

Of Dominoes and Firewalls: The Domestic, Regional, and Global Politics of International Diffusion¹

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The Great Recession, Euro contagion, Middle East upheavals, nuclear proliferation, and expansion of rights, among others, highlight the centrality of diffusion to international studies. This Presidential Address outlines building blocks for a shared conceptualization of diffusion that is attentive to the initial *stimulus*; the *medium* through which information about the stimuli may/may not travel to other destinations; the *political agents* un/affected by the stimulus' positive or negative externalities, who aid or block the stimulus' journey to other destinations; and *outcomes* that enable discrimination among grades of diffusion and resulting equilibria. Various issue areas illustrate how initial stimuli may/may not change preferences, transform identities, trigger emotions, alter strategic choices, and affect outcomes. I advance three related considerations. First, to avoid selection bias, understanding what does not diffuse (the "Vegas counterfactual") should be as central as what does. Concepts such as *firewalls* and *sedimentation* are essential for gauging a medium's relative immunity/vulnerability to diffusion. Second, weaving domestic, regional, and global considerations into a single analytical framework reduces omitted variable bias and enables systematic cross-regional comparisons. Third, these building blocks imbue the study of diffusion with political dynamics—entailing strategic interaction, contingency, incomplete information, and unintended effects—that defy determinism, automaticity, or teleology. Similar causal mechanisms may yield different outcomes under different domestic, regional, and global conditions. And different mechanisms may yield similar outcomes under comparable circumstances. I highlight the challenges inherent in assessing the outcomes of diffusion given competing empirical findings, epistemologies, and normative readings of what does/does not and should/should not diffuse, and outline an agenda for future research.

International diffusion is as old as human migrations out of Africa thousands of years ago. But the speed and reach of contemporary diffusion are unprecedented. We monitor with concern epochal financial and economic crises. Who got infected, who didn't, why, and with what effects? We follow the momentous EU debacle. When, why, and how might it spill over into other states and regions? We see changing patterns of state intervention in the economy. Are they independent responses to global crisis or products of learning from other states? We monitor the wheel of political upheavals in the Middle East. Do short-term outcomes in one country affect prospects for democratization in others? We analyze social protest movements in disparate corners of the world. When, why, and how do they leap over regions? We ponder on the spread of nuclear weapons. Will more states have them or none, should Global Zero norms achieve a critical mass? We debate the dispersion of international power. Does it spell the adoption of new authority, governance, or normative structures? We analyze the flow of human rights norms. What triggers progress, expansion, and retreat? We study different models of transnational population movements. Do states learn from other states' responses to migration and citizenship rules? We sense creeping intrusion of religion in politics within and across states. Is secularism in domino-like global retreat? We detect

decline in interstate wars. Is it traceable to common global sources, independent or interdependent choices?

These questions suggest that diffusion processes remain a focal point of contemporary international studies. Yet in efforts to understand the nuts and bolts of whatever it is that diffuses, we have often paid less attention to conceptualizing diffusion itself, leaving the notion open-ended, taken for granted, studied more tacitly than explicitly.² A more recent literature focused more self-consciously on a subset of the whole—policy diffusion—or interdependent government choices.³ Yet the phenomenon is much broader, making the quest for a canonical theory of international/transnational diffusion perhaps more elusive but the task of consolidating islands of knowledge no less imperative.⁴ What is diffusion and how can it be distinguished analytically from a wave, chain, domino, cascade, tsunami, snow-

² The study of diffusion has old roots in anthropology, geography, history, and studies of technology transfer and innovation. Pioneer works on war contagion include Midlarsky (1975), Starr and Most (1976) and Simowitz (1998). On coup d'états contagion, see Putnam (1967), Midlarsky (1970) and Li and Thompson (1975). Sociological studies of predominantly cultural diffusion include Strang and Meyer (1993), Meyer, Boli, Thomas, and Ramirez (1997), and applications to international relations by Haas (1992), Finnemore (1993, 1996), Klotz (1995), Katzenstein (1996), Finnemore and Sikkink (1998), Keck and Sikkink (1998), Lynch (1999) and Checkel (1999). My own introduction to diffusion began with work on science, technology transfer and spinoffs (Solingen 1993a,b, 1994c, 1996a), the spread and consequences of political economy models and democracy across regions (1996b,c, 1998, 2007a), and the diffusion of nuclear weapons (1994a,b, 2007b).

³ Meseguer (2004, 2005), Simmons and Elkins (2004), Gilardi (2005), Jordana and Levi-Faur (2004), Levi-Faur (2005), Jahn (2006), Simmons, Dobbins, and Garrett (2007), and Meseguer and Gilardi (2009).

⁴ I refer to international and transnational diffusion interchangeably in this essay leaving it to others to fine-tune the differences between the two as they relate specifically to diffusion.

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ball, proliferation, contagion, demonstration effect, network externality, spillover, ricochet, ripple or knock-on effect, or tipping point? How can diffusion be measured, estimated, or compared across time and space? Where does diffusion begin and end? Why and when does it halt? What benchmarks can help establish whether and how much diffusion has occurred? When does the rate or speed of diffusion classify as steady or uneven, slow or fast, evolutionary or revolutionary? Answers to these questions will require a long-term, multifaceted, collective effort that might be advanced by shared conceptual building blocks.

This Presidential Address proposes some of those preliminary ingredients for a conceptual framework on the *politics* of international diffusion; provides illustrations from a wide range of issue areas in International Studies; takes stock of some of what we learned thus far on a theme that has defied definitive answers; warns against common selection bias; and develops a research agenda for the study of international diffusion. The remainder of this section introduces those conceptual building blocks that might infuse a common vocabulary to the study of international diffusion: *stimulus*, *medium*, *social agents*, and *outcomes*. I also revisit where we are in the evolving debate over Galton's problem, including the challenge to independence of cases posed by *sedimentation* of prior diffusion waves. The terminology and considerations discussed in this introduction permeate the rest of the Address. What Diffuses (and What Doesn't): Who, Why, and How? delves on some of the politically consequential phenomena that diffuse while warning that our efforts should also be geared to understanding nondiffusion. I draw attention, in particular, to the utility of focusing on *firewalls* that increase or decrease a medium's conductivity along the diffusion path; to the political agents that seek to reinforce or dismantle firewalls; and to the causal mechanisms through which they operate. Spatial, Temporal, and Sequential Dimensions of Diffusion discusses those specific dimensions of diffusion, urging greater attention to regional effects and patterns of directionality (region-to-region, region-to-global, global-to-region). I rely on one example of cross-regional comparisons to illuminate the utility of weaving domestic, regional, and global considerations into a common analytical framework explaining diffusion of regional conflict and cooperation. Outcomes and Desirability of Diffusion highlights the challenges of assessing outcomes of diffusion given competing empirical and normative readings. A discussion of the non/diffusion of nuclear weapons brings to relief many of the points raised in this and previous sections. The conclusions distill broader questions and an agenda for future research.

A useful starting point in the effort to conceptualize international diffusion is Strang's (1991:325) parsimonious definition of diffusion as any process in which prior adoption of a trait or practice alters the probability of adoption for remaining nonadopters. A more complete conceptualization of the *politics* of transnational diffusion, however, requires identification and characterization of four main ingredients that help transcend purely structural or purely agent-based formulations of this process:

1. An initial *stimulus*, trigger, event, model, archetype, or innovation.⁵
2. A *medium*, context, structure, milieu, or environment through which information about the initial event may or may not travel to a given destination.
3. *Social agents* affected by the positive or negative externalities of the initial stimulus, who aid or block the stimulus' journey to other destinations.⁶
4. *Outcomes* that enable adequate discrimination among different degrees of diffusion and resulting equilibria.

