

# The U.S. Imperial Jugger-*not*: Saturation Points and Cultural Globalization

Meg Spohn Bertoni<sup>1</sup>

**Abstract:** Globalization is not merely inevitable western cultural conquest. The assumption that the juggernaut of western hegemonic domination will continue until the world is consumed is a common one, but not an accurate one. That accuracy is compromised by a number of related misconceptions about the nature of globalization. Some of these have to do with an attachment to dichotomy in a world too complex for dualism. Some of them are related to assumptions about the nature of trade, of trends, of inevitability, and of statistical prediction that turn out not to be accurate—and by extension misconceptions about the unidirectionality of cultural exchange. Most are related to misconceptions about the nature of culture—particularly in oversimplifying, and making strange assumptions about, nonwestern cultures. Cultures change over time, with generations and historical forces—today’s cultural changes make up tomorrow’s cohesive culture. Cultures die not when they change to reflect the new attitudes and lifestyles of the peoples who live in them, but when they stagnate and become static, preserved only in museums, artifacts and books, and not in the everyday lives of the people themselves. Finally, phenomena do reach a saturation point, from biological populations to the motion of catamarans to absorption of cultural values, and these can be observed using methods of nonlinear dynamics. This project considers common misconceptions about globalization and culture, and uses concepts from nonlinear dynamics to expose the nature of the movement and saturation points of cultural globalization.

**Keywords:** Complexity, culture, domination, dualism, globalization, international system, nonlinear dynamics, non-western, prediction, self-organization, saturation points

## Introduction

In recent years in international relations, globalization has become a major area of study. No wonder—it touches every other area of interest in international relations, and its effects are clear to people around the world. However, a number of misconceptions about it have been popularized, among scholars, students, and members of the general public alike. One of the most pervasive is that globalization is merely inevitable western cultural conquest. The assumption that the juggernaut of western hegemonic cultural domination will persist until the world is utterly consumed is a common one, but not an accurate one.

A large part of the misconception problem is the ways in which scholars and journalists have been trained to think about global phenomena, which permeates the ways in which they write

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<sup>1</sup> Meg Spohn Bertoni, Ph.D., is on the Liberal Studies faculty at the University of Denver’s University College. She has been working on nonlinear dynamics approaches to solving post-Cold War theory problems in international relations since the early 1990s. Email: mspohn@du.edu



about it and inform others. It is high time, however, to abandon theoretical structures that are no longer useful in comprehending and explaining complex phenomena such as globalization. In constructing strong theory, it is imperative to abandon the pervasive focus on dichotomy and other artificial simplifications, and consider frameworks more appropriate to the very complex international system, which defies dichotomy and oversimplification. This piece addresses some of the major misconceptions about this area of inquiry, and suggests more complex, dynamical ways of thinking about the complex, dynamical world order.

With regard to politics and the political, this article offers academics, journalists, theorists, students, and curious members of the general public (among others), a different way to think about the things we are all told about the nature of globalization and culture—and common assumptions about them. From this, one hopes we may all consider our dynamical world more completely and accurately, whether working to shape still-struggling post-Cold War political theory, traveling to or thinking about other cultures, or forming our opinions from the world news of the day. Through bringing together international relations theory, nonlinear dynamical systems, and additional critical thought from cultural studies, the global affairs classroom, and even evolutionary biology, we may gain insight into current problems in thought and in practice with regard to international politics—from political and cultural relationships and impacts, to the theories that shape thinking and policy, to the interconnectedness of global society and its development.

First, we consider what some of the most common misconceptions are surrounding globalization, and some of their likely causes. Each of the misconceptions is then regarded in detail, and critiqued along the way, using observations about the global system, culture, theory building, and key concepts from nonlinear dynamics. Through careful consideration, we can draw some conclusions about different ways of thinking about globalization that may yield greater understanding and more fruitful international relations theory.

## **Global Misconceptions**

During the last four spring terms at a moderately-sized western American university, the author has taught a graduate-level course (usually two online sections) about the phenomenon of globalization, and its many forces and implications. Happily, the online sections include graduate students who are participating in the course from various locations around the world, are from other countries, or are otherwise well-traveled. Through asynchronous discussion, these many informed perspectives often create a truly global one, offering insight considerably greater than the sum of its parts to all the participants. So pervasive are certain misconceptions about globalization, however, that they are not only largely held by the general public, but they are also held by nearly all of this bright cross-section of the adult population, at least upon entering the course.

There are many possibilities as to how this state of misconception and misinformation persists. One is that globalization as such is still a very new field of study. Although answers to current questions may become obvious with hindsight and experience, the pressure to predict is strong, and journalists and scholars alike try hard to have the next big, important idea that will guide the field of study of globalization through its nascent period and beyond. Some find ideas

and latch onto them, wanting them to be true because they offer the comfort of a predictable trajectory in a global system currently rife with uncertainty.

This pressure is likely exacerbated by the paucity of strong and far-reaching post-Cold War theory in international relations. The former world order, with its two spheres of influence and zero-sum game theory, when put into historical perspective, was something of a fluke, albeit one that lasted half a century. As we return to the messier and far more historically prevalent world system, the last few generations of scholars have not been trained to think about it, because it was not then pertinent to the contemporary world order. Those international relations scholars who were trained before the Cold War, and whose work was to have informed the coming decades before the outcomes of World War II changed everything, are now separated from the generation of scholars tasked with creating new theory responsive to the twenty-first century's global system by at least two generations, if not by retirement, or by death. Starting from scratch is more difficult than building on the work of the previous generation. In the meantime, many theories are circulating and awaiting broad recognition. It makes sense to keep trying until something catches on.

