Cosmos, chaos: finance, power and conflict

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A spectre is haunting the world: 1914. The approaching centenary of the outbreak of the First World War is a reminder of how the instability produced by changes in the relative balance of power in an integrated or globalized world may produce cataclysmic events. Jean-Claude Juncker, the veteran Prime Minister of Luxembourg and chair of the Eurogroup of finance ministers, started 2013 by warning journalists that they should take note of the parallels with 1913, the last year of European peace.[1] He was referring explicitly to new national animosities fanned by the European economic crisis, with a growing polarization between North and South. Historically, the aftermath and the consequences of such cataclysms have been extreme. George Kennan strikingly termed the 1914–18 conflict '*the* great seminal catastrophe of this century'.[2] Without it, fascism, communism, the Great Depression and the Second World War are all almost impossible to imagine.

What are the lessons of 1914? The outbreak of war was not just an accident. International political and economic order depends on systems of rules. The essence of rules is that they should be universally valid and universally applicable. But in practice, the efficacy of rules depends on their enforcement. If the capacity to enforce is reduced as a consequence of an alteration in the broad geopolitical balance, the question of the design of rules becomes controversial. This article explores how a rules-based international system can be destabilized. It makes three fundamental claims: first, that rules-based international orders are strained by transitions in power, even if all parties see the desirability of and need for a common system of rules; second, that the vulnerability increases with the degree of complexity of the rules; and third, that the moments of transition are accompanied by a heightened attention to the possibility of covert action to abuse the complexity of the rules-based system to the advantage of one particular power. This final element considerably enhances the destructive potential of problematical power transitions.

There should be no need for a reminder that events never simply repeat themselves and that historical parallels are not exact. Chance is always a crucial player; but it was owing to the structural conditions prevailing in the international system that

[1] Press conference, 7 Jan. 2013, http://news.rtl.lu/news/national/374419.html, accessed 21 Nov. 2013.

[2] George Kennan, *The decline of Bismarck's order: Franco-Russian relations 1875–1890* (Princeton, NJ: Princeton University Press, 1979), p. 3.

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Gavrilo Princip's bullet of 28 June 1914 unleashed a conflict between powers that had no direct associations with the problems of Bosnian Serb nationalism.[3] There are also, it should be said, elements of the 1914 world which have contemporary parallels but which will not play a major part in the argument developed in this article: for instance, the effects on the international system of a declining or fading Great Power such as the Ottoman empire or post-Soviet Russia.

To what extent, then, does global rebalancing represent a fundamental challenge to today's integrated globalized world? The most obvious parallels between 2013–14 and 1913–14 may be summarized thus:

- a fascination with the historical precedent of the decline of empires;
- a global order underwritten by a Great Power/superpower (Great Britain/United States) which is less economically dynamic than the challenger (Germany/China) but which considers its political institutions more legitimate and more capable of being universalized;
- concern on the part of the rising power in the aftermath of a major and system-changing international financial crisis (1907/2007–2008) that the rules of the system privilege the old holder of power and disadvantage the challenger;
- a focus in Asia on the growing power of China;
- a focus in Europe on the growing power of Germany;
- a (perhaps misplaced) confidence that the international economy is so complex and interconnected that it could not be disrupted by military conflict;
- a focus on the logistics and infrastructure of the international economy as a way to exercise new forms of strategic influence.

The following sections of this article consider each of these themes in turn.

The logic of imperial decline

Advanced industrial societies are obsessed with the phenomenon of decline. Both the United States and Europe recurrently justify the necessity of political and institutional innovation and activism as a response to the threat of decline: in short, from historical analogies. Unless Europe is able to coordinate its political resources, the argument goes, it will be doomed to oblivion. Europeanization is the necessary answer to globalization. The United States is also engaged in a constant tussle with 'declinism'.

American politicians, feeling the need to fight the trend, emphasize that it is 'morning in America' (in the famous phrase of Ronald Reagan during the 1984 presidential campaign). Campaigning for his second term, in his acceptance speech at the Democratic National Convention in Charlotte, North Carolina, on 6 September 2012, Barack Obama emphasized the same theme, noting that he had reversed a 'decade of decline'.[4] However, the official published view of the

[3] For the most recent and convincing study of the complex chains of causation, see Christopher Clark, *The sleepwalkers: how Europe went to war in 1914* (London: Allen Lane, 2012).

[4] http://www.boston.com/news/politics/2012/president/candidates/obama/2012/09/07/text-obama-acceptance-speech/Edjl90x9OSAt4BZ1h63RVN/story.html, accessed 21 Nov. 213.

US intelligence community is that decline is a present reality. The 2008 National Intelligence Council report *Global Trends 2025* predicted that: 'The United States will remain the single most powerful country but will be less dominant.'[5] Its 2012 successor *Global Trends 2030* was even more modest about American prospects: 'By 2030, no country—whether the US, China, or any other large country—will be a hegemonic power. The empowerment of individuals and diffusion of power among states and from states to informal networks will have a dramatic impact, largely reversing the historic rise of the West since 1750.'[6] Both reports focus on the growth of powerful and internationally active non-state actors (businesses, tribes, religious organizations and criminal networks).

In attempting to counter decline, politicians present themselves as fighting a war against historical trends. They need to work out a strategy that might be termed 'trend management' or the management of decline.[7] In 2002, a member of President George W. Bush's staff is reported to have claimed: 'We're an empire now, and when we act, we create our own reality.'[8] European leaders have a similar approach. There is a rich literature lamenting the decline of Europe, its economic malaise and its moral irrelevance.[9] The threat generates—in the mindset and rhetoric of European leaders—a need for urgent action. Using the symbolic moment of the anniversary of the armistice at the end of the First World War, EU Commission President José Manuel Barroso reflected in November 2011, as the financial crisis intensified: 'I hope when historians look back on these unprecedented times, they will understand that we stepped back from the brink of fragmentation.'[10]

The stories about decline resonate so deeply because they are drawn from deep historical experience. At the outset of the early modern period Italy was by far the most prosperous area of the world: according to Angus Maddison's data, in 1400 it had a per capita GDP of 1751 Geary–Khamis 1990 dollars (a comparative unit used to measure purchasing power over long time periods), a level that it did not thereafter exceed until 1895.[11] In the century or so after this high point, as it struggled with the problem of relative decline, its thinkers looked back to Rome as a precedent. Italy's political system was fragmented, with small states and dynamic city republics that were commercially vibrant but politically vulnerable, and thus

5 National Intelligence Council, *Global Trends 2025: a transformed world—the National Intelligence Council's 2025 Project* (Washington DC, Nov. 2008), http://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/2025_Global_Trends_Final_Report.pdf, accessed 21 Nov. 2013.

6 National Intelligence Council, *Global Trends 2030: alternative worlds—the National Intelligence Council's 2030 Project* (Washington DC, Dec. 2012), http://www.dni.gov/files/documents/GlobalTrends_2030.pdf, accessed 21 Nov. 2013.

