Book Review - Dynamics Among Nations: The evolution of legitimacy and development in modern states[A]

David Hales, Ph.D.[B]

In a recently published book Prof. Hilton Root presents a complexity-based analysis of broad social-economic development. Utilising insights from complexity theory, Root applies comparative historical analysis to provide a convincing critique of Modernisation Theory suggesting new ways to conceptualise and engage with development issues. Specific consideration is given to the rise of China and the implications for "East versus West" globalisation narratives in the context of the emerging 21st century multi-polar networked world.

Introduction

After the fall of the Berlin Wall, in 1989, prominent Western Liberal intellectuals declared the "end of history." The West had won. Liberal democracy, driven by open markets and global capital, was inevitable and the historic destiny of all nations. The only question was how long it would take them to get there. Hence international development became a process, for the West, of helping all nations along the road towards the final utopia, a utopia the Western powers had already attained.

This narrative was expressed within the wider conception of "Modernisation Theory." A set of ideas and practices that had great influence on Western international development programmes in the final decade of the 20th Century and early 21st Century. The basic plan was this: take the institutions, practices, market systems and governance structures from the developed West and transplant them into the post-communist states and developing nations to help them

along the way.

This presupposed a linear notion of economic and political change at the level of the nation state. It also depended on the idea that social and political change would follow economic determinants such that the elites of diverse nation states would be forced to make economic reforms that would inevitably lead to demands for further political reforms such as democracy, rule of law, and convergence to Western liberal values. This mechanistic, linear and downright historicist view of the world had influence within Western international development circles directly affecting policy, programmes and actions. One can easily see the appeal from a Western liberal perspective. But there was a problem. History did not end.

Economic reforms did not lead automatically to liberal political reforms. Institutions from one nation and culture could not be transplanted simply to another. Modernisation Theory failed spectacularly in many regions. Why? What was wrong with Modernisation Theory? More importantly

---

what theoretical basis can be put in its place in order to understand the highly complex, uncertain and volatile globalised world we find ourselves sharing today?

Applying a Complexity Approach

In *Dynamics Among Nations*, Hilton Root addresses these challenges from a Complex Systems perspective. Drawing on a wide range of case studies and his insider knowledge (as well as being an academic he spent time in many areas of international development). Root demonstrates how the simplistic basis of, yet exuberant belief in, modernisation theory at best wasted valuable opportunities for improving peoples' lives and at worst led to the opposite of what was intended.

Root shows how a complexity perspective can provide a much more nuanced, culturally and historically sensitive analysis of past, present, and future in the global socio-economic and political context. It is rare to find an author with a deep understanding of complexity approaches *and* a domain of such broad and timely historical and socio-political scope. Hence the book does not fall into the trap, often seen, of applying superficial complexity analogies to serious social and political problems or conversely characterising complex social and political issues superficially in order to apply facile mathematical or algorithmic formalisms.

Root makes it clear that he does not believe that complexity theory can be used as a crystal ball to produce predictions with algorithmic or mathematical precision but rather as a way to describe meaningfully the complex and messy world we live in; to understand the past from a fresh angle; to interpret the present and to produce plausible scenarios and policies for the future. For example, he clearly describes the concept of co-evolution and fitness landscapes in order

to show how assumptions such as optimisation or mimicry, at an institutional level, are of little value without understanding the wider context of history and shifting inter-relationships. I contend this was effectively encapsulated in what he characterises as "the transplanter's dilemma":

> ...no part of a complex social system can be isolated from the whole with the expectation that its function will remain the same. Transplanting an institution from a developed society to a developing society will not enable the latter to progress along the same path. For a transplanted institution to replicate identical behaviour, the entire developmental process must be replicated, beginning from its primitive condition. (p. 39)

In the context of Modernisation Theory, and associated thinking such as Liberal Internationalism and New Institutional Economics, Root argues that it became a form of normative doctrine, ultimately being considered "The Enlightenment writ large." Yet some of its consequences, such as global markets, actually facilitated autocracy rather than freedom.

He identifies the danger of an ideology that assumes away the importance of the state based on notions of self-correcting processes of competing interest groups because particular groups may capture the state. One way to understand such processes is through the dynamic coupling of fitness landscapes through co-evolution:

> Landscape models offer perspectives that can help clarify a key lesson about complex systems: success depends less on the attributes of an individual agent than on where that agents happens to be situated in the system. (p. 72)

Thus producing a diagnosis for current predicaments:

> Liberalism and communism, both products of the European Enlightenment, did not anticipate that increased global interdependency would cause a human complexity revolution. Communism failed to anticipate that individuals have properties and needs that are often greater than those of the collective. But liberalism, as the primary ideology of modernization, does not capture or adequately represent the co-evolutionary drama that will shape the future of developed and developing nations alike. (p. 73)

Complexity Based Historical Analysis

The meat of the book involves understanding specific historical trends and relationships that got us to where we are today by applying complexity concepts such as co-evolution, fitness landscapes, lock-in, and networks etc. The specific examples range over several regions and states including the US, Europe, India, Pakistan, Sri Lanka, and China, among many others.