Another possibility is simply that some of the people with the greatest access to publication about the new global system do not have truly typical experiences of the places they visit and later write about. Often, the elites of given nation-states or regions have more in common with each other than they do with their own fellow residents of those states or regions. An elite American, for example, is likely to stay in the finest hotel in Nairobi, with other traveling elites (some of them Kenyan, certainly, but even a hotel full of local citizens is still a mere hotel full in a nation of thirty-eight million—and an atypical hotel full at that) and as far as possible from Nairobi's shanty town of Kibera—and its more than one million inhabitants. Elites from all parts of the world usually prefer to isolate themselves from the grittiness of most of the world's everyday existence when they can, and consequently, often miss the whole picture, or even the typical one—and these are the people who have the best access both to travel and to publication. Therefore, they are most likely to inform opinions at home, and even bright, critically-thinking people rarely get the perspective of the average person's experience in another country unless they actually manage to go there at some point. In the meantime, global golfing and fine dining anecdotes, for example, are a poor substitute for informed cultural insights about regular folks in other parts of the world.

Additionally, with the general public more interested than ever in international news, and a twenty-four-hour news cycle, we get surprisingly little insight about international events from the American news media. It used to be that each news organization had regional bureaus all over the world, so when news happened there, someone was on hand to report on it, and to give some informed geo-political context to the events. This practice of maintaining far-flung news bureaus is no longer considered cost-effective, and news personnel are quickly flown to the place where news is happening instead. While this does gather information for news organizations at unprecedented speed, the lack of context previously available with knowledgeable localized news bureaus damages the quality of that information. When the news consumer gets the story, historical and other contextual pieces may be missing, or merely assumed rather than confirmed, or lived. In this way, misinformation is often carried along with information. The savvy news consumer may consult multiple sources on a given story in order to better inform his or her own

comprehension, but this method is often considered too time consuming for the general public to engage in on a daily basis. In this way, misconceptions are also perpetuated, by omission, lack of context, and assumptions, by the news organizations and by the consumers themselves.

The most common misconceptions (often bolstered by some news media and even some scholarly articles) are these:

- Globalization is either “good,” or it is “bad.”
- Globalization is primarily about trade, and trade causes peace.
- Globalization is a new phenomenon, and it is truly global.
- Past events are a good blueprint for future predictions.
- Globalization is a one-way street of destructive cultural domination from the west to the rest.

In order to avoid such misconceptions, to rethink them, or even to come up with new and applicable theories responsive to the twenty-first century, it is necessary to think differently about the nature of the international system—that is, as a large, complex, and interconnected system. It is poorly suited to two-poled game theory models and dichotomous constructions. It is, however, well suited to the emerging science of nonlinear dynamics. Let us consider each of these misconceptions in turn, and the conceptual pieces from nonlinear dynamics that can help us consider the reality of the messy international system, rather than creating flat, oversimplified constructions, theories, and models, and attempting to argue their application in a complex world.

### **“Globalization is either ‘good’ or it is ‘bad.’”**

So pervasive is this notion, in the virtual classroom, in the literature, and elsewhere, that it seems that we cannot continue to consider anything else until we have solved this conundrum—and that is what makes it the major question to be answered about globalization. The international system, however, is dynamic, complex, and in a constant state of flux. Globalization is a sort of complex system within that one, with many sub-systemic forces of its own. It is too complex to be labeled either “good” or “bad,” and even if it weren’t, it has no intent or agency of its own by which we may judge its moral character.

For the sake of consideration, however, perhaps we should attempt to qualify it further. Perhaps we could say, “good for trade” and “bad for non-western laborers.” Even these statements require further iterations of qualification, though. Aside from points of comparison (e.g., Better or worse than what?), these normative assessments break down immediately at the first sign of attempted qualification, too. Good for whose trade? In the long term or just the short term? Is the interconnectedness of global markets not also a vulnerability when things aren’t going so well, giving one piece the power to bring down the whole? Bad for which non-western workers? Those who are immigrants working in sweatshops located in the west, or just those who are still in their countries of origin? Bad for each individual worker, or bad for their community, nation-state or region? How is it bad? Is it bad if there are jobs in a poor area where there were no jobs before, even if wages are low by western standards? What if it is a clean

industry and doing less environmental damage than, say, clear-cutting rain forests in favor of farmland? Is that still bad?

It is possible that this desire for comfortable dichotomy is part of Cold War international relations theory's two-poled, zero-sum legacy, but the literature of globalization is rife with it, whether the either-or pair is good-bad, corporation-worker, the west-the rest, patriarchal-feminist, old-new, rich-poor, and the list goes on. Certainly, a construct may be simplified to make a point and help guide one's thinking about complex issues. After all, an actual-size roadmap is of no use. However, one that oversimplifies something so complex, claiming it falls into one of two specific, diametrically opposed categories, is at best a blunt instrument.

Additionally, to attempt to resolve a dichotomous pair by saying, "perhaps the answer lies somewhere in between these two points" does not help us either, attractive as it may seem, at least from a conciliatory standpoint. The Golden Mean of the Ancient Greeks does not sharpen that blunt instrument, or our insights. In the immortal words of Stephen Jay Gould, "I strongly reject any conceptual scheme that places our options on a line, and holds that the only alternative to an extreme positions lies somewhere in between them. More fruitful perspectives often require that we step off the line to a site outside the dichotomy" (Gould, 1990, p. 51).

The complex nature of globalization is not so much about the flipsides of conceptual coins, or even their edges, as it is about complex, emergent behavior of entire systems. Stepping off that line is beginning to happen, however. Let us consider some of the key concepts that resolve the perception of globalization as somehow "good" or "bad."

How do birds keep their movements so orderly, so synchronized? Most people assume that birds play a game of follow-the-leader: the bird at the front of the flock leads, and the others follow. But that's not so. In fact, most bird flocks don't have leaders at all. There is no special "leader bird." Rather, the flock is an example of what some people call "self-organization." Each bird in the flock follows a set of simple rules, reacting to the movements of the birds nearby it. Orderly flock patterns arise from these simple, local interactions. None of the birds has a sense of the overall flock pattern. The bird in front is not a leader in any meaningful sense—it just happens to be there. The flock is organized without an organizer, coordinated without a coordinator.