7 A phrase used by Nicholas Lambert in correspondence with me on an earlier draft of this article.

8 Ron Suskind, 'Faith, certainty and the Presidency of George W. Bush', *New York Times Magazine*, 17 Oct. 2004.

9 Fareed Zakaria, 'The decline and fall of Europe', *Washington Post*, 14 Feb. 2006: 'It may well turn out that the most consequential trend of the next decade will be the economic decline of Europe.' For representative books by intellectual icons of the past, see Jürgen Habermas, *Europe: the failing project* (Cambridge: Polity, 2009); Walter Laqueur, *After the fall: the end of the European dream and the decline of a continent* (New York: Thomas Dunne, 2012).

10 'Barroso tells Europe: we must advance together or face decline', *Observer*, 13 Nov. 2011.

11 Data from the Maddison Project, http://www.ggdc.net/maddison/maddison-project/home.htm, accessed 21 Nov. 2013.

in the end succumbed to the superior military power of the new monarchies, France and Spain. By 2013, Europeans saw the parable of Renaissance Italy as applicable not just to contemporary Italy, but to the continent as a whole.

The story of imperial overstretch is continuously treated as a question of learning lessons from history. The historian Paul Kennedy's *Rise and decline of the great powers* had an influential impact when it appeared in 1987. Recently the economists Glenn Hubbard and Tim Kane tried explicitly to apply the lessons of Rome ('from the rampant inflation and excessive taxation of the third century to the central-planning tragedy of Diocletian') to the contemporary United States, before ending with an apparently contrary conclusion ('It is still a rising sun').[12]

At the beginning of the modern experience of globalization, the analogy of the Roman empire was established as the fundamental reference point in two monumental works published in 1776, *The decline and fall of the Roman empire* and *The wealth of nations*. Perhaps surprisingly, these two works continue to offer the fundamental analytical framework used in interpreting the modern phenomenon of globalization. One deals primarily with the dynamics of power, the other with the dynamics of commercial relations, but both engage with both themes. Edward Gibbon confided to a friend that 'in modern history there will always be some question of the decadence of Empires'.[13] By the end of 1775, shortly before the publication of the first volume of *The decline and fall*, he was describing the British empire in the same phrases he had used for Rome: 'A dark cloud still hangs over it, and though it may be necessary to proceed, the contest will be difficult, the event doubtful, and the consequence destruction.'[14] Adam Smith ended his observations in the final volume of *The wealth of nations* with a calculation of the financial gains and losses of empire: a devastating balance sheet that left little doubt that Britain, far from being at the height of an imperial prosperity, was running substantial risks. The calculation comes after a long examination of the high levels of public debt in Britain, and its consequent difficulty in fighting expensive colonial wars. He ends his great book with a damning indictment of British policy and an injunction that Britain should free itself from the expense of war and 'endeavour to accommodate her future views and designs to the real mediocrity of her circumstances'.[15]

Almost every analysis of capitalism from Smith and Marx onwards includes a notion of stages. Fernand Braudel identifies four cycles, each with a geographic hegemonic core (Genoa, Amsterdam, London, New York), each involving a progressive process of transformation from real to financial assets.[16] It is striking

12 Paul Kennedy, *The rise and fall of the great powers: economic change and military conflict from 1500 to 2000* (New York: Vintage, 1987); Glenn Hubbard and Tim Kane, *The economics of great powers: from ancient Rome to modern America* (New York: Simon & Schuster, 2013), p. 271, 296.

13 Gibbon to Deyverdun, 7 May 1776; Gibbon to Deyverdun, 20 May 1783, in *The letters of Edward Gibbon*, vol. 2, ed. J. E. Norton (New York: Macmillan, 1956), p. 104.

14 Gibbon to John Whitaker, 16 Oct. 1775, in *Letters of Edward Gibbon*, vol. 2, p. 90.

15 Adam Smith, *An inquiry into the nature and causes of the wealth of nations*, ed. Edwin Cannan with a new preface by George J. Stigler (Chicago: University of Chicago Press, 1976), vol. 2, p. 486.

16 Fernand Braudel, *Afterthoughts on material civilization and capitalism* (Baltimore, MD: Johns Hopkins University Press, 1977); see also, in a similar vein, Giovanni Arrighi, *The long twentieth century: money, power and the origins of our times* (London: Verso, 1994).

that the last two, but not the first two, coincide with the story of 'the rise and fall of the great powers' as told by Paul Kennedy, where Spain anticipates British and then American hegemony.[17] The Italian city states and the Dutch Republic needed to operate a complex, universal and intensely rules-based financial system without being able to impose a global security order.

Late Victorian Britain was obsessed with the precedents of decline, a mood caught brilliantly in iconic works of poetry: Alfred Lord Tennyson's 1886 'Locksley Hall sixty years after' ('Babble, babble; our old England may go down in babble at last [...] Chaos, Cosmos! Cosmos, Chaos! Who can tell how all will end? / Read the wide world's annals, you, and take their wisdom for your friend') or Rudyard Kipling's 'Recessional' for Queen Victoria's 1897 Diamond Jubilee ('Lo, all our pomp of yesterday / Is one with Nineveh and Tyre!').

The ambiguity of global order

Globalization requires a system of rules, and the essence of rules is that they need to be formulated so as to be generally and universally binding. However, as noted above, a system of rules also requires enforcement, and the globalized world needs a sheriff or hegemon. Most recent accounts of what is now generally known as the 'first era of globalization' (though the label is misleading: there were other episodes of global integration, going back as far as the Roman empire) emphasize the extent to which gigantic imperial systems and their military presence policed globalization. The hegemon realizes that the rules will only be accepted if they correspond to an idea that is universalizable.

This was a point well appreciated by British strategists before 1914. As the Foreign Office's leading intellectual, Sir Eyre Crowe, put it in 1907: 'The danger [of a hostile combination] can in practice only be averted—and history has shown that it has been so averted—on condition that the national policy of the insular and naval State is so directed as to harmonize with the general desires and ideals common to all mankind.'[18]

How do the world's citizens know that the sheriff is honest and may be trusted to enforce the rules fairly?[19] The leading power is always tempted to police unfairly and to look for unfair advantages. There is in consequence always a suspicion that the hegemon is distorting or bending the rules. Even a beneficent hegemon is more inclined to cheat as it sees the benefits of leadership progressively declining, and as other political units take advantage by free-riding on the guarantee of general security. This is the moment—occurring some way into the long-drawn-out process of decline—at which the hegemon decides that it should stake its bets on a more explicit turn to empire. *Realpolitik* overrides rules; or, as a rather old British pun had it, Britannia waives the rules in order to rule the waves. Modern political

[17] Kennedy, *The rise and fall of the great powers*.

[18] Quoted in R. W. Seton-Watson, *Munich and the dictators* (London: Methuen, 1939), pp. 153–4.

[19] For the analogy, see Richard N. Haass, *The reluctant sheriff: the United States after the Cold War* (New York: Council on Foreign Relations, 1997), G. John Ikenberry, *Liberal Leviathan: the origins, crisis, and transformation of the American world order* (Princeton, NJ: Princeton University Press, 2011), p. 275.

scientists make a similar point, that the US 'ability to act hypocritically' constitutes a key strategic resource.[20] When the hopes placed by the rest of the world in universal rules are disappointed, it reacts by seeing power in its full *realpolitik* nakedness. At some stage, the suspicions of the rest of the world become greater than its calculations of the benefits derived from global order.