Transnational diffusion entails social interaction, where the medium, agents, and outcomes (and sometimes the initial stimulus) transcend the domestic-international divide. The familiar Galton problem—interdependence of cases—resurfaced with a vengeance in recent decades, pitting typical work in comparative politics focused on domestic variables against typical work in international studies more attentive to diffusion. Furthermore, growing interest in links between regional and global diffusion yielded both studies asserting independent regional effects and others that questioned them. Despite a renaissance in the study of regions, however, studies of diffusion have only recently begun integrating all three levels—domestic, regional, and global—under a common theoretical framework. Systematic interactions among those three levels are yet to become a first-order concern: when do their respective effects dominate; when are they mutually reinforcing or mutually exclusive; when are they antecedent or catalytic conditions for diffusion, and how can we best avoid the pitfalls of overstating one or the other. We may have converged, however, in at least a shared understanding that truly independent domains are growing smaller and smaller.⁷ And what is that, if not a macro outcome of prior global diffusion?

We have moved beyond an era where diffusion was not necessarily inherent to the causal repertoire and entered an era where the case for causal independence from regional or global diffusion is much harder to make. Claims that domestic variables alone matter have been found deficient in studies of regulation, democratization, human rights, nationalization, privatization, social policy, ethnic war, the "resource curse," and much more.⁸ And yet, regional or international diffusion may not invariably be a crucial part of the equation. Domestic structures and legacies can be the pivotal medium that facilitates or blocks diffusion or that explains why small external triggers can have

⁵ Of course agents may also free-ride on the assumption that others will advance their preferences for or against diffusion, only to find out that their inaction has led to lost opportunities and their least preferred outcome. Uncertainty about the externalities (in the sense of external effects) compounds other incentives to free-ride.

⁷ One wonders what took so long since political interdependence is not a new phenomenon. Galton even questioned independence among remote, presumably isolated cultures in 1889! Naroll (1973).

⁸ Citing work in this area could fill an entire issue of this journal; the pages of most major journals across international studies are full of examples. In addition to those cited here, see inter alia, Katzenstein (1978), Gourevitch (1978), Meseguer and Gilardi (2009), and an overview in Solingen (2009). For a related debate on domestic politics versus diffusion in international political economy, see Lake (2009) and Oatley (2011). On the assumption of interdependence as more fruitful a priori than the assumption of independence, see Houweling and Siccama (1985) and Franzese and Hays (2008).

⁵ Examples include the bursting of housing or other bubbles, an eruption of protest, a conspicuous triumph or defeat of an important international norm or model, an environmental tragedy, and war.

big effects, as Mr. Buazizi's self-immolation in Tunisia.⁹ As social reality is often even more complex, domestic conditions may themselves be the product of *sedimentation* of prior or historically more remote diffusion (legal norms, for instance, sometimes sediment over centuries). This should sensitize us to the possible presence of second- and third-order effects of antecedent diffusion even where no direct diffusion seems evident. Neither "pure borrowing" (Naroll 1973) nor pure domestic causality can be realistic a priori assumptions except as convenient null hypotheses.

Efforts to understand the sources of the 2011 protest movements worldwide provide a useful window into the mutual interactions (or lack thereof) across the domestic, regional, and global levels, raising at least four possibilities. First is a nondiffusion case: protests can be independent responses to similar or different domestic triggers. Even when regionally clustered, potentially "spurious diffusion" might be at work in a regional clustering that shares a similar distribution of domestic traits, common fundamentals, or structural isomorphism (Braun and Gilardi 2006; Brinks and Coppedge 2006). Second, protests can be independent reactions to a common global source. Some would categorize such protests as nondiffusionary or domestically driven equilibrium responses to a common stimulus. Others might classify them as diffusionary, as when international institutions coerce, teach, or socialize states into common norms.¹⁰ Third, protests could stem from interdependent regional contagion, as in the Middle East. And fourth, protests can result from globally interdependent copycat or other mechanisms.

What Diffuses (and What Doesn't): Who, Why, and How?

Beyond protest movements, many more politically consequential phenomena cross borders: people, capital, property rights, legal models, technology, democracy, markets, flower and color revolutions, conventional and unconventional weapons, electoral and governance systems, economic crises, patterns of state expansion and retraction, regional institutional designs; norms about gender, minority, and children rights; war, peace, knowledge, culture, religion, information, and innovation; and emotions regarding all these and other categories. The international system itself—sovereign constituent states—which was far more geographically bounded in earlier times has also diffused globally (Spruyt 1994; Reus-Smit 2011). Phenomena diffuse at different rates, through different mechanisms, and with diverse effects. Indeed, some do not diffuse at all, warning against common selection bias. Even in a progressively more interdependent world, some things do not diffuse. Understanding what does not diffuse should be as central as what

does, entailing the ability to recognize—as some would put it—why an event or stimulus "stayed in Vegas" (as in "what happens there, stays there"). Why have supranational regional institutions stayed in Europe (for now)? Why have most financial crises not exhibited large international effects? (Kaminsky, Reinhart, and Vegh 2003). Why have lessons learned from Latin American financial crises arguably not travelled to contemporary Europe?¹¹

Nondiffusion entails counterfactuals—what didn't happen—raising difficult analytical challenges worthy of systematic attention (Tetlock and Lebow 2001). Predicting which stimuli will unleash significant diffusion and which will not is exceptionally difficult, particularly due to agents' uncertainty about externalities and free-riding. This is evident from early skepticism in 2011 that small, anomalous Tunisia—not exactly the Arab world's core—could set the tone for the rest of the region. The nature and timing of the initial stimulus influences the probability of diffusion as does the nature of the medium, which can either lubricate or decelerate the motion of the stimulus. The medium might be socioeconomic conditions ripe for diffusing protest, as in Yemen. It may also include firewalls with different degrees of effectiveness, such as natural resources endowing GCC states (but not Qadhafi's Libya) with relative immunity from protest; or structural coercive capacity—and literal electronic firewalls—that enable rulers in Iran and elsewhere to resist diffusion; or a European Financial Stability Facility, Mechanism, or Central Bank providing liquidity and reassurance against Euro Contagion; or actual walls against immigration.

Social and political agents favoring and opposing diffusion must come to terms—under uncertainty—with both a medium's firewalls and structural resources enabling conductivity. Weaker firewalls arguably amplify the externalities of the original stimulus for agents disposed to take action. Stronger firewalls typically dilute incentives to act. Yet Middle East upheavals remind us that loss of fear can overwhelm yesterday's "impregnable" firewalls. Similarly, deception can overpower International Atomic Energy Agency (IAEA) firewalls against conversion of civilian nuclear programs into weapons. Estimating a priori whether political firewalls are robust or feeble, durable or entropic, poses a serious challenge to the study of diffusion but one crucial for our ability to gauge a medium's relative immunity or vulnerability. Some dictatorships were considered unbeatable for decades, until they were. Constructivists labor to distinguish between nascent and entrenched norms in a given medium, with different potential for catalyzing change. Economists develop "contagion vulnerability indices" (Kaminsky and Reinhart 1999) and sovereign risk potential. Open economies and polities may be mediums more permeable to some forms of diffusion than autarkic ones. Crisis conditions can accelerate diffusion under some conditions but erect firewalls under others. Social movements may overcome fear in some cases but be paralyzed by it under other circumstances. As argued, agents have imperfect (incomplete) readings of the medium's possibilities for various reasons. The externalities of the initial stimulus affect

⁹ On "tipping models" and how small changes can yield cascades elsewhere, see Schelling (1978) and Kuran (1989). On norm cascades, see Finnemore and Sikkink (1998) and Sikkink (2011).