Bird flocks are not the only things that work that way. Ant colonies, highway traffic, market economies, immune systems—in all of these systems, patterns are determined not by some centralized authority but by local interactions among decentralized components. As ants forage for food, their trail patterns are determined not by the dictates of the queen but by local interactions among thousands of worker ants. Patterns of traffic arise from local interactions among individual cars. Macroeconomic patterns arise from local interactions among millions of buyers and sellers. In immune systems, armies of antibodies seek out bacteria in a systematic, coordinated attack—without any "generals" organizing the overall battle plan. (Resnick, 2001, p. 3)

So it is with the phenomena we are considering here. Globalization is not a conscious entity. It doesn't make decisions or direct the behavior we associate with it. The flow of goods and

ideas, of human capital, generational change and migration: none of these things has a leader or an organizer. These phenomena and others emerge without direction in the global system in much the same way bird flocks make their ways and traffic jams emerge from the flows of vehicles. Nobody directed that traffic jam to happen, just as nobody directs the Internet or global climate change. This is not such a strange concept, although it is also, for some reason, not quite as intuitive as perhaps it seems it should be.

Almost everywhere you look these days, there is evidence of decentralization. You can see it every time you pick up a newspaper. On the front page, you might find an article about the shift in corporate organizations away from top-down hierarchies toward decentralized management structures. The science section might carry an article about decentralized models of the mind, or maybe an article about distributed approaches to computing. And in the book review you might read an article suggesting that literary meaning itself is decentralized, always constructed by readers, not imposed by a centralized author.

But even as the influence of decentralized ideas grows, there is a deep-seated resistance to such ideas. At some deep level, people seem to have strong attachments to centralized ways of thinking. When people see patterns in the world (like a flock of birds), they often assume that there is some type of centralized control (a leader of the flock). According to this way of thinking, a pattern can exist only if someone (or something) creates and orchestrates the pattern. Everything must have a single cause, an ultimate controlling factor. The continuing resistance to evolutionary theories is an example: many people still insist that someone or something must have explicitly designed the complex, orderly structures that we call Life.

This assumption of centralized control, a phenomenon I call the *centralized mindset*, is not just a misconception of the scientifically naïve. It seems to affect the thinking of nearly everyone. Until recently, even scientists assumed that bird flocks must have leaders. It is only in recent years that scientists have revised their theories, asserting that bird flocks are leaderless and self-organized. A similar bias toward centralized theories can be seen throughout the history of science. (Resnick, 2001, pp. 3-4)

The centralized mindset persists, along with an attachment to dichotomy, but we are beginning to let go. This will be discussed in greater detail below. In the meantime, as a complex part of a complex system (the international system itself being such a self-organizing system as the patterns discussed above), globalization is no more “good” or “bad” than a particular weather system or a mammal’s endocrine system. It has neither benevolence nor malevolence, nor does it have intent. Nobody is controlling it. It is merely complex.

## **“Globalization is primarily about trade, and trade causes peace.”**

By extension, then, globalization is certainly too complex to be primarily about any one of its major components. If it weren’t, we would not have had to coin a new term like “globalization” in order to discuss it. Certainly, trade is one of the complex sub-systems of globalization—but let us not forget the globalizing of religion, of ideas, of social contact, of human migration, of

language, of culture, of advancing technology and telecommunications, of environmental and ecological concerns, and many others.

Interestingly, those who champion globalization as being primarily “good” are often those who believe trade causes peace. The logic works like this: everybody wants to make money and exchange goods and services. Therefore, if one is having a financially fruitful relationship where one and his or her trading partner are mutually making money and exchanging goods and services, both will want that to continue. Therefore, each will be inclined to work at keeping that relationship strong and stable, will share at least that value and probably others, and will be less likely to allow violence to come between them.

That is arguably an admirable sentiment. History, however, does not bear this theoretical prioritizing out, and the lessons of history might even have us label it terribly naïve. There have been many instances throughout history where previously strong trading partners became embroiled in armed conflict. The Delian League, created after the first Peloponnesian War, made much of the Aegean friendly trading partners, and the entire League friends and trading partners with Athens—until Athens, the greatest beneficiary of all this trade and good feeling, started the second Peloponnesian War, during which they were roundly smashed by the Peloponnesian Confederacy, including Sparta, Corinth, Thebes, and others. The *Pax Romana* was largely based on trade and tribute, and still it fell. Early European colonists initially experienced good trade relations with local Native American societies. France and Germany were trading partners before World War I, and even stronger ones between the world wars, at least up until 1939, when Germany invaded Poland. The United States continued to trade with Germany until 1941. These are just a scant few examples of the rich historical tradition of making war on former trading partners.

Even when trading partners enjoy a long period of peaceful trade and never have any significant conflicts with each other, trade truly does not cause peace. Trade and peace are often correlative, but if their relationship is at all causal (however unlikely), it is more likely that peace simply aids the preferable conditions for trade—while that peace lasts. The misconception that trade causes peace is not a new one, either. Often, when some new invention seems to have a stabilizing force and to create more commodious conditions for the exchange of goods and ideas, articles and speeches proliferate that credit trade. Consider this account of how this misconception played out during the Long Peace:

The long peace that followed the Battle of Waterloo was increasingly explained as the result of the international flow of commodities and ideas. “It is something more than an accident which has turned the attention of mankind to international questions of every description in the same age that established freedom of commerce in the most enlightened nations.” So wrote one of the early biographers of Richard Cobden, merchant of Manchester and citizen of the world. Variations of the same idea were shared by Sir Robert Peel, William Gladstone, John Stuart Mill, scores of economists and poets and men of letters, and by England’s Prince Consort, Albert the Good. His sponsorship of the Great Exhibition in the new Crystal Palace in London in 1851 popularized the idea that a festival of peace and a trade fair were synonymous. The Crystal Palace was perhaps the world’s first peace festival.