The historian Paul Schroeder interprets the security thinking of the nineteenth century as a transition between a genuinely cooperative view of the Concert of Europe after 1815 to a world of imperial rivalries by the beginning of the twentieth century. A group of nearly simultaneous but nevertheless unrelated events mark the turning point: the Sino-Japanese War of 1894–5, the conquest of the Sudan in 1898, the Spanish–American War of 1898 and Germany's turn to a world policy (*Weltpolitik*) in 1897–8. Schroeder describes the transition to 'the principle on which New Imperialism came to operate': 'that those who stole horses deserved to win while those who only looked over the fence deserved to lose out'.[21] Or, in the words of the contemporary writer Hilaire Belloc, 'Whatever happens, we have got / The Maxim gun, and they have not.'

The greatest British proponent of imperialism at the moment of Britain's greatest imperial reach was Joseph Chamberlain, who popularized the term *Pax Britannica*, with its obviously classical appeal as an analogy to *Pax Romana*. He was very explicit in his admission that empire was a response to economic failure (or, as he thought, to the unfair competition of the protected industries of Germany and the United States). 'Agriculture … has practically been destroyed. Sugar has gone; silk has gone; iron is threatened; wool is threatened; cotton will go!'[22] The Concert needed to be superseded by empire.

Yet in each of these phases, in both the early nineteenth-century cooperative view and in the world of imperial competition, there was always something remaining of the other view. The Concert required enforcement of its rules, with dramatic interventions to quell security threats; and the imperial vision could not rely on brutal power politics alone. But no one likes to see systems as complex, and so there is always a pressure to provide a neat conceptual encapsulation.

The 'globalization' and 'imperialism' models are overall interpretations of such power for their adherents that each perspective simply eclipses the other. The alternative is rejected as naive or ideological, as in Robert Kagan's juxtaposition of the Mars and Venus views of Americans and Europeans.[23] As ways of understanding the world, they are like the optical illusions made famous by Maurits Cornelius Escher, where squares either pop out of a page or recede, but the observer cannot be brought to see both phenomena at the same time. There is one perspective—or the other.

[20] Henry Farrell and Martha Finnemore, 'The end of hypocrisy: American foreign policy in the age of leaks', *Foreign Affairs* 92: 6, Nov.–Dec. 2013, p. 23.

[21] Paul W. Schroeder, 'Stealing horses to great applause: Austria-Hungary's decision in 1914 in systemic perspective', in Holger Afflerbach and David Stevenson, eds, *An improbable war: the outbreak of World War I and European political culture before 1914* (New York and Oxford: Berghahn, 2007), pp. 28–9.

[22] Peter Marsh, *Joseph Chamberlain: entrepreneur in politics* (New Haven, CT: Yale University Press, 1994), p. 585.

[23] Robert Kagan, *Of paradise and power: America and Europe in the new world order* (New York: Knopf, 2003).

The realities that are described by these simplified pictures are very complex, with a multiplicity of complex relationships. In the first era of globalization, expanding trade, capital and labour flows all tied economies together in what appeared to be an increasing and probably irreversible network. The key to that network was the commercial infrastructure provided by Britain: in part, its mercantile marine, but also the financial infrastructure that focused the world's commercial interactions on the City of London. Since trade finance required an extensive network, and it would be cumbersome for an exporter to have financial links with every country to which he exported, there was a strong network effect, a motivation to concentrate all dealings in one centre, and that was London. London merchant banks in particular concentrated on the acceptance business: they generated an endorsement or guarantee that would allow an exporter to turn a bill of exchange (a promise of future payment) into readily available cash. Until the middle decades of the nineteenth century, there had been a financial and political multipolarity, with France playing a leading role in government and railroad finance. But the humiliating defeat of France in the war of 1870–71 left Britain as the sole financial power.

Walter Bagehot's classic and still influential study of finance *Lombard Street* (1873) consequently described the City of London as 'the greatest combination of economic power and economic delicacy that the world has ever seen'. He presented the development as a very recent phenomenon, deriving from the aftermath of the Franco-Prussian War:

> Concentration of money in banks, though not the sole cause, is the principal cause which has made the Money Market of England so exceedingly rich, so much beyond that of other countries … Not only does this unconscious 'organisation of capital', to use a continental phrase, make the English specially quick in comparison with their neighbours on the continent at seizing on novel mercantile opportunities, but it makes them likely also to retain any trade on which they have once regularly fastened.[24]

The power was the result of the complexity of the system that assessed risks across the world and allocated financial flows accordingly. It was vulnerable (delicate) in the sense that it could easily be disrupted by panics in which confidence collapsed.

A physical infrastructure provided the basis for the financial links. The initial contacts between buyer and seller, the bills of exchange, the insurance all depended on the transoceanic cable. The first transatlantic cable had been laid in 1866, and with the increased use of the steamship provided the basis for a gigantic expansion of commerce. At the beginning of the twentieth century, a new innovation, wireless telegraphy, meant that cargoes could be reallocated while they were in transit at sea.[25]

In addition, most of the world's marine insurance—even for commerce not undertaken in British ships or to British ports—was underwritten by Lloyd's of London. As in the case of trade finance, there were gigantic network effects: a very

[24] Walter Bagehot, *Lombard Street: a description of the money market* (London, H. S. King & Co., 1873), pp. 4, 6, 15.

[25] See the highly original new book by Nicholas Lambert, *Planning Armageddon: British economic warfare and the First World War* (Cambridge, MA: Harvard University Press, 2012).

deep financial market was required in order to be able to absorb potentially large losses. But the network ran together in a single node, with the result that the City of London controlled the world's interactions.

Many features of this world have been reproduced in the modern era of hyper-globalization.[26] Like Bagehot's world, ours is both highly complex and vulnerable to dislocation and interruption. The modern equivalent to the financial and insurance network that underpinned the first era of globalization is the connectivity established through electronic communications. Like the nineteenth-century trading and insurance network, it is in principle open to all on the same terms. But its complex rules are set in a limited number of jurisdictions, to some extent in the EU but mostly in the United States. The data that connect the information economy depend on complex software and interaction systems managed by large and almost exclusively US corporations—Google, Microsoft, Facebook—as well as by (again mostly US) telecom firms (Sprint, Verizon).

The anxiety of the rising powers

For the have-nots and the rising powers, the rules of the haves look like instruments to conserve the existing order. These rules, because they guide very complex interactions, are actually hard to describe precisely, so the complaints about bending rules or cheating tend to be directed at superficial manifestations of the principle of order. The complex mechanisms for discounting bills look as if they can be easily summarized in terms of choices about currencies. In consequence, a great deal of the nineteenth-century controversy revolved around the choice of currency regime, and assumed that every other institutional orientation followed from that choice.

