of International Political Economy*, 19:4 (2012), p. 682.

⁵⁰ Ole Bjerg, ‘How is Bitcoin Money?’, *Theory, Culture and Society*, 33:1 (2016), pp. 53–72; Evangeline Ducas and Alex Wilner, ‘The security and financial implications of blockchain technologies: Regulating emerging technologies in Canada’, *International Journal*, 72:4 (2017), pp. 538–62; Nick Bernards and Malcolm Campbell-Verduyn, ‘Understanding technological change in global finance through infrastructures’, *Review of International Political Economy*, 26:5 (2019), pp. 773–89; cf Hyoung-kyu Chey, ‘Cryptocurrencies and the IPE of money: an agenda for research’, *Review of International Political Economy*, (2022), pp. 1–16.

⁵¹ Tusikov, *Chokepoints*; Tripp Mickle, Liz Hoffman, and Peter Rudegeair, ‘Apple, Goldman Sachs Team Up on Credit Card Paired with iPhone’, *Wall Street Journal*, (21 February 2019).

⁵² Tim Bütthe and Walter Mattli, *The New Global Rulers: The Privatization of Regulation in the World Economy* (Oxford: Princeton University Press, 2011).

⁵³ Sheila Dow, ‘Monetary Reform, Central Banks, and Digital Currencies’, *International Journal of Political Economy*, 48:2 (2019), pp. 169–70.

⁵⁴ Paul Langley and Andrew Leyshon, ‘The Platform Political Economy of FinTech: Reintermediation, Consolidation and Capitalisation’, *New Political Economy*, 26:3 (2021), pp. 376–88.

⁵⁵ Strange, ‘The Future of the American Empire’; Strange, ‘Name of the Game’.

⁵⁶ Leo Panitch and Sam Gindin, *The Making of Global Capitalism: The Political Economy of American Empire* (London: Verso, 2012).

But both are involved in a form of imperium which fuses public and private authority to drive forward the most profitable, leading-edge sectors of the global political economy.⁵⁷ Here, our neo-Strangean framework would focus on how knowledge has become commodified (or datafied), since this enables us to understand how authority gets generated without any single identifiable entity holding a preponderant balance of material power across any one structure.

In a knowledge-driven economy, US-domiciled tech firms are able to deploy overwhelming force or market power to advance their own specific interests. Effectively they lead by doing, as dominant firms in their respective sectors, and by advocating for legal frameworks that help codify their market share. The interpolation of patents, copyright, brand licensing and managerial/logistics systems throughout the leading-edge sectors of the global political economy provides an infrastructural bias which privileges their reliance on a US version of common law to protect the intellectual property that underwrites the value their activities generate. When supported by the global reach of the US state, the organization and application of commodified and intangible knowledge is the key facilitating instrumentality that weaves together the global economy's security, production and credit structures.

Our neo-Strangean framework of authority thus points towards the changing and expanding role of knowledge within the operation of the credit structure today. It prioritizes the growing role of communications systems in the organization and operation of financial institutions and markets, alongside the recalibration of public and private authority in relation to controlling the pace of financial innovation. Critically, its fulcrum of interpolation continues to be what Strange identified as a 'non-territorial American empire', complete with a functioning global capitalist managerial class, but which is now driven primarily by control over key technologies and systems of communication and innovation that have also transformed how the US state operates, and on whose behalf. The openness of the US state to foreign interests (and also in a more limited way to citizenship, so long as citizens follow US rules and the strictures of US competition) makes it a uniquely effective vehicle for imperial rule. This version of empire is not, of course, perfect, and it has both imposed grievous harm on vulnerable populations and suffered significant defeats; and its future under a second Donald Trump administration remains an open question.⁵⁸ But we would do well to recall that whenever Strange surveyed the global political landscape, she did not waver in her conviction that the US state alone remained the sole contender for the role of the global political economy's most important centre of authority, for better or worse. A quarter of a century after her death, we believe her conviction remains both salient and relevant. Even if *Pax Americana* is in decline, the United States will almost certainly play a central role in shaping whatever succeeds it.

Conclusion: towards a neo-Strangean research agenda

We have argued that Susan Strange's work provides valuable insights for big picture thinking about how the global political economy is organized. Her empirical work on the production and credit structures was prescient because she understood how they anchored the creation and distribution of global wealth and power. Even more impressively for someone who supposedly eschewed theorizing, her conceptual framework is adaptable to the contemporary period: it facilitates an understanding of how power and authority undergird the structure of the global political economy; it contextualizes the cooperative and conflictual roles that states and business (and non-state actors generally) employ to exercise power and authority; it recognizes the multifaceted, interconnected, non-reductive nature of power in society; and it points toward immaterial sources of power as key

⁵⁷ Schwartz, 'American hegemony'.

⁵⁸ Quite what Strange would have made of the Trump phenomenon is hard to guess, although she was never one to minimize the possibility of unilateral home-grown disruptions to how Americans perceive their own national interests (Strange, 'The Persistent Myth of Lost Hegemony', pp. 139–40). What is relevant with respect to his recent victory in the US Presidential elections is the formidable support he attracted from the technology sector, and especially from the cryptocurrency community. This suggests to us that the trends we highlight above will become more pronounced in the medium term.

instrumentalities of the knowledge structure. In this sense we believe a renewed version of her research agenda holds great analytical promise.