¹⁰ Jahn (2006:416) specifies that a common response to global recession in the form of deficit spending is not diffusion; there is no cross-border contagion at work. See also Goodman and Pauly (1993). For Reinhart and Rogoff (2009:240–1), common external shocks are not *automatically* included in their working definition of contagion but can evolve gradually into *spillovers* with serious effects. For Finnemore (1993), socialization by an international institution falls under the rubric of diffusion. For overviews of theories of global protest movements at various levels of aggregation, see Tarrow (2005) and Lichbach and DeVries (2007).

¹¹ Covadonga Meseguer (private communication September 13, 2012).

agents—their preferences and identities—differently; strategic interaction among agents forces swift and ever-shifting adjustment of strategies, all of which burden informational requirements for reliable a priori assessments of diffusory potential, no less in a world of exploding communications technology with varying accurate content.

But who are these political agents lubricating or blocking diffusion? Governments, regional and international institutions, NGOs, INGOs and IGOs, multinational corporations, social movements, think-tanks, political and moral entrepreneurs, hedge funds, credit rating agencies, media organizations, universities, courts, transnational networks, professional associations, migrants, and others. Autocratic leaders can violently repress protest movements, as has Bashar Assad, or co-opt and adapt to them, as in some Asian and GCC countries. Different states seek to hinder or accelerate the diffusion of international power through war, trade, finance, soft power, balancing, or institutions. International institutions can accelerate or contain the diffusion of norms, authority, and best practices. The *acquis communautaire*, for instance, helped diffuse regulations, norms, and practices to an enlarging Europe. The G20 was empowered at the outset of the Great Recession as a firewall against global crisis diffusion. Some bureaucracies seek to halt immigration whereas others encourage it. Particular European leaders and constituencies prefer robust firewalls in the form of common institutional financial pools capable of maintaining tolerable borrowing rates and deterring speculators. Others warn against firewalls that encourage moral hazard or prefer firewalls that socialize the costs unto others (such as the IMF). Legal actors (Germany's federal constitutional court) weigh in on the legality of some of these firewalls. The net result of debates about appropriate firewalls made the Euro contagion crisis more protracted than it might have been, highlighting the fundamentally political nature of non/diffusion.

Agents operate through causal mechanisms—enabled or constrained by the medium—including persuasion, teaching, coercion, signaling, emulation, socialization, Bayesian and non-Bayesian learning, cajoling, shaming, bargaining, adaptation, conditionality, bandwagon, competition, copy-cutting, role modeling, reference-group behavior, relative deprivation, status anxiety, “herding,” and other cognitive biases such as “irrational exuberance,” and a wider range of emotions.¹² Investors' confidence, for instance, is an affective transmission belt translating developments around the world into local market risk. Negative models unleash mechanisms that help diffuse human rights as states distance themselves from low-ranked violators. Competition for status and ranking in a social international hierarchy can drive women's rights (Towns 2010). The Greek debacle inspired fear and triggered “negative emulation,” leading some political agents to warn against, and others to endorse, fiscal austerity.

¹² Causal mechanisms explain phenomena by opening up the “black box” and showing the cogs and wheels of the internal machinery, the continuous and contiguous chain of causal or intentional links between explanans and explanandum (Elster 1989). Causal mechanisms are probabilistic rather than deterministic, and they may or may not be observable (Hedström and Ylikoski 2010). For overviews of causal mechanisms in diffusion, see Ross and Homer (1976), Strang and Soule (1998), Johnston (2001), Elkins and Simmons (2005), Brooks (2005) and Weyland (2007).

Not only emotions but also trade, exchange and interest rates, war, crises, brain drains, democracy, and networks *inter alia* can be studied both as phenomena that diffuse and as vessels or mechanisms for diffusing other things.¹³ International trade agreements and preferential trade agreements (PTAs) act as mechanisms that reassure foreign investors and increase FDI (Büthe and Milner 2008). Trade is also a mechanism for the diffusion of formal labor standards from importing to exporting countries via the so-called “California effect” (Greenhill, Mosley, and Prakash 2009).¹⁴ FDI has been a conduit for the diffusion of Japan's model in East Asia (Pempel 2005). Competition for FDI among (developing) host countries drives the diffusion of bilateral trade agreements (BITs), particularly when competitors already signed BIT's with the same capital exporter (Elkins, Guzman, and Simmons 2006; Neumayer and Plümper 2010). Foreign aid and investment, international reputation, and legitimacy are mechanisms driving adoption of gender quotas (Bush 2011). Transnational feminist movements are mechanisms behind gender mainstreaming by state bureaucracies (True and Mintrom 2001). Human rights diffuse on the back of trade agreements and IGO membership (Hafner-Burton 2009; Greenhill 2010). Stable peace can be both the subject of diffusion and a mechanism for diffusing democracy and economic growth (Rosecrance 1986; Mueller 2004; Gleditsch and Ward 2006; Goldstein 2011). Language can be both firewall and conduit (Ross and Homer 1976), with some theories singling language out as the crucial mechanism facilitating early human migrations (Balter 2011). English has spread as a focal point for international coordination, granting it a form of seigniorage or prerogative. Yet politically consequential counter-linguistic diffusions are continuously in motion; Confucius Institutes are estimated to be teaching Chinese to 100 million people in 103 countries.¹⁵ Technology too can be both firewall and conduit, as is dramatically evident in ongoing contests over democratization.

There is ample diversity in the study of mechanisms. Different substantive phenomena as well as different theoretical, methodological, and epistemological foundations lead naturally to a focus on different diffusion mechanisms. Yet mechanisms often operate in tandem and interactively and are hard to disentangle from each other.¹⁶ They may also work sequentially, as when one mechanism facilitates the operation of another or the medium privileges one or the other over time. Crisis conditions too may facilitate or suppress some mechanisms over others. March and Olsen (1998,

¹³ The literature on networks has exploded in recent years. For a general overview in international relations, see Risse, Ropp, and Sikkink (1999), Kahler (2009) and Hafner-Burton, Kahler, and Montgomery (2009).

¹⁴ The “California effect” was coined in the context of environmental regulatory standards that diffuse from states with a strong environmental agenda to trading partners (Vogel 1995).

¹⁵ Globish is a syncretic vocabulary of about 1,500 words spreading among non-native English speakers that does not necessarily signal a triumphant English culture but rather endows non-native speakers with advantages <http://www.globish.com/>.

¹⁶ This is particularly the case for learning and emulation, the two arguably separated by the extent to which alternatives are thoroughly considered and lessons “rationally” learned, as opposed to merely imitated. The limits to establishing empirically that learning has occurred can be daunting. Furthermore, learning can be filtered by cognitive shortcuts and normative commitments (Jervis 1976; Lee and Strang 2006); or said differently, evidence can be selected in or out. Decision makers may learn different things from average versus outstanding performance (Meseguer 2006).

