Crude Thinking -- 7 Ways of Dealing with the Complex in IR

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Let me be crude. We know a lot less than we think we know.

Our theories tell us that when per capita income reaches a middle-income stage countries become more prone to democratization. They don't tell us how authoritarian countries might try to circumvent these democratic urges. Our theories tell us that generally states balance other great powers. However, they tell us less about *how* states balance or, on occasion, fail to balance other powers.

What are the most pressing challenges of the 21st century? Are they resource scarcity, climate change, the rise of fundamentalism, great power competition, financial collapses, or challenges to a US-led liberal order? Are they the mixture of one or more of these challenges, or will some combination of these challenges grow into something we did not anticipate? If we understand so little of the challenges, then what of the solutions? A market-led solution, a combination of alliances and institutions, the intervention of one or many great powers?

Perhaps some of the great areas of bafflement come from the intersection of fields and subfields that usually don't meet. Take the subject of war and financial crisis. We know that financial crises can lead to beggar-thy-neighbor policies that can erode trade networks, cause untold human misery and that these factors can create the permissive conditions for war. But how much do we know about all the messy causes that set up these conditions and the policy measures that could potentially stop them? Financial crises usually make countries focus inward; however, does this tendency then increase the rate of ungovernability in the world, as powers with the ability to act instead neglect their duties, leading to regret and policy overreactions later on?

Confusion, bafflement, and wonder can be a catalyst to new thinking. Rather than clinging to the old ways of thinking or jumping on the bandwagon of the first new idea that pops up, it may be prudent to keep an open mind. It might also be prudent to go back to simpler, even cruder analytical tools.

The more complex the world, the simpler the tools that are needed. This is perhaps the first and best rule of dealing with a complex world. Complexity and chaos theory have been associated with elegant modeling and literary fancy, but the suggestions explored here are based more on the ethos of rugged practitioners. They are explicitly rough in character, practical in tone, and sub-optimal in their outlook.

They are crude. Crude tools for our crude knowledge of the world.

1. Resist the urge to theorize (for now)

Nassim Taleb has written about the fragility of theories (2012: 133 – 134). They come and go. Not everyone believes in this superfragility of theory the way Taleb does. Some even go as far as to say that we cannot live without theory. But there is a great benefit in suspending the time between genuine curiosity and generation of theory. Once we have theories in place that seem to work reasonably well, it's hard to respark our initial puzzlement. We become invested in our theories in ways that inhibit our imagination (see Rosenau 1996 for more on this idea).

A healthy suspicion of theory might be summarized in the statement, “There are no straight lines that are not man-made.” Thus, before we submit to straight line-type theories, it might be best to wallow in curvy, messy reality.

What do we get from immersing ourselves in messy reality? A feel for what is happening and a deep respect for the inexplicable. It is also the foundation of cautious action in the face of the unknown.

2. Stop focusing

Complexity theory has long pointed to the hazards of focusing.

In linear systems, one can understand a system by breaking up its parts, analyzing them, and then using the accumulated knowledge of the smaller pieces to understand the whole. In these systems, knowledge is additive and all systems are reducible to their pieces (see Kerbel, 2004: paragraph 4; Bousquet and Curtis, 2011: 45). However, as complexity theory has demonstrated, this form of analysis faces severe limitations in nonlinear, or complex, systems where the parts are non-reducible and system properties tend to have “synergistic” relationships, feedback loops, trigger effects, delays, or are subject to abrupt qualitative shifts (see Beyerchen, 1993: 61-63; Czerwinski, 1998; Kerbel, 2004: paragraph 4; Bousquet and Curtis, 2011: 45). In these systems, focused, rigorous analysis of parts rarely leads to accurate knowledge of the system. What is needed is what Murray Gell-Mann calls a “crude look at the whole” (1997: 9).

Complexity theory has developed tools to help stimulate this kind of “crude” thinking. Pioneers of complexity approaches (such as the Santa Fe Institute) have developed rich computer modeling and theoretical tools for Complex Adaptive Systems (CAS) to help researchers and decision makers get a feel for the dynamics of complex systems (see Bousquet and Curtis, 2011: 53). But these sophisticated tools cannot replicate the kind of learning that practitioners naturally get through spontaneous interactions with their environment. As will be discussed below, practitioners who have thrived in a particular kind of ecosystem often become the best sources of knowledge on that ecosystem, even if they cannot articulate that knowledge.