In that palace of glass and iron the locomotives and telegraphic equipment were admired not only as mechanical wonders; they were also messengers of peace and instruments of unity. The telegraph cable laid across the English Channel in 1850 had been welcomed as an underwater cord of friendship. The splicing of the cable that snaked beneath the Atlantic in 1858 was another celebration of brotherhood, and first message tapped across the seabed was a proclamation of peace: “Europe and America are united by telegraphic communication. Glory to God in the Highest, On Earth Peace, Goodwill Towards Men.” That cable of peace was soon snapped, and so was unable to convey the news in the following year that France and Austria were at war, or the news in 1861 that the United States was split by war. (Blainey, 1988, pp. 18-19)

Where, then, does the idea that trade causes peace come from? It is likely the result of misread linear statistical analysis. For one thing, linear statistics can make it tempting to project future events based on past ones (a practice which will be challenged in greater detail below). They also lend themselves to a variety of misinterpretations. This is a prevalent problem in international relations theory overall, and indeed, in the social sciences as a whole. It is a fundamental conflation of correlation and causality.

In the second most prominent fallacy about trends, people correctly identify a genuine directionality, but then fall into the error of assuming that something else moving in the same direction at the same time must be acting as the cause. This error, the conflation of correlation with causality, arises for the obvious reason (once you think about it) that, at any moment, oodles of things must be moving in the same direction (Halley’s comet is receding from Earth and my cat is getting more ornery)—and the vast majority of these correlated sequences cannot be casually related. In the classic illustration, a famous statistician once showed a precise correlation between arrests for public drunkenness and the number of Baptist preachers in nineteenth-century America. The correlation is real and intense, but we may assume that the two increases are causally unrelated, and that both arise as consequences of a single different factor: a marked general increase in the American population.

...The common error lies in failing to recognize that apparent trends can be generated as by-products, or side consequences, of expansions and contractions in the amount of variation within a system, and not by anything directly moving anywhere. ... Thus, if we mistake the growth or shrinkage of an edge for movement of an entire mass, we may devise a backwards explanation. (Gould, 1996, p. 32 – 33)

In other words, trade and peace are correlative—that is, they often travel together. The relationship is not causal, however. Trade does not cause peace, rather, trade and peace are both made possible by political and economic stability, and bolstered by any number of other factors, such as desire for imported goods, a curiosity about other peoples, simply having no interest in conquest at the time, and the like.

Unfortunately, for an area of focus so obsessed with numerical measurement and precision of economic forecasting, many trade theories are disastrously unresponsive to the motion of real-



world trade dynamics. Other than critically assessing what linear statistics is really telling us and keeping in mind how correlation can masquerade as causality otherwise, the new theories about trade and economics that *are* responsive to real-world dynamics are those that embrace the complexity of the system rather than trying to pare it down to simplified components. Consider, for example, an account of how complexity theory contributes to economics.

Conventional economics, the kind he'd been taught in school, was about as far from this vision of complexity as you could imagine. Theoretical economists endlessly talked about the stability of the marketplace, and the balance of supply and demand. They transcribed the concept into mathematical equations and proved theorems about it. They accepted the gospel according to Adam Smith as the foundation for a kind of state religion. But when it came to instability and change in the economy—well, they seemed to find the very idea disturbing, something they'd just as soon not talk about.

But Arthur embraced instability. Look out the window, he'd told his colleagues. Like it or not, the marketplace isn't stable. The *world* isn't stable. It's full of evolution, upheaval, and surprise. Economics had to take that ferment into account. And now he believed he'd found the way to do that, using a principle known as “increasing returns”—or in the King James translation, “To them that hath shall be given.” Why had high-tech companies scrambled to locate in the Silicon Valley area around Stanford instead of in Ann Arbor or Berkeley? Because a lot of older high-tech companies were already there. Them that has gets. Why did the VHS video system run away with the market, even though Beta was technically a little bit better? Because a few more people happened to buy VHS systems early on, which led to more VHS movies in the video stores, which led to still more people buying VHS players, and so on. Them that has gets. (Waldrop, 1992, p. 17)

This is just one example of an economic idea previously considered counter-intuitive that turns out to have a great deal of real-world application. It is only counter-intuitive, however, because it runs counter to assumptions about the nature of economics and of the global economic system. It is far easier to discard new theories that don't fit with the current mindset than it is to rethink the assumptions of a field of endeavor. The new thing, the smaller thing, is ignored in favor of the larger body of comfortable existing ideas, even if they are rapidly losing what explanatory power they may have had in a more simplistically viewed global system. In this way, increasing returns plays out ironically. Them that has gets, even in the way that the more widely prevalent model doesn't fit the reality of the strange, emergent world order.

## **“Globalization is a new phenomenon, and it is truly global.”**

While the world does seem to be getting “smaller” and more interconnected in some places, it can only do that where the proper infrastructure exists. Is the world getting “smaller” in Sierra Leone, for example? The average person there does not, for example, have an Internet connection. It is possible there is a satellite television somewhere nearby, but not in everyone's home. Goods are not available with the ease they are in the industrialized world—nor is a broad range of communication, or easy mobility of people or capital, for that matter. If globalization does not reach all over the globe, perhaps it cannot be considered truly global—at least not in a uniform, all-encompassing way (and the lack of homogeneity in and across cultures is very

important to consider, as we shall see below). By the same token, there is also no reason to think that the phenomena of globalization will continue where there is no infrastructure to support the means of their spreading. Uniformity is thwarted by too-broadly differing conditions in which people make their lives.

Further, the assumption about the developing world—that it will develop infrastructure, technology, and financial and social systems in much the same way that the industrialized nations have (just some years behind)—is very strange indeed once examined closely. Consider, for example, that in many parts of the developing world, one can get an excellent cellular telephone signal. Much of the African continent was never wired for telephone land lines, and as a result, bypassed that quickly-obsolescing technology completely. Why would any African government, NGO, or telecommunications organization implement such a technology, when the newer technology is readily available, more practical, and a great deal less expensive? The developing world need not, and should not, follow along the western trajectory, especially while creating any technological or communications infrastructure. Where infrastructure does not exist at all, the globalizing forces that use that infrastructure cannot reach (just as a train cannot travel where there is no track), and where it is being built, it may well take on a completely different character than what the western world imagines. Different cultures with different experiences create their futures differently, not homogenously, along the same linear track.