The method followed involves scholarly historical and regional comparative analysis. Where historical claims are made relevant sources are cited and the complexity concepts used are introduced without assuming prior knowledge. No mathematical or computational abstractions are presented in the book. Extensive citations to the leading relevant complexity work are given. In addition a useful glossary of terms is provided at the end of the book.

In this review I only cover a few of the extensive number of topics addressed in the book, however, I will provide an overall flavour of the analysis by presenting a few poignant examples.

India, China and Europe

For example, India applied a top-down approach to economic development for several decades, with associated five-year plans. Yet this approach did not perform well, which lead to unintended consequences and poor levels of development. China, under Deng, followed a multi-level approach with both top-down and bottom-up aspects that allowed for local experimentation and stability. What worked was scaled-up and emulated. Those responsible for new initiatives "on the ground" could gain some personal reward through being allowed to keep some of the surplus value created. It is perhaps not widely enough know that many of the reforms that have propelled modern China to the top table of the powers started at the bottom not as a central plan. Hence, there is a semi-distributed system with individual incentives, but not a full-blown market, and the retention of a degree of central control.

The book also focuses on China in several contexts. The China sections could be considered the major existence proof that undermines Modernisation Theory. That is a state excelling in global trade, markets, and rapid development *without* Liberal democracy – and hence a major challenge to Western hegemony.

Taking a longer look back in history, Root applies network theory to understand how the Industrial Revolution first happened in Europe as opposed to China. Despite China being relatively unified and also the source of major technological innovations (such as gunpowder), the West surpassed it in productivity, growth and global expansion. This produced the great East / West divide.

China had a unified power structure that continued over several dynasties producing many benefits. This social architecture can be viewed as a hub-and-spoke network. All power leads back to the centre. Conversely, Europe was a set of competing hubs, based around feudal families and emergent states. No single hub could dominate despite constant competition for ascendancy. Yet the hubs were linked via the small-world networks produced through aristocratic intermarriage. So although elites (hubs) competed they also had short paths of communication and influence between them. This composite social architecture created a form of scale-free network.

Complex network theory has established several results concerning the comparative properties of these kinds of networks. Scale-free networks are resilient to shocks and can easily adapt. Old hubs can be removed and new hubs can be added without disturbing system level performance.

Consequently scale-free networks provide a resilient basis for dynamic reconfiguration through innovation and diffusion. If one considers the replicator dynamics (evolution) on such networks then it is clear that a centralised hub-spoke system requires that the centre must control mutations in order to avoid losing power. However, in the decentralised scale-free networks, since there is no central power, a perpetual process of competition can occur, in a decentralised way, driving innovation and diffusion and making way for new hubs as old hubs fail to adapt. Again, complexity research applied to evolution on complex dynamic networks has provided many powerful examples of this.

In summary, Europe, historically, though less cohesive and stable than China, benefitted from much higher rates of innovation and diffusion. Root argues that the linkages and competition between the European states – facilitated by aristocratic and trade ties – supported a form of decentralised selection of ideas, practices and technologies. This drove high rates of innovation and diffusion while retaining resilience, at the system level, to the shocks that new technologies and practices generate. Nations fell but Europe as a whole advanced. This was a major force in promoting European ascendancy over the period of the Qing dynasty.

This is contrasted with a China that managed to establish a comparatively unified and centralised governance structure thus reducing internal competition, increasing efficiency in many areas, yet leading to a certain degree of stasis over long periods of its history. The Qing dynasty lasted from 1644-1912, collapsing in chaos and bloodshed.

Democracy and the Modern Nation State

In the early 1990's, the idea that Western style liberal democracy was some endpoint for all modern states was *almost* defensible. This was encapsulated in modernisation theory and the famous "end of history" concept[1]. But two decades on things look different. Why?

Root makes the case that we currently see many forms of democracies and these can only be understood by understanding the histories of the states that gestated them. This involves understanding the path-dependent nature of these histories and identifying the initial conditions and bifurcation points that shaped them. However there is no easy way to do this. Democracy is a complex system. Consequently there can be no

---

[1] Francis Fukuyama (1992). The End of History and the Last Man. Penguin.

universal template for democracy. Root gives numerous examples from the post-communist states to Turkey and Latin America to make this point.

However, this does not mean that states have nothing in common. Modern states have similar functional requirements in the solution of collective action problems. They need to extend cooperation beyond close kin or direct reciprocity. Hence different paths can converge. This is similar to parallel evolution in biology where entirely different species can appear physically very similar due to the functional constraints of their environment. This is very different from Modernisation Theory that supposes all follow the same evolutionary path like a wagon train.

Again Root compares the trajectories of Europe, considering France, England, and Germany, with that of China. Europe after centuries of competition and bloody conflict converged on a governance structure that incorporated various aspects from each other. China followed an entirely different path. Yet each needed to solve similar functional problems. Each needed a functional bureaucracy for example. Yet how these functional requirements for state building were established was very different:

> Long before France, England, and Germany, China acquired state capacity by providing the social mechanisms and symbolic references needed to extend the altruistic basis of human sentiment to non-kin members. The properties of trust, cooperation, and social coordination were ethically and politically defined. Key long-term investments to ensure the collective good were routine. (p. 194)

China has converged on "bureau-

cratic inclusiveness" rather than liberal democracy. In a nutshell this involves co-opting rising elites into the system via allocating privileges[2].