The first attempt to design an alternative to the British-centred financial system originated in France in the 1860s. In the mid-nineteenth century, the tide of globalization was driving economic development. The steamship, the transatlantic cable, railways in the Russian empire and in North and South America, as well as governments' willingness to negotiate free trade agreements, created a global market. Napoleon III wanted to break with that British dominance and create an alternative Paris-based order, centred on a global currency.

In 1863 he and his advisers created a new regional system, the Latin Monetary Union, by which the coinage systems of France, Belgium, Switzerland and Italy were homogenized, with a standard franc or lira coin of a standard weight and purity of silver that would circulate freely in the member countries of the currency union. The 1867 World Monetary Conference, held in Paris, went substantially further in its ambitions. Only a very slight alteration of parities would be required to bring into line France, Great Britain and the United States, which was just recovering from the massively costly and destructive Civil War. France was on a bimetallic standard, in which its coinage was set in terms of both gold and

26 See Arvind Subramanian and Martin Kessler, 'The hyperglobalization of trade and its future', working paper 13-6 (Washington DC: Peterson Institute of International Economics, July 2013).

silver weights; Britain was on a pure gold standard; and the United States was considering a return to a stable currency based on metal.[27] It would be relatively easy to change the weights of coins so as to create an equivalent of 5 francs to 1 dollar, and of 5 dollars or 25 francs to a British pound. Britain would thus need to undertake a slight devaluation in order to make the British coinage fit into the new system. Predictably, after some debate, the British parliament was unwilling to take this step, which critics would have interpreted as a (small-scale) robbery of the holders of debt denominated in pounds. More importantly, the military defeat of France at Sedan brought an end to the prospect of a globalization built on French principles.

The debates of this time were seen in terms of clashing ambitions and competing visions of financial order. Bagehot wrote in 1869 that there should be

> one Teutonic money and one Latin money; the latter mostly confined to the West of Europe, and the former circulating through the world. Such a monetary state would be an immense improvement on the present … Looking to the commercial activity of the Teutonic races, and the comparative torpor of the Latin races, no doubt the Teutonic money would be most frequently preferred.[28]

The gold standard in practice became rapidly established as an international monetary regime, with London as its commercial hub. It committed the countries that accepted the rule to the maintenance of fiscal and monetary discipline, and held out in return the promise of access to the international capital market on more favourable terms, with lower borrowing costs.[29] By 1904, when France and Britain concluded an alliance, the Entente Cordiale, it looked as if the gold standard was in effect an economic extension of the alliance system built up by Paris and London. Russia had accepted the gold standard as part of a security *rapprochement* with France, and Britain guaranteed the gold standard for its immense colonial empire.

The critical event of the pre-1914 period that focused the attention of the rising powers on the problem of financial power was the financial crisis of 1907, which had a severe effect on the United States, and some countries closely tied to it—notably Italy, though not France or Britain—but did not constitute a shock to the core powers.

Sometimes it is argued that Britain and France had to pay a price for their use of financial power. In both cases, capital export was often associated with the rhetoric of national decline. By 1914, half of British savings were going abroad. The decline debate was stimulated by the chronological coincidence of the acceleration of capital export in the 1870s with declining growth (the Victorian climacteric). France's economy was not as advanced as the British, but it had an exceptionally high savings rate. Many contemporaries explained the high French proclivity to

[27] See Luca Einaudi, *Money and politics: European monetary unification and the international gold standard (1865–1873)* (Oxford and New York: Oxford University Press, 2001).

[28] Walter Bagehot, *A practical plan for assimilating the English and American money as a step towards a universal money* (London: Longmans Green, 1889, repr. of 1869 edn), p. 53.

[29] Michael D. Bordo and Hugh Rockoff, 'The gold standard as a "good housekeeping" seal of approval', *Journal of Economic History* 56: 2, 1996, pp. 389–428.

save with reference to demographics, arguing that low fertility meant a need for higher savings as individuals contemplated the financing of their old age.

The panic of 1907 showed the fast-growing industrial powers the desirability of mobilizing financial strength. British observers congratulated themselves on their superiority in a world that was increasingly 'cosmopolitan' as a result of the 'marvellous developments of traffic and telegraphy', as *The Economist* put it. 'We have no reason to be ashamed. The collapse of the American system has put our supremacy into relief ... London is sensitive but safe.'[30] More explicitly, it asserted: 'Our banking system is so much sounder, and those who control it command and deserve so much more confidence, than is the case in less favoured countries.'[31] The United States realized that it needed some sort of central bank analogous to the Bank of England. The 1907 experience also convinced American financiers that New York needed to develop its own commercial trading system that could handle bills in the same way as the London market. At that time, federal legislation actually prohibited trade acceptances as well as foreign banking activity.[32] President Taft and his Secretary of State made 'substituting dollars for bullets' the centrepiece of their diplomacy.[33]

Germany, meanwhile, developed its own trade financing system. The large joint stock banks had been very quick to establish overseas branches. They extended credit on longer terms than the British traditional trade financing arrangements, offering 90 days credit (derived from the length of time cloth took to travel from Florence to London in the late medieval period). From the perspective of established British and French competitors, this looked like cheating.[34]

Financial panics had a security dimension. The risks were highlighted in the Second Moroccan Crisis of 1911, when French holders sold off German assets and provoked a financial panic in Germany. At the same time, Austria-Hungary, whose businesses hoped for further access to the French capital market, abandoned its German ally and lined up with Paris.[35]

The central figure in pushing for the development of an American acceptance market was Paul Warburg, the immigrant younger brother of a great Hamburg banker and the personal adviser of the German autocrat Kaiser Wilhelm II. Warburg was a critical figure in the bankers' discussions on Jekyll Island and in drawing up the institutional design of the Federal Reserve System. The brothers Warburg, Max and Paul, were in fact on either side of the Atlantic energetically pushing for German–American institutions that would offer an alternative to the

30 'The money market', *The Economist*, 28 Dec. 1907, pp. 2285–6.

31 'The money market', *The Economist*, 2 Nov. 1907, pp. 1853–4.

32 Barry Eichengreen and Marc Flandreau, 'The Federal Reserve, the Bank of England and the rise of the dollar as an international currency, 1914–39', working paper 328 (Basel: Bank for International Settlements, 2010).

33 Fourth annual message to Congress, 3 Dec. 1912, http://millercenter.org/president/speeches/detail/3786, accessed 21 Nov. 2013; see also Emily S. Rosenberg, *Financial missionaries to the world: the politics and culture of dollar diplomacy, 1900–1930* (Cambridge, MA: Harvard University Press, 1999).

34 See e.g. Henri Hauser, *Les méthodes allemandes d'expansion économique* (Paris: Armand Colin, 1915); publ. in Eng. as *Germany's commercial grip on the world, her business methods explained*, trans. Manfred Emanuel (London: Eveleigh Nash, 1917).

35 Fritz Fischer, *Krieg der Illusionen: Die deutsche Politik von 1911 bis 1914* (Düsseldorf: Droste, 1969), pp. 133–4.

British industrial and financial monopoly. They were convinced that Germany and the United States were growing stronger year by year, while British power would erode.