952–54) identified four main circumstances that could be adapted to understand the operation of instrumental and normative logics in diffusion: (i) Logic A dominates logic B when implications from A are precise whereas those of B are ambiguous; (ii) Logic A establishes the fundamental constraints of major decisions whereas logic B explains only minor refinements; (iii) Logic A may explain initial diffusion patterns whereas logic B assumes primacy subsequently (the first logic is self-limiting, the second self-reinforcing); (iv) Logic A dominates axiomatically (in line with the observer's fundamental views of the foundations of social life as instrumental or rule-based), whereas logic B is a special case or derivative of A. Understanding when these scope conditions underlie non/diffusion is another vital research frontier.

Spatial, Temporal, and Sequential Dimensions of Diffusion

We are only beginning to explore more systematically a range of questions regarding spatial/directional and temporal aspects of diffusion, including: What diffuses (or doesn't diffuse) more commonly or swiftly at the regional than global levels, and why? What specific diffusion patterns and mechanisms operate within versus across regions? Under which conditions region-based externalities or "mimetic isomorphism" overshadow cross-regional ones? Poisson models yielded evidence for coup d'état contagion in Latin America for 1955–1970 and in the Arab world for 1955–1970 (Li and Thompson 1975). Both geographical proximity and outstanding performance explain regional patterns of "learning" to liberalize trade (Meseguer 2006). Capital tax policies in one state are found to be influenced by those of its neighbors (Franzese and Hays 2008). States are found to be more inclined to ratify treaties protecting certain human rights and to use reservations that reduce enforceability, when their neighbors had also done so (Simmons 2009). Mexico's 1994 crisis unleashed "el Tequilazo"—rapid domino-like currency depreciations in other South American countries—and the 1997–1998 financial crisis diffused primarily throughout Asia though both crises had extra-regional effects as well (Reinhart and Rogoff 2009).

Studies found neighborhood effects to have also dominated democratic transitions in Latin America, Eastern Europe, and the Middle East far more so than global ones.¹⁷ Democracy diffused to all of Latin America except Cuba in the 1990s and to Latvia, Estonia, and Lithuania but not to all former Soviet republics. One mechanism explaining why democratic transitions tend to cluster within regions focuses on the role of pivotal states (Patel and Bunce 2012). In the postcommunist world, such states shared an unusual combination of relatively large and developed opposition movements; enduring authoritarians unable to defeat popular mobilizations; geopolitical importance; similar political economies across neighboring states; and powerful international support for incumbents and opposition hinting tolerance for regime change. These conditions in pivotal states sig-

naled the potential for further diffusion of democracy to neighbors. Another mechanism for diffusion of color revolutions was emulation of elite defection and elite-learning models (Beissinger 2007). Regional institutions were also found to be important mechanisms in the diffusion of democracy, even when domestic factors may have played more substantial roles (Pevehouse 2002).

The 2011 Middle East contagion brings the complexity entailed in the study of diffusion to relief, with wide-ranging debates over who the main agents were; what causal mechanisms dominated (food prices, youth unemployment, learning, emulation, and identity, inter alia); the varying mix of firewalls and conductivity in the relevant medium; spatial and temporal patterns (direction of contagion, duration of gestation); and the nature and durability of the outcomes. While the role of social media is often cited as a core transmission belt for diffusion, the most affected states were less endowed in them than those less affected. Indeed, Aday, Farrell, Lynch, Sides, and Freelon (2012) found new media—bit.ly links, especially Twitter—not to have played a significant role in either coalescing collective action within countries or underpinning diffusion regionally. That type of media, however, would have been more likely to spread information beyond the region than within it. The direction of diffusion hailed from Tunisia to Egypt, Yemen, Libya, and Syria, but higher firewalls in Iran, Algeria, and the GCC among others leave future diffusion trajectories open-ended.¹⁸ Even assuming primarily regional—rather than global—sources of diffusion for those upheavals, their effects leapt into both adjacent non-Arab states (to Israel no less) and more remote regions, from sub-Saharan Africa to Myanmar, Malaysia, Chile, Wall Street, Frankfurt, Madrid, and Moscow, although with varying intensity and through diverse mechanisms.

A vital tool for understanding intraregional diffusion is to engage in inter-regional comparisons (Meseguer and Gilardi 2009). In earlier work along these lines, I found that dominant ideal typical political economy models—inward-looking versus internationalizing—in a given region deeply influence the shape of regional orders and diffusion patterns.¹⁹ Leaders logroll across different domestic constituencies spanning state and society to form coalitions in order to gain and survive in power. Inward-looking coalitions gather economic protectionists, often including expansive military industrial complexes. Internationalizing coalitions, by contrast, marshal supporters of export-led economic growth via integration in the global political economy. This strategy makes them allergic to regional conflict that can disrupt those objectives. An internationalizing cluster diffused throughout East Asia through various mechanisms including learning, competition, and emulation of successful models of political survival. This cluster became collectively stable over time, rein-

¹⁸ On natural resource rents and foreign aid as increasing the odds of authoritarianism in the face of revolutionary pressures, see Bueno de Mesquita and Smith (2009).

¹⁹ Weberian ideal types are limiting conceptual constructs or abstractions that need not fit every case or indeed any particular case completely but rather provide a heuristic, a helpful shortcut, and a comparative framework capable of reducing complex reality down to some fundamentals (Weber 1949; Eckstein 1975; Ruggie 1998). In praxis, there is a continuum between the two ideal types. "Internationalizing" points to an evolving empirical approximation to the "internationalist" ideal type (Solingen 1998, 2001, 2007a).

¹⁷ According to Gleditsch and Ward (2006:916), "since 1815, the probability that a randomly chosen country will be a democracy is about 0.75 if the majority of its neighbors are democracies, but only 0.14 if the majority of its neighbors are nondemocracies." See also Starr and Lindborg (2003).

forcing each other's model and the cooperative regional order it engendered. The stronger a region's critical mass of internationalizing models, the easier it is for those models to diffuse to neighboring states. As a result, East Asia went from leading the battle death count in the 1950–1960s—under inward-looking models—to a Pax Asiatica now several decades old (Solingen 2007a). Internationalizing models progressively evolved into firewalls helping to prevent the diffusion of war since 1980, thus far, despite latent frictions and recurrent predictions of impending war in East Asia.

By contrast, an inward-looking cluster diffused in the Middle East since the 1950s and became collectively stable for decades. Feeding on each other's existence, dominant coalitions in this cluster created an environment more immune to internationalizing models and regional cooperation. Nasser and his allies exerted their inward-looking model on neighbors largely through war, coercion, and emulation, from North Africa to the Levant. The stronger the region's critical mass of inward-looking models became, the more robust were the firewalls against diffusion of internationalization and peace. These tendencies were a matter of relative immunity only. Some states sought to learn from or emulate East Asian models even in the Middle East, including some GCC countries, Jordan, and Morocco. Conversely, North Korea's autarkic regime erected harsh firewalls against internationalization even in East Asia, all of which make regional anomalies—resistance to diffusion—especially interesting.