It is also important to note that people have been traveling, trading, sharing technology and culture and ideas, and conquering each other, for as long as there have been humans. Nor did globalization begin with the European age of discovery, or with Greek and Roman trade routes, or with China's Silk Road. While we lack surviving written records of every contact or conquest, we do have an archaeological record that puts various peoples' travels at various points in the human timeline. Conquest, the exploitation of others' resources, battle, hunting to extinction, climate change, and all the things we may think of as being more negative about how humans interact with each other and their environment on a global scale, have been going on for thousands upon thousands of years. (For a particularly good discussion of many of these meetings and impacts, see Diamond's (2005) *Guns Germs and Steel: The Fates of Human Societies*.) The primary difference in what we are observing today and what has been happening throughout history is that these days, it is simply happening at greater speed (facilitated by ever-progressing technology), and with a larger swath of the overall human population participating at once.

### **“Past events are a good blueprint for future predictions.”**

While considering past experience is useful for analyzing present situations and how they unfolded, the past is not particularly helpful in predicting the future. For one thing, hindsight often gives us a sense of inevitability that we then project onto future events. It is easy, in hindsight, to see a chain of events as it unfolded and assume it was inevitable. However, simply because we have arrived here does not mean it was somehow meant to be, or that progress to this point came as a single, straight, unidirectional arrow. Let us return to Gould for an excellent example of how our perceptions in hindsight make the continuation of trends look inevitable. In discussing the evolution of horses, he remarks,

The lineage of *Hyracotherium* to *Equus* represents only one pathway through a very elaborate bush of evolution that waxed and waned in a remarkably complex pattern through the last 55 million years. This particular pathway cannot be interpreted as a summary of the bush; or as an epitome of the larger story; or, in any legitimate sense, as a central tendency in equine evolution. ...

We therefore arrive at my favorite subject of ladders versus bushes, or ... individual pathways chosen with prejudice versus entire systems (full houses) and their complete variation. ... Evolution rarely proceeds by the transformation of a single population from one stage to the next. Such an evolutionary style, technically called *anagenesis*, would permit a ladder, a chain, or some similar metaphor of linearity to serve as a proper icon of change. Instead, evolution proceeds by an elaborate and complex series of branching events, or episodes of speciation (technically called *cladogenesis*, or branch-making). A trend is not a march along a path, but a complex series of transfers, or side steps from one event of speciation to another. The evolutionary bush of horses includes many terminal tips, and each leads back to *Hyracotherium* through a labyrinth of branching events. No route to *Hyracotherium* is straight, and none of the labyrinthine paths has any special claim to centrality. ... We run a steamroller right over a fascinatingly complex terrain when we follow the iconographic convention for displaying the pathway from *Hyracotherium* to *Equus* as a straight line. (Gould, 1996, p. 61 – 63)

The same can be said of the evolution of this emerging global system, and our interpretation of inevitability about a great many things. Any number of things *could* have happened in the complex, self-organizing international system, and looking backward down the pathway of things that *did* happen does not make those things inevitable, or even necessarily likely, in any way. Furthermore, knowing this should serve to educate us all as to how likely we are truly to know what is coming next. If we cannot consistently and accurately predict the weather more than five or so days out, predictions about the global polis are at least as problematic (and just as inevitable). Any branching or sidestep may be next. Since there was no inevitable straight line to this moment in history, we certainly should not assume that the timeline between this moment and the one from which we may later look back upon it will be a straight and predictable line either, or a pat and perfect stage, merely because we can see, in retrospect, the path we took to get here. We cannot accurately assume inevitability.

Gould also mentions in *Wonderful Life* (1990), a sort of prequel to *Full House*, that rewinding and “replaying life’s tape” of the evolution of life on earth would not likely yield the same results—too many random things come into play along the branching, forking “bush” of human experience. For example, if a particular creature had not survived a mass extinction when an underwater layer of sediment collapsed upon its contemporaries, chordates and vertebrates might have evolved very differently, or not at all. If other contemporaries had survived instead, the basis for later generations of life would have been entirely different as well. Creatures evolve as they do because of a mixture of natural selection, geography, luck, and many other factors. With one minor change in any of them, the evolutionary story of a particular family of creatures becomes entirely different. With life and ecosystems and natural populations being so closely intertwined, if any are different, all is different.

So it is with globalization in particular, and human cultures and populations in general. Had the invading Normans not had stirrups on their horses' saddles at the Battle of Hastings in 1066, they would not have had the great tactical advantage of being able to fight from horseback, and might not have won. English might then have remained a phonetic Germanic language, rather than being heavily influenced by French at that time. English today might be much more easily spelled, pronounced and learned, but for the stirrup. One tiny, unaccounted-for piece of hardware thwarted inevitability and altered forever the evolution of a linguistic system.

At the time, the English considered their victory over the Normans inevitable: they outnumbered their foe and fought for their way of life on their own ground. So it is with many major turning points of history. We see it even today. The world was a changed place on September 12, 2001, yet nothing was inevitable about the changes precipitated by the previous day's attacks. Initially, Americans came together in solidarity, and much of the world mourned with them. What if the US had continued along that course of unity instead of pursuing a series of fearful and destructive policies at home and elsewhere? The invasion of Iraq certainly was not inevitable. It was not even connected to the terrible events of September 11, except by specious argument.