The post-1945 world was built around a design that was carefully calculated to preserve American pre-eminence in currency matters. American negotiators during the Second World War originally talked about creating a new international unit of account that would replace any national currency, but by 1943 they were asserting that the US dollar 'will probably become the cornerstone of the postwar structure of stable currencies'.[36] While at the 1944 Bretton Woods conference values of currencies were defined in terms of gold or US dollars, in practice thereafter the US dollar was the standard for the international system.

From the 1960s onwards, the pre-eminence of the dollar was repeatedly challenged. General de Gaulle complained that the system allowed the United States 'to be indebted to foreign countries free of charge', and France mounted a campaign against the 'exorbitant privilege' of the dollar. After the collapse of the par value system in the early 1970s, the complaints became louder. The European Commission President, Roy Jenkins, launched his campaign to integrate Europe's money with a denunciation of the role of the dollar: 'There is a fundamental asymmetry about the United States having withdrawn from the responsibilities of Bretton Woods, while dollars, like legions without a central command, continue to dominate the currency transactions of the world.'[37] Helmut Schmidt explained that 'the United States has neither accepted nor even understood their leadership role in the economic field'.[38] When plans for European monetary union were revived in the late 1980s, the idea of providing an alternative to the dollar continued to play a major part in the rationale. At an international level, critics of the United States pushed for plans to create a reserve unit that would not depend on the dollar: the IMF's Special Drawing Right in the 1960s, a so-called Substitution Account at the IMF in the early 1980s, and a revived plan for the use of SDRs proposed by China as well as France in the 2000s. The Governor of the People's Bank of China spoke of a new reserve currency that would be 'disconnected from economic conditions and sovereign interests of any single country'.[39]

In the Bretton Woods order, with a par value system, the critique of the role of the dollar was plausible. Afterwards, it became a rather naive obsession—as when Saddam Hussein in the early 2000s thought that he could dent the power of the United States by holding Iraq's reserves in euros rather than in dollars. Talking about the dollar became a very simplified way of referring to a highly complex system of rules that preserved American dominance.

[36] Armand van Dormael, *Bretton Woods: birth of a monetary system* (London: Macmillan, 1978), pp. 200–202.
[37] Roy Jenkins, memorandum for the European Council, Copenhagen, 7–8 April 1978, ECA 2/2–3.075.
[38] Hans Roeper, 'Der tolle Blumenthal', *Frankfurter Allgemeine Zeitung*, 22 July 1977; Klaus Wiegrefe, *Das Zerwürfnis: Helmut Schmidt, Jimmy Carter und die Krise der deutsch-amerikanische Beziehungen* (Berlin: Propyläen, 2005), pp. 212–13, 217–18.
[39] Zhou Xiaochuan, 'Reform the international monetary system', 23 March 2009, http://www.bis.org/review/r090402c.pdf, accessed 21 Nov. 2013.

China's rise

The dilemma for the rising powers is that they will necessarily seek to use the economic and commercial infrastructure and the security provided by a hegemon, while constantly wondering whether those rules do not put them at a disadvantage. They are not in a position to undermine complex institutions.

In the modern world, that characteristic of the new potential challengers is reinforced by the fact that both China and Germany have accumulated asset positions as a result of persistently large current account surpluses. In a mercantilist logic, assets amount to a kind of power because they allow the state that accumulates them to control a greater share of resources; but in a modern world they create a dependence because the value of the assets can be determined by debtors who may default or inflate. As a consequence, the challengers feel especially vulnerable to 'cheating' on the part of the hegemon.

Germany in the nineteenth century and China today developed quickly because they were highly successful commercial powers, with powerful export growth. In both cases, critics accused them of being fundamentally imitative rather than deeply original—even when the number of German patents (in the nineteenth century) and Chinese patents (in the twenty-first) was exploding. The two challengers in consequence had no interest in a fundamental breakdown of the world's commercial system.

The challengers do not want to destroy the system, but do want to change or modify its institutions so as to eliminate the unfair advantages of the incumbent. They are not strong enough to remake the system completely to reflect purely their own interests, and in consequence need to work out some mechanism that will allow them to leverage their commercial power. In the modern case, as the surpluses build up, they want to find a way of ensuring that those surpluses are not written off as a result of unilateral action by the debtors. They are in consequence more heavily invested in the status quo than the declining hegemon, and would like to find ways of restraining the capacity of the United States to issue debt. In November 2012 Germany proposed a fiscal brake as a policy tool to be adopted not just at the European but at the world level.[40]

The twenty-first-century rise of China is taking place in a more densely institutionalized setting than the nineteenth-century rise of Germany. The rising power has recognized that institutions are needed, at the same time as it has a sense that the way actual institutions work is detrimental to its interests.

The IMF was the centrepiece of the post-1945 economic system, and survived the collapse of the par value system by reinventing its role as a crisis manager. It played a central role in the management of the 1980s debt crisis and in the transition away from planned economies after 1989. But the Asia crisis of 1997–8 substantially undermined its legitimacy in Asia, where many governments felt that the crisis was being instrumentalized by the United States and by US financial

[40] http://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Topics/Financial_markets/Articles/2012–11–02-meeting-of-g20-finance-ministers-in-mexico-city.html, accessed 21 Nov. 2013. The proposal was dropped in July 2013.

institutions. The next major international crisis, the post-2007 Great Recession, discredited the IMF further: first, because the initial phase of the crisis looked as if it was an American phenomenon; and second, because the IMF's heavy involvement in the second phase of the crisis, the long-drawn-out euro crisis, seemed to be offering preferential treatment to Europe and Europeans. In particular, the demand that after the abrupt resignation of the French managing director, Dominique Strauss-Kahn, another European (and a French national) should be appointed because the world was focused on Europe, looked incomprehensible to the large emerging market countries.

For over a decade, the IMF has been making efforts to adjust its shareholding structure to accommodate the rise of Asia and the reduced weight of European countries. But progress has been astonishingly slow. A small increase in the quotas of large emerging market countries was agreed at the London G20 summit of April 2009, but has not yet been implemented. It is also not clear that a change in control of the IMF would really be the most effective way of changing 'ownership' of the world economy.

The most obvious strategy for the challenger is to develop a regional focus, and use strength in a region in order to create a zone of stability in which the existing rules can be preserved without being eroded from within by the declining hegemon. In the modern world, that is an easier task for Germany in Europe, in particular because of the importance of the partnership with France, which until 1990 had almost the same population and still has nearly the same level of economic development as Germany. By contrast, for China the Asian neighbourhood is a much more difficult environment, given its own problematic relationship with Taiwan, and given that South Korea and Japan have very different population sizes and levels of development.

The German problem

Historically, answers to the 'German problem'—identified as 'the crux of the whole European situation' by the historian R. W. Seton-Watson in 1930—have been elusive.[41] There has been an extended debate between historians on the extent to which the instability was driven by the personalities of individuals (Wilhelm II, Adolf Hitler), or by deep structural (including geopolitical) features, or indeed whether the structural flaws necessarily led to an unstable and incoherent leadership.