Although attentive to the relative strength of domestic coalitions, this cross-regional theoretical framework should not be confused with one that reduces outcomes to domestic politics. Rather, it is by definition a framework that hinges no less on the regional coalition center of gravity and global political and economic macro-processes; both have crucial distributional consequences for the domestic competition between the two models. Coalitions are creatures of their domestic, regional, and global environments, an analytical category highly permeable to international diffusion.²⁰ Indeed, the ideal typical East Asian and Middle Eastern models briefly described here were themselves partially the result of emulation and learning from other parts of the world as well as of sedimentation and internal legacies.²¹

Strategies of deeper engagement with the global economy in the latter part of the twentieth century diffused within East Asia far earlier than among other regions, following the Japanese model captured in the “flying geese” metaphor. Successive “tigers” and “dragons” adapted the model to diverse local circumstances in Taiwan, South Korea, Hong Kong, Singapore, Malaysia, Thailand, China, Indonesia, and Vietnam. The economic success of these models led to a pattern of outward but uneven region-to-global diffusion. Ruling coalitions from Turkey to Chile and Brazil adapted components of East Asian models in the late

1970s and more pronouncedly in the 1980s. Learning, emulation, competition, and socialization via international institutions appear to have been crucial mechanisms, but we have much more to learn about who learned or emulated, when and why (even if they did not succeed), who didn't and on what grounds, and why cycling recurs.²²

Dedicated studies of emulation and socialization, “random walks” stochastic models, process tracing, and an array of other methods can help map sequential trajectories, whereby models diffused (or didn't diffuse) to neighboring states and subsequently either stalled or leapt globally. Clearly, domestic firewalls in the form of dominant inward-looking coalitions—and their regional externalities—explain the very limited diffusion of East Asian models to the Middle East for decades. A natural experiment—the 2011 upheavals and the potential reshuffling of ruling coalitions in the Middle East—may allow us to examine whether those firewalls are waning or strengthening even further.²³ These examples suggest a related research frontier on directional aspects of diffusion: mapping which regions are more frequent senders or receivers of particular contents of diffusion. Such trends are highly dynamic. East Asian states are often considered to have been largely senders of technological innovation a millennium ago; mainly receivers in the nineteenth century; and, as argued, prolific contemporary sources of economic growth models, savings rates, and PTAs (as well as syncretic religious and meditative health practices, not to mention culinary tastes and fashion).²⁴ Decolonization independence movements also spread from Asia to Africa.

The preceding discussion also suggests that regions are inserted in a global system to varying degrees over time, with different effects. Even the 2011 Middle East upheavals might be traced to 2nd- and 3rd-order effects of the global financial crisis that had achieved varying degrees of sedimentation in the domestic politics of different states. Whether or not regional effects are more or less dominant than cross-regional or global ones in a globalized world remains another important research frontier. Furthermore, regions are as much political as geographic concepts, and different agents have different referents in mind when it comes to emulating or learning.²⁵ Citing Tobler's Law (“Everything is related to everything else, but near things are more related than distant things”), Franzese and Hays (2008:745) also emphasize that spatial

²⁰ As Gleditsch and Ward (2006:918) argue, “one can think of diffusion in terms of how linkages to external actors and events influence the relative power and the likely strategies and choices of relevant groups in struggles over political institutions and outcomes.”

²¹ Many inward-looking coalitions modeled themselves—in political economy terms—around the nationalist imperial commercial strategy so aptly described by Hirschman (1945) in his analysis of Nazi Germany or around more contemporary variants of which early Peronism and Nasserism were prominent examples.

²² On competition for global capital as a driver of economic liberalization, see inter alia Goodman and Pauly (1993) and Simmons and Elkins (2004). On learning, see Meseguer (2006). On coercion and socialization by international institutions, see Haggard and Kaufman (1992) and Finnemore (1996), respectively. On the effect of democracy on trade liberalization, see Milner and Kubota (2005). Focusing purely on outcomes—who internationalized—can miss much of the process and causal mechanisms leading to success or failure to internationalize.

²³ Segments of Egypt's Muslim Brotherhood advancing a “Renaissance Project” arguably designed to promote high economic growth through industrial and agricultural exports, good governance, and investments in education and health visited Japan, South Korea, Singapore, India, Turkey, Germany, and Brazil, presumably to learn from their experiences. Competing segments favor reinstatement of inward-looking (including Nasserite) political economies.

²⁴ FTAs involving Asian states proliferated from 5 in 1989 to 250 proposed, under negotiation or concluded in 2012. This domino accelerated by 2004, and many trace it largely to the same external trigger: failure of the multilateral Doha negotiations (Asian Development Bank 2012).

²⁵ Solingen (1998), Katzenstein (2005) and Mansfield and Solingen (2010).

interdependence is not limited to physical distance. States are found more likely to initiate and use human rights prosecutions if culturally similar neighbors sharing language or religion—not reducible to geographic adjacency—have done so (Kim 2012). Brooks (2005) finds the adoption of pension privatization in Latin America, Eastern Europe, and Central Asia to diffuse horizontally across “peer” rather than neighboring states (but not so for advanced industrialized states, where domestic drivers are dominant). The democratic peace diffuses among democracies via strategic tagging, liberal alliances, and collective security mechanisms (Cederman 2001). PTAs are found to diffuse faster among democracies (Mansfield and Milner 2012) as do other dimensions of legalization in international affairs such as human rights (Kelley 2007). Famine, on the other hand, is less likely to diffuse in democratic contexts (Sen 1999). The downsizing of public sector employment in the OECD diffuses among trade partners and geographically proximate states, but all US trading partners are influenced by its upsizing or downsizing (Lee and Strang 2006). Market-conforming tax reforms in the 1980s also diffused from the United States to OECD countries (Swank 2006).

Some students of culture dwell on other spatial patterns, such as what diffuses from the West to the rest or vice versa. Women’s rights spread as Western norms for some but not for others. Nationalism diffused from Europe outwards through colonialism, coercion, imitation, and domino effects in the nineteenth century, and in turn, nationalism led to the second stage of expansion of the nation-state system in the twentieth century (Tilly 1975). Studies in international political economy focus on phenomena that diffuse from poor to rich states (such as labor) and vice versa (classically capital, more recently financial crisis). Both the pace of globalization and the ferocity of the recent economic crises are changing the nature of net capital flows, and long-standing classifications of rich and poor are becoming more ambiguous.²⁶ Studies in international security seek to map the diffusion of power in the early twenty-first century arguably from North to South and West to East. Nuclear weapons technology used to flow from rich to poor states once, but Pakistan and North Korea are changing that market for diffusion. Horowitz (2010) finds that international diffusion and organizational capabilities explain adoption of suicide-bombing techniques.

Beyond spatial considerations, many of the examples discussed throughout also raise questions of temporality and the difficulty in gauging time independence of events, another important research frontier. Were decolonization nationalist movements or protest movements in 2011, 1968, 1848, and 1830 clustered temporally by chance or due to diffusion (Strang 1990; Weyland 2009)? Houweling and Siccama (1985) hypothesize that processes of (time-dependent) war addiction and (space-dependent) infection result in predominantly regional effects. The underlying mechanism points to war between two states in a region as decreasing the fear that either will intervene in neighboring states, thus increasing the latter’s opportunity to launch their own wars. In other words, their finding

supports arguments that a major cause of war is war itself—war begets war—and that first-order war initiators often cannot control its diffusion. Civil wars too are found to cluster in time and space, with transnational ethnic linkages and refugee flows acting as key mechanisms of conflict contagion (Salehyan and Gleditsch 2006; Buhaug and Gleditsch 2008). Arms races tend to be temporally and regionally clustered and interactive, in line with adjacent enduring rivalries. When anti-autocratic upheavals take place in close temporal sequence, a greater role for external (regional or international) factors is sometimes suspected. Independent domestic causes—virtually identical “ripeness”—may also be at play but diffusionary tipping points can provide the coup de grâce. *Sedimentation* of prior or historically remote diffusion of other contributing factors—economic crisis—can make such outcomes even likelier. Even when domestic variables may account for a significant portion of the variance, timing and temporality in a regional or global context may play catalytic roles.