Like looking back from the horse to its early ancestors, many things look inevitable in retrospect from where we stand, but we must not confuse a retrospective straight shot that omits the many branchings and missteps and decisions along the way as inevitability. Were we to rewind and replay history's tape, events could unfold entirely differently, depending on human perceptions, decisions, and random factors. We could not have known then what would come to be. That being said, perhaps we should not look forward and assume we are ever on some sort of historical straight path to inevitability, rather than on a branching fork of our story, or a misstep or false start of some kind. The world changes suddenly and we cannot account for it. Consider the aforementioned generation of international relations scholars, training to understand a pre-Cold War multipolar international system, or the myriad dissertations being written in 1989 about Cold War politics when the Berlin Wall came down, changing everything. The human experience is not inevitable, whether looking backward or forward.

### **“Globalization is a one-way street of destructive cultural domination from the west to the rest.”**

As with forensic science and physical evidence, every contact leaves a trace. The flow of cultural impacts, goods and services, communications, and socialization move in many directions, not just one. Globalization is more mutual than that, with the goods, attitudes, and news of other cultures welcomed in, and permeating, everyday western and non-western lives alike. We in the west can get mangoes (the most popular fruit in many parts of the world, but not in the US) in the supermarket all year 'round. We can get hummus, and sushi, and cheap electronics, and thousands of other imports we use throughout our daily lives, with the same ease and convenience with which we get a carton of milk or loaf of bread. Most major US cities have restaurants featuring the ethnic foods of scores of other countries. One can have Ethiopian food one night and Pho the next. Japanese anime and manga interest artists and fans all over the world. Bits of culture flow in many different directions, with the west on the receiving end, too. Cultural exchange, and indeed acceptance, if not embracing, of it, is nowhere near unidirectional.

With regard to cultural impact and change, we have a word for cultures that do not change anymore, that are not dynamic but static, that are preserved perfectly in time, in museums, and in books and artifacts: dead. Cultures change over time, and with generations and historical forces—today’s cultural changes make up tomorrow’s cohesive culture. Cultures die, not when they change to reflect the new attitudes, interests and lifestyles of their people (particularly the next generation, who will carry the culture forward), but when they stagnate and become frozen in time and context, and are no longer lived out in the everyday lives of the people themselves.

Additionally, it is important to note that American and other western businesses that do well in other parts of the world are those that adapt to local tastes and sensibilities. Some westerners who go abroad certainly take notice of this practice. As one student in an online section of the aforementioned globalization course noted,

I did go into a McDonalds’ in Singapore once looking for a vegeburger and thinking I might find it in an Asian McDonald’s. I was wrong. They didn’t have soy burgers but they did have more than one type of fish sandwich and their buns were made from rice and not wheat. There were other changes on the menu that reflected the tastes of the location. But at the same time, there was no question in my mind that I was in an American fast food restaurant. In my opinion, McDonald’s is McDonald’s no matter where you go.

But even so, I don’t think that because American fast food is all over the world it means the people are becoming Americanized any more than it means I am becoming Swedish if I go to IKEA. (F. Birchall, personal communication, April 7, 2009)

With this clever comment, an interesting thing happened. Other students chimed in, mentioning their liking for IKEA, some adding that they would like to see IKEA stores in their locations. It is unclear what makes members of the general public, graduate students, and professional scholars alike think this is not precisely what happens all over the world: “I like McDonald’s. We should get one here.” McDonald’s (and similar corporate entities, of course) thrives in other places because the people there like it. They spend their money there, and the business becomes successful. It does not make the people, or by extension, their culture, American, and they are also perfectly capable of determining whether or not they care to frequent the novel franchise or continue to go to the local restaurants to which they are accustomed. Frankly, it is far more disrespectful of people in other parts of the world to imply they are incapable of making their own consumer decisions than it is for American companies and multinationals to offer local consumers novel options with which westerners might not agree. As noted before, this is not to say that globalization, or large corporations, or trade, are “good.” It is simply to say that the ultimate act of disrespect toward people in other parts of the world (developing and otherwise) is to take away their own choices about their own habits and preferences, particularly in assuming they should not be offered those choices because they will not understand what the proper things for them to do with those choices are with regard to their own cultures.

Additionally, living cultures are not uniform, even those altered by deliberate conquest. Traditions, languages, sensibilities and tastes survive. Different people in different parts of the same country eat different foods, celebrate holidays differently, have different dialects, and

identify themselves by region, or town, or even family or neighborhood—not just by country. Consider the United States. Even leaving aside its diverse immigrant and ethnic populations, someone who works a farm in rural Wyoming is living in a rather different culture from someone who works in the high-tech industry around Boston, and both of them would likely feel out of place in Los Angeles or Tallahassee, perhaps even for different reasons. This is also the case in countries around the world: cultures are shaped by the people who live in them, and their ways of life, interests, and preferences, of which there may be dozens, scores, or hundreds in a single country or region. In India, for example, most people speak Hindi, as well as additional separate languages of their regions or states, not to mention different foreign languages. India is incredibly diverse. Any Indian would find the idea that their culture is somehow uniform patently absurd.

How, then, would it be possible to make a nation or region that is composed of very diverse eddies of cultures, even within itself, suddenly become homogenous with an outside one? Even if it were done on purpose, each culture would have to be induced in its own special way—which already precludes true homogenization. People and their cultures are not homogenous, even when they all prefer similar things or do certain things in similar ways. They are complex, and another culture cannot be dropped into place around them and suddenly take over completely. People will still choose the things they prefer. Cultures and people are not homogenous from within. They cannot be made so from without.

## The Nature of Saturation Points and Systemic Equilibrium

Finally, phenomena do reach their saturation points, from biological populations to the motion of catamarans to absorption of cultural values. When one spills a glass of milk, the spill can only spread so far. Then it must stop spreading, reaching a new state of equilibrium as a puddle, contained by such factors as volume and surface tension. It will then begin to contract again, with evaporation. It does not continue to spread *ad infinitum* until it is shallower than a molecule thick, and then spread itself upon the breeze, contaminating all it contacts with lactose. It reaches a saturation point in its motion, it can go no further, and it stops. A forest fire can only spread as far as it has fuel to consume, which is why the technique of starting a backfire works: firefighters start a smaller fire in front of an advancing forest fire, effectively removing any fuel and stopping the larger fire. Even without a backfire, a fire stops when it runs out of fuel, cannot make the leap from one source of fuel to another because of distance, or when it has saturated its area, and it too begins to recede. Nothing spreads indefinitely—not milk, not fire, not cultural domination—everything has a saturation point.