There was nothing fundamentally irrational about the German policy debate in the first age of globalization at the beginning of the twentieth century. Germany was looking for a regional strategy. At that time, German *Angst* lay in an appreciation that the nation-state was no longer big enough to handle the new challenges. Geopolitical strategists formulated the view that only large imperial and global political units could be truly functional. The crucial document specifying German war aims 100 years ago was the memorandum produced by Chancellor Theobald

[41] R. W. Seton-Watson, *Munich and the dictators* (London: Methuen, 1939), p. 151.

von Bethmann Hollweg on 9 September 1914. It sketched out a plan for annexations of some territories, but also a vision of a postwar economic and monetary order. That view was also propagated by centre-left politicians, notably the liberal thinker Friedrich Naumann, who published in the middle of the war a programmatic book entitled 'Central Europe' (*Mitteleuropa*).

Point 4 of the September 1914 memorandum envisaged:

> a central European economic association … constructed through common customs agreements, to comprise France, Belgium, Holland, Denmark, Austria-Hungary, Poland (!)[the note-taker entered an exclamation mark as Poland was not at that time an independent country] and possibly Italy, Sweden, and Norway. This association will probably have no common constitutional head and will provide for ostensible equality among its members, although it will in fact be under German leadership; it must stabilize Germany's economic predominance in central Europe.

A separate point envisaged a solution to the French problem: 'a commercial treaty that makes France economically dependent on Germany, transforms it into our export market, and enables it to exclude English commerce from France'.

In the spring of 1915, Bethmann Hollweg went further and envisaged a union in which Germany would dominate Central Europe in the same way as Prussia dominated the other German states (e.g. Bavaria, Saxony) in the German empire. He drew a specific analogy with the way pyramid holding companies for businesses allowed control of a vast business empire to be exercised with a relatively small amount of capital. Germany would leverage its position in order to create a continental European bloc.

In the 1930s, a large part of the disastrous misreading of Hitler's strategy lay in the conviction of policy-makers in London and Paris that Germany was again looking at a continental strategy. It was clear by 1938 and 1939 that Germany could exercise the same sort of economic leverage as had been planned in 1914 and 1915 without going to war. From the point of view of rational politics—as the British and French read it—there was no point in going to war at all.[42]

German unification in 1990 was followed by a ferocious debate about the likelihood of a new Fourth Reich. Conor Cruise O'Brien in 1989 hysterically predicted 'a statue of Hitler in every town'. Günter Grass in early 1990 pleaded passionately that Germany turn away from reunification, since if it went ahead, 'despite all our protestations, even well-intentioned ones, we Germans would once again be feared'. When Karl Lammers started a debate about a multi-speed Europe, Tony Judt reflected (in 1996) that the strict macroeconomic criteria provided 'merely the latest evidence that the future of Europe will be on German terms or not at all'.[43]

Since the outbreak of the 2007–2008 financial crisis, there has been a dramatic shift of power and influence in Europe. The EU institutions (with the exception of the European Central Bank, which only formally became an EU institution

[42] See Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994).

[43] Conor Cruise O'Brien, 'Beware, the Reich is reviving', *The Times*, 31 Oct. 1989; Günter Grass, 'Don't reunify Germany', *New York Times*, 7 Jan. 1990; Tony Judt, *A grand illusion? An essay on Europe* (New York: New York University Press, 2011; first publ. New York: Hill & Wang, 1996), p. 123.

in 2010) have been weakened and discredited, and power has shifted back to the member states—but not all the member states; the European continent looks as if it is dominated and controlled by Germany. A long time ago, Henry Kissinger is supposed to have asked the famous question about who he should call if he wanted to speak to Europe.[44] By now, the answer is very clear: everyone needs to talk to Chancellor Merkel.

The contemporary European crisis looks so intractable because almost every economist points out that a monetary union without some greater measure of fiscal integration is impossible, while almost every political scientist points out that fiscal integration with a requirement of large or unpredictable subsidies creates strains.

The way out of the dilemma is to make general rules for Europe, to constitutionalize the fiscal question, and thus to limit the destructive and increasingly nationalistic debate about who is benefiting from the financial crisis. This is what appears to be behind the calls for treaty change that Chancellor Merkel sometimes makes. Apart from the problem of the time needed to engage in such a complex process, in which 28 states need to agree on a new European treaty, there is a question of what form the new arrangement should take.

In fact, there is already a blueprint for how constitutionalization can work that lies in Germany's own history. Germany's Basic Law of 1949 laid out a European vision in a striking way. Its preamble begins: 'Conscious of its responsibility before God and Men, animated by the resolve to preserve its national and political unity and to serve the peace of the World as an equal partner in a united Europe, the German people …' Germany's constitution actually requires European union. The document made much of its own provisionality. The division of Germany into East and West was seen as a microcosm of the broad forces that split Cold War Europe, and thus German integration was foreseeable only in the context of European integration. It was this point that Helmut Kohl picked up with great rhetorical insistence in the debates of 1990 and 1991. Germany is peculiarly suited to act as a model for Europe because of its federal character, with a constitutional insistence on strong guarantees for state rights. This, as much as its greater economic dynamism, gives it an important leverage in the central Franco-German dialogue. One of France's leading intellectuals recently produced a book-length paean to Germany as the most democratic as well as the healthiest country in Europe.[45]

Germany is even apparently working towards self-abolition. The number of independent political units in Germany has fallen by a factor of ten roughly every hundred years. Before the 1648 Peace of Westphalia, there were some 3,000–4,000 independent units in the Holy Roman Empire. The territorial settlement reduced the number to 300–400. In the next great wave of wars and peace settlements, in the aftermath of the French Revolution and the Napoleonic age, the number of German states fell to 39, and this figure continued to shrink: by 1866, only 34

[44] He now denies having asked the question and attributes it instead to Garret Fitzgerald: conversation with Dr Henry Kissinger, Princeton, 2 April 2013.

[45] Alain Minc, *Vive l'Allemagne!* (Paris: Grasset, 2013).

members of the German confederation were left. Then new wars and new peace treaties created the *kleindeutsch* German empire of 1871, and there were just three largely German-speaking states (none of them a conventional nation-state) left: Imperial Germany, Austria-Hungary (a dynastic unit, otherwise known as the Habsburg empire) and the Swiss Confederation. After 1949, there were four: the Federal Republic and the Democratic Republic, as well as Austria and Switzerland. One century on, it may be predicted that there will be 0.3 German states—as part of the European Union.

It is difficult to see how the process of constitutionalization can be simply added as a supplementary layer on top of existing state structures. Problems of economic transfers in a large unit are at the heart of the political process of building federations or federalism, and past experience indicates that this course is not easy. The Habsburg empire after 1867 had a common fiscal regime as well as a monetary union, but the fiscal settlement produced ever-increasing tension.

Integration has its own historical momentum, and if and when it goes into reverse, that process will also have a counter-momentum. The argument against European structures depends on hostility to a transfer union that might lead to some redistribution of resources. Why should our money be taken away and given out to people in a very different area? What sort of claim do those very different peoples have?