Finally, several examples bring to relief another dimension of temporality: phenomena do not normally diffuse transnationally in isolation but in bundles (of aid, trade, technology, and experts, for instance). This concomitant or near simultaneous diffusion makes it hard to tease out elements in the medium that enhance or inhibit diffusion of all others. Although methodologically exacting to untangle, attention to temporal sequences—the order or progression of diffusing phenomena—can be crucially important to unpack endogeneity and contingent effects. Does diffusion of markets precede or follow diffusion of democracy?²⁷ Is regionalization—the intra-regional diffusion of economic and other exchanges—a precursor for the diffusion of regionalism as a political project, or vice versa? Does resource scarcity herald civil war prior to the environmental disruption those very wars create?

Outcomes and Desirability of Diffusion

The politics of international non/diffusion are about social change, or its absence. Diffusion can alter regional and global distributions of power, authority, inequality, labor, information, and much more, even the very boundaries of regions. Some see diffusion of international power—greater multipolarity—as inducing greater equality and new global governance mechanisms. Others foresee dilution of human rights and democracy norms with ascendant BRIC and G-20 states. Emulation of first movers may lead to greater cooperation with late movers but also to resentment. Some view diffusion of capital, technology, and markets as harbingers of more egalitarian economic capabilities across states; others see them as perpetuating skewed distributional effects within and across them. The diffusion of mobile phones into industrializing countries enables financial transactions and savings among the very poor but also makes transnational crime more efficient. Diffusion of PTAs advances a world of open economies for some but weakens universal nondiscriminatory rules for others.

²⁶ By one estimate, 19 of the top 30 economies in 2050 will be states that today are considered “emerging,” which will contribute twice as much to global growth as developed states (Ward 2012).

²⁷ Milner and Mukherjee (2009) find that democracy enhances trade and capital account liberalization, but the evidence for a positive effect of economic openness on democracy among developing countries is weak.

Human migration has literally changed the world in myriad ways. It can create dislocation but is also a major source of capital for many developing countries via remittances (Singer 2010). Democratic institutions in developing countries encourage FDI diffusion through some mechanisms but discourage it through others (Li and Resnick 2003). Whereas agents of counter-religious diffusion such as biologist Richard Dawkins see an approaching tipping point for a secularist wave, others predict deepening religious commitment. Despite ample consensus on the disastrous effects of human-induced climate change, significant disagreement over its consequences for conflict remains (Salehyan 2008). Spreading housing crises can lead to Great Recessions and hegemonic decline but also to resurgence (Schwartz 2009). Unwanted diffusion of financial crisis has led to unmitigated calamity but some credit it with ripening conditions for Middle East uprisings. The latter's diffusion, in turn, has arguably advanced democracy by some readings but could substitute one autocracy for another in alternative scenarios (Brown 2011; Anderson and Muasher 2011). As some of these examples suggest, different causal mechanisms diffusing the same phenomena may lead to conflicting outcomes, contingent on the medium, agents, firewalls, and sedimentation. The latter, in particular, can make domestic actors and institutions more likely to favor some mechanisms and outcomes over others.

Empirical studies have also addressed the question of whether or not greater convergence is a generalized outcome of diffusion, particularly under globalization (Kahler and Lake 2003). IGOs are found to have strong converging effects on their member states' domestic economic policy, particularly via learning (Xun 2009). Some sociological theories analyze world culture and patterns of "institutional isomorphism" shared across different countries (Powell and DiMaggio 1991; Meyer et al. 1997). Others find that states resist cultural homogenization and dilution of national identity by blocking diffusion of "culture industries" (Goff 2002). Trends toward downsizing the state generate homogeneity but not uniformity or isomorphism (Lee and Strang 2006). Domestic structures and institutions filtering diffusory effects work against homogeneity (Katzenstein 1978; Keohane and Milner 1996; Campbell 2004). The effects—nature and magnitude—of rising capital mobility depend on the constellation of tax and broader economic systems with which states compete (Franzese and Hays 2008). Domestic path dependence often tames the effects of even major economic shocks (North 1990). The diffusion of an American legal regulatory style is found not to entail convergence partly because the model itself is continuously evolving (Kelemen and Sibbitt 2004). The diffusion of the EU model yielded significant variation in institutional and behavioral outcomes across member states, accession candidates, and the European neighborhood (Börzel and Risse 2012). The 2011 Arab uprisings may have typically enhanced the role of Islamist parties, but isomorphism among Egyptian, Tunisian, and Libyan models does not seem to be emerging. And so on. Convergence may thus be akin to the proverbial railroads that deceptively seem to join on the horizon but never effectively meet.

Not only are outcomes of diffusion often contested on empirical grounds, but there is also the challenge

of establishing when outcomes can be considered outcomes, given uncertainty over whether or not a new equilibrium has been reached or further diffusion will ensue. The observer can easily misjudge the durability or permanence of what is or isn't diffusing in a nonergodic social context with unique or varying transition probabilities. Transnational diffusion, retraction, and cycles are common in human rights, democracy, nationalism, privatization, economic openness, and other political phenomena. At most, we can identify snapshots under specific world times. And the very identification of snapshots influences how agents respond to further diffusion and alter its path, akin to Heisenberg's "uncertainty principle." The identification of an Arab Spring triggered firewalls within and beyond the region. Conversely, agents can change the odds of diffusion by learning from, improving and diversifying causal mechanisms, and adapting them to their medium and to levels of sedimentation of prior diffusion. Human agency, strategic interaction, contingency, and unintended effects thus burden prediction. Even discrete snapshots of diffusion, however, can capture the evolutionary or revolutionary nature of specific instances of diffusion, the speed with which they happen, and the depth of change they elicit.

Beyond conflicting empirical assessments, outcomes of diffusion are also often contested on normative grounds. Some may view the diffusion of a "Beijing consensus" as an improvement over a "Washington consensus" whereas others do not. The benefits of liberalized capital flows are offset by the disruptions—including banking crises—they can unleash. Wikileaks, as so much else in the social world, had both desirable and undesirable outcomes. Communication technology aids agents and opponents of democratization at once, terrorism and counter-terrorism alike (Steele and Stein 2002). High consensual knowledge on the global diffusion of environmental devastation has not yet led to appropriate collective action. And despite widespread agreement on the desirability of democracy and human rights, concerns with appropriate mechanisms of diffusion and unintended effects remain. Such disagreements have arguably enabled Syria's dictatorship to sacrifice over 20,000 lives. Nor has high consensus on the undesirability of financial crisis contagion yet led to consensus on appropriate firewalls. This is partly the case because different firewalls have different implications for the kinds of arrangements in state-society relations—including democracy itself—that might emerge in the post-crisis era.

Another classical and contemporary theme—the diffusion of nuclear weapons—brings together several points discussed thus far. The nonproliferation treaty (NPT) is widely considered to be a seminal stimulus that ushered in a new "worldtime" or global historical context. Conceived of as a firewall against further diffusion of nuclear weapons over the 1960s, and concluded in 1968, the NPT was to influence the calculus of potential late movers by raising the costs of nuclear weapons' acquisition. An initial wave of early ratifiers (1968–1971) was followed by two temporal clusters of ratification (1972–1975; 1990–1995). We have limited systematic consensual knowledge of the causal mechanisms explaining ratification by *all* non-nuclear weapons states, including those temporal clusters. The

NPT's conclusion may have triggered the initial clustering, but ample contention remains regarding whether or not these waves resulted from (i) parallel independent choices responsive to domestic conditions unrelated to the NPT; (ii) parallel independent choices responsive to the common "shock" (NPT conclusion); (iii) parallel interdependent choices responsive to major power preferences, coercion, or persuasion; (iv) parallel interdependent choices stemming from maturing global norms regarding nuclear weapons' acquisition (as distinct from norms about use); or (v) parallel interdependent choices pegged to the behavior of neighboring or other relevant states who signed, ratified, or abstained from NPT membership.