A neo-Strangean framework addresses several of the ambiguities with her work previously identified by IPE scholars. Both Norrlöf and Schwartz, for example, are concerned about the clarity of Strange's framework of structural power, noting that it does not lend itself to identifying clear benchmarks for how power operates.⁵⁹ Cohen further elaborates on how this ambiguity led her to mistakenly consider the state to be in retreat, while Cutler considers that her treatment of knowledge ultimately impaired her understanding of the political economy of the state.⁶⁰ By recalibrating Strange's framework towards an authority/power nexus rather than solely as a power structure, and clarifying how knowledge is interpolated throughout all of her principal structures, we are able to provide key benchmarks of authority while also specifying more clearly the terrain over which power operates, which is a combination of expertise, market relations and enhanced legal rights over IP. Building on the efforts of recent scholarship,⁶¹ we are able to consider how knowledge as intellectual property has now become thoroughly entwined throughout the principal structures of power which Strange originally outlined in ways that recast their authority relations. In many ways we inhabit a world of imperial authority she anticipated over three decades ago, which confirms for us the value of re-engaging with Strange's work as part of the toolkit of IPE scholars.

Looking forward, we suggest two avenues to further develop a neo-Strangean research agenda. One avenue follows the work of Susan Sell, John Braithwaite and Peter Drahos to consider how certain states are reinforcing the control over data and data analysis capacities, including the IPR of their leading-edge firms to consolidate first-mover advantages by locking in their expertise for technological innovation. Not only does this form of 'knowledge feudalism' – to adapt the term used by Drahos and Braithwaite⁶² – reflect an emergent knowledge-control attribute within the global political economy, but it privileges a configuration of power relations which makes it increasingly difficult even for otherwise rich states to develop their economies without becoming dependent in some way upon access to the US economy and its technologies.⁶³ A better understanding of this evolving structure of authority will further clarify the *knowledge-legitimation* foundations of a non-territorial imperium centered on the global role of the US state.⁶⁴

A second avenue reconnects Strange's work to the broader tradition of critical enquiry in IPE, with which she has long been identified.⁶⁵ Here we suggest that our modified neo-Strangean framework can extend a core insight drawn from the work of Robert W. Cox, namely that stable and enduring world orders distribute the costs and benefits of their outputs according to the balance of social forces around which they are structured.⁶⁶ On our reading, we have entered a period in which a new balance of social forces is being forged, constructed around a hierarchy of *knowledge-legitimation* practices which privilege a small class of experts and a handful of dominant tech firms. Just how far the benefits of this new global authority structure can be extended to a broader array of social forces will be an important question to pursue in relation to its social sustainability. Simply put, if the distribution of costs and benefits remains mired in its current arrangement, the knowledge economy will not be sustainable over the longer term, and its world order will become increasingly unstable. Cox's insights ask us to reflect on the social basis of such class relations as

⁵⁹ Norrlöf, 'Dollar hegemony'; Schwartz, 'Strange Power over Credit'.

⁶⁰ Cohen, 'Money, Power, Authority'; Cutler, 'Theorizing the No-Man's Land Between Politics and Economics'.

⁶¹ Schwartz, 'American hegemony'; Gwynn, 'Structural Power and International Regimes'; but see also Mytelka, 'Knowledge and Structural Power in the International Political Economy'.

⁶² Drahos and Braithwaite, *Information Feudalism*.

⁶³ Haggart and Tusikov, *The New Knowledge*, chapter 2.

⁶⁴ Cf Panitch and Gindin, *The Making Of Global Capitalism*.

⁶⁵ Cohen, *International Political Economy: An Intellectual History*.

⁶⁶ Robert W. Cox, 'Social Forces, States, and World Orders: Beyond International Relations Theory', in Robert W. Cox and Timothy J. Sinclair (eds), *Approaches to World Order* (Cambridge: Cambridge University Press, 1996), pp. 102–5; Cox, *Production, Power, and World Order: Social Forces in the Making of History* (New York: Columbia University Press, 1987b), pp. 355–8.

we consider the future. Adding Cox to Strange here enables a neo-Strangean research agenda to contextualize the knowledge-related attributes of the contemporary period by embedding these in an analysis which recognizes its broader social basis. A knowledge elite, to the extent that they are reliant on training and education for their expertise (rather than social privilege or wealth), could in theory be more open to new members, and therefore as a social class it might be more expandable across a broader arc of the population, in some countries at least. Will this make a world order centered on a knowledge elite more stable or more equitable than one centered more narrowly on a dominant capitalist class?⁶⁷ While we are not yet able to answer this question definitively, it is certainly one worth following up by using a neo-Strangean framework of authority.

Susan Strange herself, of course, did not have all of the answers about the future of the global political economy. But we believe that rediscovering her core ideas and re-engaging with them in the manner we suggest here will enable the next generation of scholars to utilize many of her key insights and, like she did, provide us with provocative and original contributions to understanding why the global political economy is organized and operates as it does. For us, this would be a worthy way of honouring her contributions to IPE and continuing to build on her own hard won and well-earned intellectual profile.

Video Abstract. To view the online video abstract, please visit: <https://doi.org/10.1017/S026021052500021X>.

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⁶⁷ Here it is instructive to return to the work of Kees van der Pijl, who pointed out over two decades ago the possibility that what he called the ‘cadre stratum’ might be more responsive to the social needs of society than the transnational managerial elite, even though it owed a part of its existence to this capitalist class (Kees van der Pijl, *Transnational Classes and International Relations* (London: Routledge, 1998), pp. 163–5).