What happens to a more complex system when it reaches a saturation point, then? Other factors in the system, which were present all along, often come to the fore, and if the system is stable or contained enough, will usually nudge it back toward equilibrium. Take for example the catamaran. The additional hull is a hedge against the boat tipping over. The higher it lifts up out of the water, the stronger the gravitational pull back down. It is not merely a matter of, “what goes up must come down,” but of the “going up” part of the system actively setting the “coming down” into motion, and indeed, feeding it.

Let us consider a slightly more complex system—a biological one, composed of foxes, rabbits, and lettuce. (For a more detailed discussion of modeling behaviors of complex biological systems, see Gleick, 2008, beginning on p. 70.) When the lettuce has a good year, perhaps producing a bumper crop, the rabbits feeding on it also dramatically increase in population and vitality. The foxes have a rough year trying to catch all the strong, fast rabbits. When the foxes have too rough a year, though, there aren't enough foxes to cull the growing rabbit population—particularly the sick and aging ones, as they are easiest to catch. The quality of the rabbit population suffers for not being culled, and the next year's lettuce population cannot support the growing, hungry rabbit population. The rabbits begin to die off. With the rabbits weakened by hunger, age and other problems, the foxes begin to have an easier time catching them, and the foxes have a much better year. Additionally, with an increased mortality rate among rabbits, and therefore more rabbit carcasses, the soil is better fertilized, bringing the lettuce population much-needed nutrients, particularly after the population had been decimated. The following year, the lettuce has a comeback.

The cycle may not necessarily repeat itself in the same way, or even at all, but the change in each population affects the others, and approaching saturation points bring the system back toward equilibrium. Once the rabbits are doing well, they do not then take over the entire ecological niche, making it homogeneously all-rabbit. For one thing, the population would die off without the lettuce to feed upon and the foxes to keep the populations and systems in functional equilibrium—and long before the population could become all-rabbit. Rather, that population reaches toward equilibrium, in balance with the lettuce and fox population. A system out of balance often reaches toward a new equilibrium, even if it never quite reaches a steady state.

So it is with culture. People stop consuming when they stop being interested, or they have had enough, or they do not appreciate a particular extra-cultural influence that they see as invasive or destructive—they resist. They resist relinquishing the things they deem more important than novelty, much like the companion hull of a catamaran resists being airborne, driven back to its point of preferred equilibrium by the very motion of novelty itself. People are pulled back to the familiar things they value like gravity pulls the hull.

Sometimes they choose things they consider improvements, creating a new equilibrium, but that doesn't necessarily harm the larger culture either. For example, if the author were to start pasta dough in a food processor rather than as a pile of flour on a noodle board as some of her immediate ancestors have, that does not mean she has rejected the more traditional technology completely, or that she never uses it anymore, or that she will never teach it to anyone else. It may simply mean that she is running short of time this evening, or that the thought of getting flour under her fingernails today is unappealing. The culture of pasta making, or of her ancestors immigrated from northern Italy, is not dead simply because one small aspect of it now has the option of being slightly more convenient (or, in this case, is perceived as having been improved upon). Further, those recent ancestors would likely have used food processors sometimes, too, if they had had them. The essential cultural value in this case is in taking time to make good food, and then enjoying the good food with others. Shaving the first fifteen minutes off the much longer process doesn't hurt the result, or the larger cultural value. It simply keeps the flour out from under one's fingernails, and perhaps allows one time to start an after-dinner granita, or make a phone call inviting one more loved one to dinner.

Similarly, people do not swallow trends and products as whole cultures. Once everyone has an iPod who wants one, the consumer “trend” does not continue until every single pocket in every single country around the world has an iPod in it (although even then, we would eventually run out of pockets, which are, after all, a finite commodity). When the novelty of a new McDonald’s wears thin, people lose interest, stop going, and business drops off. One side of the catamaran lifts, and is pulled back down by gravity. It does not continue to lift until it takes flight. Cultures reach saturation points with new ideas and influences, which they ultimately adopt or reject, not wholesale, but in segments, communities, and as individuals. Cultures do not become uniformly something else because of outside products or ideas.

## Analytical Method: A Suggestion

As it happens, and as has been hinted at throughout this article, the field of nonlinear dynamics offers a number of ways to think about saturation points in biological, mechanical and social systems. We have already been considering some examples throughout, from self-organization and increasing returns to thinking about cultural contact more as a truly global complex system than as a unidirectional line. This is also the true challenge of twenty-first century thought in international relations: shedding the linear mindset that is the legacy of Cold War dichotomous thinking, and instead using intellectual tools that illuminate the nature and dynamics of real-world complex behavior. Now let us consider an example of the behavior of systems and saturation points that we could use to analyze the cultural ones we have been discussing.

There are a number of ways to investigate the motion of saturation in systems such as the global polis. Natural systems, including those based on natural behaviors such as human behavior, behave remarkably similarly to each other—so much so, in fact, that we can take any of the metaphorical examples we have discussed here (bird flocks, traffic jams, forest fires, spilled milk, mammalian endocrine systems, evolution of horses, weather, biological populations, catamarans, market trends, and so on), operationalize them, and gain some insight about their shared nature—and by extension, of globalization, which also shares those similar qualities. How would we go about that, though—how would we even begin?

The common thread in understanding all the various kinds of systems mentioned is in leaving behind the “centralized mindset” discussed earlier, in favor of thinking about self-organizing behavior, as these are all self-organizing systems. Nobody directs any of these things, just as, as previously mentioned, nobody directs the Internet or the antibodies protecting a body from illness. That is the very essence of thinking differently about the nature of global interactions and culture. Nobody directs the weather, or the lettuce-rabbit-fox ecosystem, or the evolutionary path of horses. They are all self-organizing systems, as is globalization itself.