In another sense, too, the act of not focusing can be productive. Intellectual breakthroughs have been known to occur at odd moments when the mind is preoccupied with other things. These moments of serendipity tend to happen when least expected. So, next time you’re genuinely puzzled by something, try playing a game of basketball, going for a walk, or talking to a friend about something mildly related or completely unrelated to the puzzle you’re working on.

3. Speculate and tell stories about how things could have been

Many honest social scientists are skeptical of their ability to make predictions on even trivial matters. Even a solid understanding of policy issues grounded in area expertise only provides so much leverage over the future. Quantitative methods, too, usually fail to predict big important things. Futurology and prediction continue to be all the rage, but they can only go so far in a world of contending wills and strategies. In situations with adaptive actors and/or poor knowledge of our environments, it may be better to have a fuzzy understanding of possibility rather than a precise prediction of the most likely possible outcome. Or, as the adage goes, “It’s better to be roughly right than precisely wrong” (this quote is often attributed to John Maynard Keynes, but has also been used extensively by Nassim Taleb).

Just as important as predicting the future is telling stories about the way things could have been and the way things could be. The future is often thought of best as all the possible interactions of free will. That means that anything that can come out of the interactions of free will is possible.

It has been said that a good intelligence agency should help its policy customers avoid surprises. The public loves to call intelligence failures some variation of a failure of “creativity” (as if creativity is something that can be produced by cloistered bureaucracies). Does this mean that social scientists, too, should be more creative writers than scientists? Perhaps that is the case. Instead of thinking about the future in terms of most likely outcomes, researchers could help policymakers think of *possible* outcomes and their consequences.

Most ventures in the adult world do not reward creativity. Nevertheless, creativity should be a valued trait. Social scientists should seek it out and expand forums for its active use. (More on the subject here.)

4. Look for successful but inarticulate practitioners

In Nassim Taleb's *Antifragility*, he presents figures such as "Fat Tony" (and other "street people" like currency and commodity traders) who defy our expectations of wise decision makers. In Taleb's estimation, heuristic learning — practice, learning-by-doing, trial and error — are intellectually superior to classrooms and book-learning. These people learn what works, often intuitively, through their interactions with their environment.

In my own writing (you can read my paper here at e-IR), I have argued that policy entrepreneurs should be studied as natural social scientists. And indeed, my research has found that the crude practitioner often has an edge over the bookish types.

What does this mean? Perhaps it means that when it comes to complex and fast-moving environments, people with abundant intuitive knowledge should be considered important sources of knowledge, worthy of study. Indeed, they often *must* be studied because they are usually too busy — and as Taleb has pointed out, too inarticulate — to make their own knowledge book knowledge.

This is a point that other disciplines have taken into account, for example when looking at the knowledge of indigenous peoples' understanding of the local environment or medicine. There is wisdom there. It just needs to be unearthed and made intelligible.

5. Learn to think in terms of "strategy" (in the real world, not in a bounded world)

This article could have also been titled "Strategy abhors theory with a capital T." My own very strong personal belief is that social scientists, especially in their search for "Theory" (with a capital T) often discount the role of strategy and human free will.

Currently, there is a body of evidence that says China is beginning to act as classical modernization theory predicts it will and correspond to the patterns of "third wave" democratization countries, such as South Korea and Taiwan. As incomes rise in China, citizens will demand the kind of accountability that can only come with higher forms of democratic participation (Yu and Chen, 2012). Yet, at the same time, it seems that the Chinese Communist Party is well aware of this theory and has begun to strategize ways out of its predictions. In some ways, the very existence of the theory (and perhaps even the quality of the research behind it) will increase the adaptive resiliency of the Chinese Communist Party. Thus, in an ironic twist, the better developed the theory, the more likely it is innovative actors can attempt to counteract its predictions.