The better way of discussing transfers within a large and diverse political order is to think of them as individualized or personalized. In particular, a Europe-wide social security system would not only be a logical completion of the labour mobility requirements of the single European market; it would provide an important buffer to cushion economic shocks, in that booming areas would pay in more, and shrinking areas would draw out more—without these payments going through government bodies and appearing as transfers from north to south, whether in a country such as Italy or in the whole of the European area. Defusing the political tensions generated by the euro crisis does not require the erection of a European superstate. Rather, what is needed is less statehood, but more constitutional guarantees—mechanisms that would make Europeans feel secure as Europeans.

The idea of a European counterbalance that provides stability to the world is much easier to envisage than the Asian one. But it is still subject to tremendous uncertainty.

The peace argument

Do security and civilization make people more peaceful? This view had become a consensus in the pre-crisis world of 1913, and prevails also in 2013. The argument that more commerce made for more peace had been presented in the eighteenth century by Montesquieu, and became a commonplace among economic liberals such as John Bright and Richard Cobden in the nineteenth. They were observing a world in which war was becoming rarer. Soon after Bright and Cobden issued their prophecies, the Crimean War broke out and their conservative critic, John

Henry Newman, could then point out that though once 'there was a hope that wars would cease for ever, under the influence of commercial enterprise and the reign of the useful and fine arts … will anyone venture to say that there is any thing any where on this earth, which will afford a fulcrum to us, whereby to keep the earth from moving onwards?'[46] But the belief that civilization could tame violence became ever stronger. By the late twentieth century in rich industrial societies individual existence appeared boringly secure. Large numbers of people expected to stay in a particular occupation and even with a specific employer for life. The random intrusions of epidemic disease seemed to have been conquered, society was peaceful, war between Great Powers was impossible. What Steven Pinker calls 'the better angels of our nature' had asserted themselves powerfully.[47] Those are the angels that lead us to cooperate with each other, that propel us to organize ourselves in the face of risk.

In a retrospective analysis, Sigmund Freud tried to show that the civilizational impetus was undermined by a death wish (*thanatos*).[48] Complexity conjures up catastrophism as a response. For Austrians and Germans in the world before 1914, a vision of a violent solution seemed more and more appealing than a complexity that they could not control. As a widely circulating slogan had it, better an end with horror than horrors without end.

In one influential interpretation, as popularized by Norman Angell in 1911, the interdependency of the increasingly complex global economy made war impossible. His book *The great illusion* was an immediate success: it was published in 14 countries and 18 languages. By the time it appeared, the basic thesis was so familiar that it appeared regularly as a diplomatic move. Thus, for instance, as the tension mounted in 1911 over the impossibly ambitious German demands for compensation in the Congo if France were to take over Morocco, the French ambassador in Berlin responded by stressing all the advantages that German industry and German commerce would derive from French support.[49]

But a quite opposite conclusion was possible and equally plausible. Given the extent of fragility, a clever twist to the control levers might make war easily winnable by the economic hegemon. Or alternatively, a disruptive action by the challenger could brutally and simply break the complex financial and economic links that made the hegemon hegemonic.

The use of network power

The complexity of networks, and the way they can be used to propagate influence, make them ideal instruments in the struggle between powers. At the same time, strategies that use network power are not simple: the threat of disruption

46 *Newman's Apologia pro vita sua*, ed. Wilfrid Ward (London: Oxford University Press, 1913), pp. 336–7. Newman's original edition was published in 1864.

47 Steven Pinker, *The better angels of our nature: why violence has declined* (New York: Viking, 2011).

48 Sigmund Freud, *Civilization and its discontents*, trans. James Strachey (New York: Norton, 1961), first publ. in German as *Das Unbehagen in der Kultur* (1930).

49 Report of State Secretary Alfred von Kiderlen-Wächter, 9 July 1911, in *Die grosse Politik der Europäischen Kabinette 1871–1914*, vol. 29 (Berlin: Deutsche Verlagsgesellschaft für Politik und Geschichte, 1925), p. 174.

can easily rebound on its originator. The hegemon can instrumentalize them; but the challenger may find it appealing to attempt to disrupt or subvert them.

Between 1905 and 1908, the British Admiralty evolved the broad outlines of a plan for financial and economic warfare against Germany. The fact that Britain was the hub of trade finance and insurance gave its military planners, and its political decision-makers, a unique insight into how and where global flows of strategic goods went, and how those flows might be interrupted. The key figure initially in the development of the new strategy was the director of naval intelligence, Captain Charles Ottley. The idea of economic warfare was taken up with boyish enthusiasm by the First Sea Lord, Admiral Sir John Fisher, in a striking letter that has only recently been discovered by historians. Fisher wanted to use every resource, legal or illegal, to enforce a blockade that would shorten the war. '"MIGHT IS RIGHT" & when war comes we shall do just as we jolly well like! *No matter what your laws are*! We've got to win and we ain't going to be such idiots as to keep one fist tied behind our back.'[50] By the end of 1912, a secret interdepartmental inquiry set up to evaluate the feasibility of economic warfare suggested that it was possible to wreck Germany's financial system and force it out of any war. The report was discussed by the Committee of Imperial Defence, and a resolution accepting its key recommendation was drafted personally by Prime Minister Herbert Asquith and endorsed by the leading members of the cabinet.

In August 1914, after the German attack on Belgium and France, Britain started to implement the strategy. But it was never effectively realized, with the result that at least after the dramatic failure of the Dardanelles, there seemed no alternative to the massive and bloody deployment of armies on the Western Front.

In the early twenty-first century, it became clear that the enormous streams of data that connected the globalized world could be used for political and strategic purposes. The business of data mining was given a decisive impulse by the terrorist attacks of 11 September 2001. It was quickly apparent that the mounting of these attacks required a sophisticated and coordinated international operation, relying on communications and on financial transfers. In response, the United States started to conduct a financial war on terror.[51] How could the links in the chain of terrorist finance be observed and interrupted? The terrorist networks relied on support from rogue states, but these states were dependent on international economic contacts. Companies that engaged in trading with them, and the banks that financed them, could be identified and put under pressure. The task of data analysis is potentially almost limitless. If large quantities of data can be sifted to identify the characteristics of terrorists, and thus pre-emptively deal with terrorist threats before they emerge, the same logic can be applied to companies that may even unknowingly support potential terrorist threats. The effect of the data collection effort is to make preventive strikes or pre-emptive attacks increasingly attractive; and at the same time to broaden the range of actors that might be subject to such action.

[50] This logic is laid out in Lambert, *Planning Armageddon*; the quotation is from p. 99.

[51] See Juan C. Zarate, *Treasury's war: the unleashing of a new era of financial warfare* (New York: PublicAffairs, 2013).

The extent of data collection is constantly increased as technical possibilities are enhanced. The United States embarked on a quest to establish information superiority. The DE-CIX exchange in Frankfurt serves as a central node for data exchange, with 2.5 terabits of data flowing through every second. As part of the US security programme codenamed Boundless Informant, 500 million communications metadata a month were obtained from Germany.[52] The Tempora programme involves the storage and analysis of material from 200 glass cables passing through the UK. From 2007, the Prism programme collected material from Microsoft, Facebook, Apple, Yahoo and Skype. The programme XKeyscore was intended to identify patterns of use. An overwhelming majority of the material is not collected by governments directly; they depend on more or less voluntary cooperation with private companies, reminiscent of the embrace of Lloyd's and the London merchant banks by the British Admiralty one century ago.