One good way to investigate self-organizing systems is with agent-based modeling. Agent-based modeling uses very simple computer programs to model behavior. The user has a few programmable pieces with which to simulate what can become some very complex behavior: the “agent” or creature, such as ants seeking food and letting other ants know where to find the food; the movable objects the creatures act upon, such as the food; and the background, which can be divided into cells that also have their own behavior.



Let us take our example of the forest fire. In his delightful and succinct book *Turtles, Termites, and Traffic Jams*, about decentralized behavior and modeling it with an agent-based modeling tool called StarLogo, Mitchel Resnick specifically considers how to model a forest fire and its fuel saturation. (The book is an excellent introduction to StarLogo, and to agent-based modeling in general.) Using StarLogo and a handful of very brief commands, Resnick programs some patches to be trees and others to be empty. In this way, he investigates how close together the trees have to be (the density of available fuel) for the forest fire to burn from one end to the other. Resnick tells us,

When the program starts, there is a neat line of red fire on the left edge of the screen. Then the fire spreads from tree to tree. In some places, the fire quickly reaches a dead end, surrounded by empty space. In other places, the fire continues to spread from tree to tree. Overall, the fire paths form fractal-like patterns on the screen. (Resnick, 2001, p. 106)

He is suggesting the nonlinear nature of this system—no surprises there. What insight Resnick does gain about the nature of fuel density and fire saturation is that the fire needs an extreme tree density in order to consume the forest entirely, and still a surprisingly large amount just for the fire to make it from one side of the forest to the other.

What we're most interested in, of course, is the behavior of the system. It doesn't matter if we're talking about a fire consuming trees or an outside culture subsuming others—we want to know about spread and saturation. Whether we're considering trees or individual members of a culture, the spread of fire or cultural products and ideas, spots where there is no tree fuel and fire cannot spread or spots where there is no interest in outside cultural products and ideas and those cannot spread. We would model the behavior in much the same way.

What we may take from Resnick's behavioral study is that, in order for an outside cultural value, or a trend, or a desire for a particular brand of hamburger, to spread so that it consumes a whole culture, the density of fuel—in this case active consumers—is the key. Those consumers must have a considerable density indeed. With Resnick's tree density, even at fifty-five percent, with more than half the forest area being trees, the fire *never once* made it all the way across the screen. Until the density reached a much greater extreme, the fire was never guaranteed to burn its way across the entire forest, but the odds got significantly better after a threshold of sixty-three percent was reached. Still, the fire did not consume the whole at that density.

This suggests that the conditions necessary for the consuming of an entire culture—never mind every one of the cultures of an entire planet—has to do with the density of individuals interested in adopting the outside culture. If that density is not critical, the outside idea or product or value does not catch on, and it is very difficult indeed for the entire culture to be altered, except in the most extreme of circumstances, just as it is difficult for the fire to get enough fuel to prolong its trajectory to the other side of the forest.

It is in this sense that the previously-discussed misconception of homogeneity is so very important, for cultural density is not merely population, but the active members of a particular part of a particular society. They must be homogenous enough for a specific outside idea, product, value, or the like to have enough appeal to spread from one individual to another, and

they must be of close enough cultural proximity that the spread can happen—that individuals can introduce that idea, product, or value to each other. If the members of the culture are disparate enough in their own interests and ideas (and, as we have seen, they are), very little will appeal to enough of them that that critical density can be reached. Similarly, if they communicate infrequently with each other, or live in isolated communities (and, as we have seen, many do), that critical density will also not likely be reached.

If we're looking for specific densities necessary for cultural conquest, we may consider the forest fire model as a rough analog. More than half of the members of the existing culture, then, would need to have contiguous access to each other and similar enough tastes for the outside piece of culture to catch on at all, but it still wouldn't catch on through the entire culture. Nearly two-thirds of the contiguous, actively interested existing culture would have to accept the outside piece and pass it on for it to spread through the existing culture—and it still wouldn't subsume the whole. In other words, the study of the behavior suggests that complete subsuming of hundreds of disparate cultures, the vast majority of which are nowhere near each other conceptually or physically, ultimately fails. This is because the cultural acceptance of enough aspects of the outside culture never reaches that critical density that would allow it to subsume others. The world is simply not culturally homogenous or contiguous enough for it to work.

## Conclusion

Although many misconceptions exist when considering the complex forces that make up the phenomenon of globalization, the right theoretical tools are a great help in rethinking those misconceptions. The insights we glean from using theoretical tools capable of describing and explaining such complex phenomena are the ones that will help us build useful theory in twenty-first century international relations.

As a start, we can reject constructions relying on dichotomy or dichotomous values, and those that assign moral judgments to self-organizing complex systems. A complex system is merely complex, and unable to be funneled into dichotomies, or to live up to moral judgments as if it were a conscious, decision-making agent. We can use our common sense to ask questions of our scholars and our media to determine what might be missing from their accounts. We can be aware of the temptations to confuse correlation and causality, and to view events in hindsight as an inevitable straight shot, and not succumb to those temptations. We can seek to understand globalized responses to western culture on other peoples' own terms, and understand our own cultures and theirs better for it.

Finally, the west's, and specifically the US's, culture cannot and will not dominate all others. Certain aspects of it will reach an interest saturation point among particular members of particular cultures, based on their own individual interests and values—or perhaps they have already—and stop spreading. Places without the infrastructure to support the components of other spreading cultures are already as saturated as they will be, at least for the foreseeable future. There is also nothing inevitable about the spread of cultures and their values, about the multiple complex phenomena of globalization, or about complex systems in general. The lack of inevitability, however, together with the fact that nobody is directing these phenomena, suggest that globalization is what we make of it, both in our practices, and conceptually—and that the

more interconnected we all become, the more powerful and impactful our individual choices are in shaping the global cultural future.

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