A mechanical, reactive, system-level emulation of rival states has traditionally reigned supreme as (neorealist) explanations for nuclear acquisition by states considering that option during and after NPT negotiations. This was as close a theoretical exponent of "pure diffusion" in the area of nuclear proliferation as one can get. While deductively elegant *prima facie*, that theory has been found underdetermining (conjuring up multiple possible outcomes), empirically deficient, competing weakly with alternative explanations in what should be this theory's best arena of argumentation, unable to forecast non/diffusion patterns accurately, and invariably requiring additional information unrelated to its core assumptions.²⁸

The study of why and when where nuclear weapons dis/favored by states considering acquisition since 1970 has suffered from scant attention to important omitted variables. Among them, the nature of ruling coalitions and models of regime survival (internationalizing versus inward-looking) provide important clues for estimating both domestic and diffusionary—regional and global—sources of nuclear choices under that world time. Different models were more or less susceptible to different forms of diffusion. Demand for nuclear weapons was more likely to diffuse among inward-looking than internationalizing models. Nuclearization entailed fewer costs for models rooted in protection of uncompetitive national industries, sprawling state enterprises and ancillary military industrial complexes, and mistrust for international markets, institutions, and foreign investment. Conversely, several mechanisms linked nuclear weapons' renunciation to models emphasizing economic growth through global integration. Nuclearization burdened efforts to enhance exports, economic competitiveness, macroeconomic and political stability, and global access—all objectives of internationalizing models—while strengthening state bureaucracies and industrial complexes opposed to economic transformation. Denuclearization was thus often embedded in a broader strategy of internationalization.

For neorealist theories assuming that automatic responses follow from a neighbor's nuclearization, neighborhood effects are deterministic. Yet such effects were largely mediated by more contingent political configurations, notably the extent to which the region's center of gravity was internationalizing or inward-looking (contrast, for instance, post-1970 East Asia with the Middle East). The relative regional inci-

dence of either model—critical mass or tipping point—influenced nuclear decisions more than a neighbor's nuclearization *per se*. The latter did not lead inexorably to the reactive nuclearization of others as auto-pilot responses to presumed system-level diffusionary adjustments to changing levels of relative power. The high presence of inward-looking *political* models in a region made diffusion far more likely. The models-of-regime-survival framework thus offer an important heuristic informing the probability of nuclear weapons' diffusion. It provides (i) a theoretical alternative that returns politics to center stage, replacing older mechanistic, apolitical theories; (ii) an important analytical pivot for estimating the relative potential of other diffusionary mechanisms such as "reactive proliferation," sedimented norms, and international institutional socialization; (iii) the conditions under which coercion, imitation, herding, "irrational exuberance," and competition, among others, become more or less significant diffusion mechanisms; and (iv) an integrated conceptual mapping of synergistic domestic, regional, and global firewalls against nuclear weapons' diffusion. Severe disruptions and downturns in the domestic, regional, or global political economy can undermine internationalizing models and with them, an important firewall against further diffusion of nuclear weapons.

It is emblematic of the challenges inherent in the study of diffusion that no consensus exists on whether the present outcome—nine nuclear weapons' states and counting—is a success story of nondiffusion (no runaway proliferation dominos) or a slow-moving increase in nuclear weapon states that could dangerously approach rapid diffusion in an S-shaped curve process. Nor is there consensus on whether a presumed success might be a triumph of restraint—many states permanently opting not to convert technical capabilities into weapons—or of hedging. Substantive disagreement remains over whether the NPT is an impressive, most highly subscribed international security treaty gathering 190 states, or a frail firewall unable to prevent determined violations. Further contention exists on whether the IAEA is an effective mechanism for diffusing nuclear energy or one unintendedly spreading nuclear weapons know-how, and whether learning and socialization within the broader nonproliferation regime buttresses its survival or fails to stem its deterioration.

Indeed, deep discrepancy remains among those for whom the diffusion of nuclear weapons is a great equalizer—"more is better" in Waltz's unforgettable rendition—and those for whom such diffusion is a recipe for wholesale destruction of the world as we know it.²⁹ Extant levels of diffusion have exacerbated debates on whether the evermore complex multilateral nuclear deterrence geometries transcend old theories on the prospects of nuclear proliferation and use. The degree to which proposals for a Global Nuclear Zero (no nuclear weapons) diffuse worldwide—on the back of utilities and/or norms—may provide answers for some of the quandaries raised here. Yet remaining skepticism regarding these proposals questions the extent to which learning about the horrors of nuclear

²⁸ The leading neorealist rendition of structural power as the driving force in nuclear choices is Waltz (1981). For a critique and evaluation of this and other theories of nuclear behavior, see Solingen (2007b).

²⁹ On the flaws of both Waltzian-like theories acquiescing with nuclear weapons proliferation and of beliefs that a taboo restrains their use, see Heisbourg (2012).

war has been internationally sedimented into an enduring firewall. Challenges to the broad institutional framework of the nonproliferation regime over the decades often triggered waves of increased effectiveness in its mission. Whether or not contemporary tests—particularly Iran and North Korea—can lead to a more robust or compromised firewall remains a crucial concern.

Conclusions

The Great Recession, Middle East upheavals, and concerns with nuclear proliferation have only reinforced a much broader and consistent interest in the study of international diffusion. We labor to understand diffusion only to appreciate even more deeply its elusive nature. It is sobering to acknowledge that extant knowledge of the politics of international diffusion has not necessarily led to better prediction of important waves of democratization (1989 and 2011), financial crises (2007–2008), and other phenomena. Even when prediction may not be the objective, four main considerations can contribute to analytical progress:

1. Improved analysis of diffusion can benefit from systematic attention to the initial *stimulus*; the *medium* through which information about the stimuli may/may not travel to a given destination; the political *agents* un/affected by the stimulus' positive or negative externalities and their roles in aiding or blocking the stimulus' journey to other destinations; and *outcomes* that enable discrimination among grades of diffusion and resulting equilibria. The speed of diffusion, for instance, may be a function of attributes of the stimulus (a spontaneous occurrence or a well-theorized model? A global shock or a local trigger?)³⁰; the medium (does the balance of informational and other resources advantage diffusion or firewalls?); agents of diffusion and counterdiffusion (does the balance of legitimacy and relative power advantage one or the other?); and interim outcomes (do they favor beneficiaries of diffusion or counter-diffusion? Do they signal stable equilibrium?). This framework can also help elucidate when causal mechanisms are mutually reinforcing or contradictory, and whether they line up in the right sequence and at the right timing, all of which can affect the speed of diffusion.
2. The extensive use of forward slashes (as in non/diffusion) in this essay suggests that a superior understanding of diffusion requires attention not only to what diffuses but also to what does not. The "Vegas counterfactuals" raise difficult analytical challenges but cannot be ignored if one is to avoid selection bias. Crucial in this regard are auxiliary concepts such as *firewall*, so central to a world of strategic interaction and political resistance.

³⁰ Strang and Meyer (1993) suggest that well-theorized models and clearly articulated cause-effect schemes are more likely to diffuse faster. Speed, however, is unrelated to standard mappings of diffusion as an S-shaped curve (Schelling 1978) that rises slowly initially but accelerates at a certain point before tapering off. The S-shaped process can take days or centuries.