After the financial crisis highlighted the extent of vulnerability to shocks, all the major industrial countries became more publicly sensitive to the issue of strategic data. The UK in 2009 announced the launch of a cyber-security strategy with a specific historical parallel: 'Just as in the 19th century we had to secure the seas for our national safety and prosperity, and in the 20th century we had to secure the air, in the 21st century we also have to secure our advantage in cyber space.'[53] By 2013, Defence Secretary Philip Hammond could state that the UK is 'developing a full spectrum military cyber capability including a strike capability'.[54]

Complex data flows can be manipulated, surveillance programmes deployed and malicious software engineered in order to cripple specific users. The computer virus Stuxnet is generally believed to have been devised in the United States with the specific purpose of crippling the software programs in Iran's nuclear energy system. The Gauss program was planned to target financial institutions. Access to large amounts of data encourages the hegemon to take clandestine pre-emptive action. By the summer of 2013, in the wake of the leaks about the operations of the National Security Administration by Edward Snowden, it had become clear to a wide political audience that data surveillance was changing politics. Among the minor sensations was the revelation that electronic and telephone communications of participants at the April 2009 London G20 summit had been intercepted by British security services.[55]

This sensitivity to the transmission of data has been increased by the awareness that information distributed through social media—Twitter tweets, Facebook contacts—has overthrown governments. This was a lesson already learned by the Russian government after the so-called Orange Revolution of 2004–2005 in

[52] *Financial Times*, 4 July 2013, 'Spying questions emerge over Frankfurt's data hub'.

[53] UK Cabinet Office, *Cyber security strategy of the United Kingdom: safety, security and resilience in cyber space*, June 2009, http://www.official-documents.gov.uk/document/cm76/7642/7642.pdf, accessed 21 Nov. 2013.

[54] 'Analysts battle to decode Philip Hammond's cyber weapons message', *Financial Times*, 30 Sept. 2013, http://www.ft.com/intl/cms/s/0/03d018e8–29ea-11e3-bbb8–00144feab7de.html#axzz2i1PAzktW, accessed 21 Nov. 2013.

[55] 'GCHQ intercepted foreign politicians' communications at G20 summits', *Guardian*, 17 June 2013, http://www.guardian.co.uk/uk/2013/jun/16/gchq-intercepted-communications-g20-summits, accessed 21 Nov. 2013.

Ukraine; but it has been greatly reinforced by the experience of the 'Arab Spring', in which IT was the critical instrument for the mobilization of protest. The political commissar of the Chinese People's Liberation Army National Defence University, the influential military thinker Liu Yazhou, concluded that the ability to control the distribution of information had 'became one of the three [with air and naval superiority] most important strategies of all nations, regimes and armies in sustaining their military capabilities'.[56]

The extent of data collection, the increased publicity it received, and the consciousness of sensitivity to systemic catastrophic shocks propelled an arms race in cyber capacity and cyber defence. As a result, it is no longer clear that the hegemon enjoys all the advantages. The rapidity of technical advance and the spread of information technology have encouraged all manner of players in the international system to think in terms of pre-emptive strikes. The US Director of National Intelligence, James Clapper, referred to the risk that 'less advanced but highly motivated actors could access some poorly protected U.S. networks that control core functions, such as power generation, during the next two years'. He also noted that 'unsophisticated attacks would have significant outcomes due to unexpected system configurations and mistakes'.[57] In 2011 Iran established a cyber defence headquarters, and succeeded in penetrating oil and gas firms working on links between Canada and the United States.[58] The cyber defence staff was widely regarded as critical for Iranian security, and its director Mojtaba Ahmadi was assassinated on 2 October 2013.

The United States is worried that increasing national controls on the internet will both undermine its own cyber-defence capacity and encourage aggressive strategy formulations by hostile countries. As the Director of National Intelligence put it: 'a movement to reshape Internet governance toward a national government-based model would contradict many of our policy goals.'[59]

Sensitivity to the issue of cyber attack, and the need to respond to it, is spilling over with chilling effects into other aspects of interstate relations. The dispute about data confidentiality threatens to undermine negotiations for the proposed Transatlantic Trade and Investment Partnership, as European politicians insist that some measure of data protection is added to the planned trade agreement.

The threat of systemic disruption generates a new sort of uncertainty that resembles and recalls the inability of the world before 1914 to know whether clashes would escalate or not. That feature contrasts remarkably with almost the entirety of the Cold War, especially since the 1960s, when the strategic doctrine of

[56] 'Communist Party told to innovate online to thwart West', *South China Morning Post*, 16 Oct. 2013, http://www.scmp.com/news/china/article/1332586/communist-party-told-innovate-online-thwart-west?utm_source=The+Sinocism+China+Newsletter&utm_campaign=7455972304-Sinocism10_16_13&utm_medium=email&utm_term=0_171f237867–7455972304–29591673, accessed 21 Nov. 2013.

[57] James R. Clapper, 'Statement for the record: worldwide threat assessment of the US intelligence community', Senate Select Committee on Intelligence, 12 March 2013, p. 1, http://www.dni.gov/files/documents/Intelligence%20Reports/2013%20ATA%20SFR%20for%20SSCI%2012%20Mar%202013.pdf, accessed 21 Nov. 2013.

[58] 'Iran hacks energy firms, US says', *Wall Street Journal*, 24 May 2013, http://online.wsj.com/news/articles/SB10001424127887323336104578501601108021968, accessed 21 Nov. 2013.

[59] Clapper, 'Statement for the record: worldwide threat assessment', p. 2.

MAD (Mutually Assured Destruction) left no doubt that *any* superpower conflict would *inevitably* escalate. The idea of network disruption relies on the ability to achieve advantage by surprise, and to win at low cost. But it is inevitably a gamble, and raises the prospect that others might, but also might not, be able to mount the same sort of operation.

Conclusion

There are some striking structural similarities between today's world and the world on the eve of the Great War. The hegemon uses the network to maintain a position that it believes to be increasingly precarious. Since the network is opaque, the strategy is difficult for outsiders to work out—but it encourages paranoid responses by countries that believe they have been excluded.

Strong regional arrangements represent the best way of providing a stable order in which rising powers or challengers can ensure that they continue to benefit from a global order that is essential to their development strategy. These arrangements make it harder for hegemons to waive the rules. The cause of the unique fragility of the pre-1914 world lay in Germany's loss—because of the weakness of Austria—of a viable regional strategy. In the twenty-first century, regional strategies look much more robust in Europe; but Asia has the same vulnerabilities and the same instabilities that characterized the world on the eve of the First World War.

International order depends on rules. Increased complexity of rules inevitably makes for greater vulnerability. Some countries evolve strategies of using complexity to achieve strategic advantage, and other countries engage in a game of prevention. Cosmos, chaos. The agreement of all parties that a rules-based order is desirable is not necessarily a guarantee of peace or stability. But it offers a way of building an architecture based on secure regional structures that preserve and strengthen the overall global rules-based regime.