Similarly, policymakers are also aware of the Thucydidean trap — the tendency of status quo powers and rising powers to become ensnared in destructive conflicts. Briefly stated, the Thucydidean trap refers to the danger two powers face when a rising power begins to threaten the interests and well-being of an established power, as Athens threatened Sparta in the 5th century BC and Germany threatened France and Britain in the 19th and 20th centuries. As Graham Allison writes, "In 11 of 15 cases since 1500 where a rising power emerged to challenge a ruling power, war occurred" (Allison, 2012: paragraph 7).

Is Theory akin to Destiny, or can actors learn and strategize, and thereby recreate the worlds they live in? To me, the answer seems obvious. Perhaps Bousquet and Curtis articulate the point best when they write, "The study of social systems is further complicated by the reflexivity of actors capable of absorbing and adjusting to the very knowledge produced about them" (2011: 56). At this very moment, actors in China are trying to strategize their way out of the predicaments of modernization theory; actors in both the US and China (and elsewhere) are trying to think up solutions out of the Thucydidean trap.

In the search for knowledge, strategy and all its disruptive possibilities seem to be lost. Moreover, various forms of

game theory tend to compound the problem by hermetically sealing off strategy from the uncertainty of the world. Nassim Taleb has written about the difference between the "Ludic" world of game theory "with its rules supplied in advance in an explicit way" and the real "nonLudic" world "where we don't know the rules and cannot isolate variables" (Taleb, 2012: 257). Given that the second is the one we are concerned with, it makes sense to train our minds in terms of "strategy" through exposure to the real world instead of artificial models.

6. Mind your limits — learn to love the sub-optimal solution

As should be clear, some means of looking at complex systems are better conceptualized as thought experiments. They are better at helping us avoid surprises than at maximizing advantages. Thinking in terms of the complex helps us avoid looking for the optimal solution, especially in environments where being wrong can lead to gross vulnerabilities.

In a complex world, systems should be simple, safe, redundant, and flexible.

Why simple? When systems are simple, breakdowns are easily understood and easily fixed. Simple systems can also be mastered by anyone. They do not take geniuses to use. Thus, when there are no geniuses around, the system is not doomed to failure (even if it doesn't work optimally).

Complicated systems can provide efficient outcomes, but they can also contain dangerous risks, especially when there are no skilled operators around who can master them. One may think of the interlocking series of conferences, negotiations, and alliances Otto von Bismarck used to maintain Germany's position and keep Europe at peace as an example. While his (complicated) system helped Germany thrive during the 1870s and 1880s, without his genius the system soon collapsed and paved the way for the calamities of the 20th century.

What do I mean by safe? I mean that a single failure does not lead to catastrophic or systemic failures. The current structure of banking systems across the world is the very definition of unsafe. The failure of each bank increases the possibility of contagion and collapse of other banks. Any organization that uses rigorous controls and "lessons learned" to prevent future accidents, like the medical or airline industry, is far safer.

What do I mean by redundant? I mean that having extra something, even if it seems like a waste of money or time, leads to the overall resilience of a system should there be an unexpected loss or accident.

What do I mean by flexible? I mean that a system should not be so rigid that if for some reason a new problem arose, the system could not be adapted to this new problem. History has shown that it is far easier to adapt an old system than to create a completely new one from scratch. Thus, we shouldn't be surprised when Cold War alliance structures become repurposed for new challenges and threats.

7. Don't linger too long in complexity

Once you are in a complex framework, it can be too easy to stay there, perhaps even to abandon the modern notion of "knowledge creation" altogether. After all, when do we truly "know something" in any final way?

Crude coping mechanisms are good for big important questions where what we know is easily dwarfed by what we don't know or don't fully understand. But it's not healthy for a researcher to spend a lot of time there. Every once in awhile, we need to go smaller, to endeavor to master something, even if just for a little while.

The will to master something, either through policy or scholarly study, is a natural one to those who consider themselves "modern." To bring a semblance of order to chaos — or as a colleague once told me "to make sense out of nonsense" — is, in the end, one of the responsibilities of the modern professional. We feel a sense of accomplishment when the trick is accomplished. And we sleep better.

Complexity, chaos, crude thinking — these places are necessary to visit, they discipline the hubris of the modern

project. However, these approaches are not a place I would want to live. In the end, it's important to get back to ordering the world, even if the task is somewhat of an illusion!

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