Political agents with imperfect readings of the medium's possibilities cannot always assess the robustness of firewalls accurately, influencing the incidence of free-riding and increasing uncertainty and unpredictability. Yet proper estimation of the strength of firewalls is crucial for our ability to gauge a medium's relative immunity or vulnerability to diffusion. Weaker firewalls arguably amplify the original stimulus' externalities for agents disposed to take action (on behalf of democracy, for instance). Stronger firewalls typically dilute incentives to act, reinforcing a medium's immunity against diffusion. Prior diffusion, via different degrees of *sedimentation*, can alter the nature and strength of firewalls, and hence the medium's conductivity. Agents erecting or dismantling firewalls can change the odds of diffusion by learning from, improving, diversifying, and adapting causal mechanisms to their medium and to domestic levels of sedimentation.

3. The coalitional analysis of regional orders discussed here suggests that studies of international diffusion may benefit from efforts to integrate domestic, regional, and global considerations under a common theoretical framework. Such efforts enable systematic cross-regional comparisons and proper attention to spatial, directional, and temporal aspects of diffusion, including what diffuses (or doesn't diffuse) more regularly or faster at the regional than global levels; what explicit diffusion patterns and mechanisms operate within versus across regions; what regions are more frequent senders or receivers of particular contents of diffusion; and when do regional effects remain dominant over cross-regional or global ones despite a globalizing world. Although sensitive to global and regional diffusionary effects, coalitional analysis brings domestic politics fully into the framework, compelling a proper understanding of how leaders logroll across constituencies, parties, and institutions to advance their favored model of political survival. Political agents are crucial to spillover, tipping points, cycling, demonstration effects, learning, emulation, and ancillary processes. The framework thus imbues the study of diffusion with political dynamics that avoid determinism, automaticity, or teleology. International politics do not motion seamlessly on a single plane between dominoes and firewalls, in one specific direction, linearly, through single mechanisms, with finality and unique outcomes. Cycles, loops, and periodicity are ubiquitous, making outcomes—social change—hard to predict.
4. Much work remains in efforts to identify scope conditions for the operation of causal mechanisms and for variations in outcomes. Similar mechanisms may yield different outcomes under different domestic, regional, and global conditions. And different mechanisms may yield similar outcomes under comparable circumstances. As many of the

examples here suggest, similar diffusion outcomes need not stem from identical causal mechanisms; different mechanisms may follow different temporal sequences under different world times; some mechanisms may have more enduring effects than others; mechanisms and “contagion vulnerability indices” may vary across regions, regime types, and political economy models; and regional-to-global mechanisms of diffusion can vary widely from those observable within regions.

These considerations and others manifest themselves across diverse issue areas where diffusion begins with stimuli that may (or may not) change preferences, transform identities and trigger emotions, alter strategic choices, and affect outcomes. Along the way, the role of agents, nature of firewalls, levels of sedimentation, and contextual world time are crucial pieces in the diffusion puzzle, elucidating the causal mechanisms that connect stimulus with outcome. The overview also highlights that decomposing complex phenomena (democracy, human rights, economic liberalization) into constitutive components can improve our grasp of what does/does not diffuse; that sedimentation may make unqualified claims of independence problematic; that different phenomena may exhibit different patterns of regional-to-global, global-to-regional, and region-to-region diffusion; that regional effects may reinforce or arrest global diffusion and vice versa; that timing can be crucial to the duration and speed of diffusion; that, just as similar biological species that diffuse to dissimilar environments produce new species, convergence is not necessarily an outcome of international diffusion; and that, in any event, diffusion in the realm of strategically interactive human behavior hardly ever resembles “copy and paste.”

There is much work ahead to improve conceptualization, measurement, and theoretical specification of stimulus, firewalls, causal mechanisms, relative immunity (conductivity, ripeness), and benchmarks for assessing outcomes across time and space. All these can benefit from systematic attention to domestic correlates of non/diffusion—actors, regime type, institutions, political parties, models of regime survival, degrees of antecedent sedimentation—weighing heavily on immunity or receptivity to non/diffusion. Our intellectual diversity—substantive, methodological, epistemological—sometimes leads us to describe discrete parts of the phenomenon, although that may not be the only reason for why a genuine understanding of the whole elephant eludes us. Still, reliance on wide-ranging techniques from process tracing to ethnography, agent-based simulations, case studies, spatial statistics, and spatial econometrics among others enables potential synergies in search for understanding mechanisms and gauging independence among observations. Franzese and Hays (2008:760) argue that studies can no longer ignore interdependence, that doing so raises wide-ranging endogeneity and omitted variable bias, and that the methodological challenges entailed apply to both quantitative and qualitative research. Work on diffusion, as on many other topics, yields evidence with heuristic value far more often than definitive explanations. Yet the explosion of data

and growing sophistication across methods provide new opportunities. International diffusion can indeed change not only the reality “out there” but the way we study it and our evolving toolkit. Nor should fruitful exchanges stop at the social sciences’ edge. Insights into contagion, firewalls, medium, conductivity, sedimentation, and immunity connect seamlessly with the natural sciences. Those synergies can emerge not only at the conceptual level but in areas where politics are crucial to the translation of risk into actual diffusion of environmental degradation, disease, and other public bads.

Improved conceptualization and cross-disciplinary collaboration may provide better answers to many of the “why” questions raised here, including why some things diffuse and others not, why at some points in time but not others, why more furiously than gradually, why in certain directions but not others, and why firewalls are sometimes overcome. We may also uncover what phenomena are more likely candidates for “black swans” of diffusion that diffused very rarely in the past, even if past performance is no guarantee of future results³¹; whether states learn more from, or emulate, their enemies than their friends; why globalization may favor diffusion of certain traits (in states, individuals, and institutions) not selected for in earlier times; which stimuli or models rank higher in their potential for externalities; when does the power and identity of early movers block or decelerate adoption by others; when are late-mover advantages more likely and their payoffs more rewarding; when does the probability of “congestion” (resulting from too many unappealing expected adopters) block or decelerate the model’s diffusion; when and why is trust contagious; why and how do poverty and inequality waves diffuse and retract; whether global political hierarchies enhance or inhibit diffusion; how do agents’ positions in a network affect diffusion and firewalls; how stable is the presumed diffusion of interstate peace; whether emigration enhances democratization in sender countries via remittances; when does spatial proximity enhance or undermine the diffusion of cooperation; whether technology has affected the relative speed of diffusion, typically considered to have been slower for cultural, demographic, educational, and legal patterns than for financial crisis, political mobilization, ethnic war, trade, arms races, or regime change; and many, many other discrete puzzles and Big Questions regarding the political sources, nature, and outcome of international diffusion.

As this Address suggests, our many quandaries lead to even more questions. This is not a sign of disciplinary failure, particularly given the hard questions asked.³² Ignorance—unanswered questions—and knowledge are mutually constitutive and coevolving. Whether or not progress ensues hangs on the quality of the questions being asked, and on that, we seem to be on the right track.

³¹ On “black swans,” see Taleb (2007). Reinhart and Rogoff (2009) classify the “Second Great Contraction” as the only global financial crisis in the post-World War II era.

³² On Big Questions, see Tilly (1984). For a landmark stock-taking of what we don’t know across most disciplines, see *Science Magazine* 125th Anniversary issue (Siegfried 2005). Not listed in that source is the fact that we still don’t know why yawning is contagious (even over the phone)!

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