Root concludes that:

> Many of China's main institutional features were derived in relative isolation from the West, and even though the two may cope with similar domestic and economic challenges, such as dependence on the larger global economy, China will not replicate the governance trajectory of the West. It may display analogous traits arising from the need for adaptation to similar global contingencies but will remain on a fundamentally different trajectory that continues to diverge from that of the liberal West. (p. 194)

This has obvious policy implications and Root makes clear that Western policy makers need to look beyond the fantasy that liberal democracy will somehow emerge to address the problems that China will face in the near future: that it is increasingly integrated into the global economy and thus it can not achieve its goals without coevolving with others. Centralised control is not an option in a globalised networked world.

Root identifies a number of policy related issues that China will need to address in this regard.

The Future – East or West?

In the final two chapters of the book a big issue is addressed: Will East and West form a new international order or will there be increasing tension through competition to expand influence and power?

---

[2] A similar process, it might be argued, is where large corporations such as Google and Facebook simply buy promising start-ups rather than compete with them.

Root takes the case of the relationship between Sri Lanka, the West and China as an illustrative example. China has made large investments in Sri Lanka over the last five years usurping, to some extent, Western influence. China does not attempt to impose values or a template of development but rather ensures economic cooperation through public/private financial relationships that bypass democratic or international scrutiny. Long-term economic relationships have matured into shared values. Yet democracy can suffer because those relationships are cemented with incumbent elites outside of democratic transparency. This leaves the West looking hypocritical and powerless. Sri Lanka does not need Western loans so can ignore western finger pointing on human rights and corruption issues, for example. China does not give lectures on democracy or human rights.

Root identifies a similar pattern in China's relationship with many other peripheral nations. He argues that this could be the basis for a new Eastern world order in opposition to the Western version. But then what should the West do if it wishes to preserve its values and power in international affairs?

> What the West should want is not to force change within China, but to work with China to mitigate risks that global outliers pose to system stability. Walking away from Libya empty-handed after its embrace of Gaddafi should serve as a warning of the danger of being too close to regimes that abuse their own people and of investing in leaders, rather than the well-being of the population. (p. 214)

Root sees the future as an evolving ecology of players interacting through highly interconnected dynamic networks of trade, power and information in which policy preferences, norms and beliefs will no longer emanate from Western models. Rather a co-evolutionary process will create novel institutional structures arising from fusions between traditional beliefs and myopically discovered strategies that address current challenges. Traditional influence and trade networks will fragment. New sources of soft power will emerge. Can this be a basis for a new international order bringing peace and prosperity? And will the nation state itself survive?

Root argues that although many have predicted the end of the nation state, the 2008 financial crisis reinforced its role. While undermining the power and hegemony of the Western nations it paradoxically increased the belief in the role of the state within emerging players using different models. He also argues that material aspirations, consumerism and identity politics alone will not be sufficient to either converge or diverge the ecology. Though each will play its part in the mix. Economically, this implies a challenge for all countries aspiring to rise high on the value chain:

> The domestic policy challenge will be to construct public goods that enable networks of adaptive individuals, firms, and nations to interact on the basis of self-organizing complexity. (p. 233)

Yet policy lags behind, particularly within international relations:

> Why do conventional theories of international relations rely on the notion that solving social dilemmas of collective action requires a captain at the helm? (p. 234)

Root does not give policy answers but rather challenges. He concludes that the evolutionary complexity theory outlined in the book will enable global thinkers to:

> rewrite the narrative of globalization and map the path to future sources of global prosperity. It provides the widest base for the creation of common knowledge about global change processes. Complexity is the analytical foundation that can integrate diverse cultures into a shared conception of the global future. It is the appropriate analytical vehicle to convey common knowledge about the human experience in beliefs, and technologies of agents of diverse origins. It reveals how globalization weaves together economies, cultures and polities of all levels of development in shared networks of competition and symbiosis. And it offers a framework that validates both Western and non-Western experiences. It can lead developing and developed countries to find common cause in shaping and accelerating global development. (p. 235)

One can but hope.

Speculation on Current Events

It is important to consider the application of Root's framework to current events. For example, could the obvious mismanagement of the events in Ukraine by the West, in the form of the EU and US responses to both the uprising and subsequent annexation of Crimea by Russia, be laid at the door of modernisation theory? During the Kiev uprising both the EU and US seemed to offer support, perhaps assuming what they were seeing was a call for Western Liberal democracy (all those EU flags). The EU's

Baroness Ashton and the US's John McCain were dispatched to hand out cakes and make speeches respectively. Yet subsequent developments show starkly that historical and geo-political aspects were far more complex than this. The EU and US interventions only served to raise tensions (even between the EU and US). And the outcome has strengthened Russia.

As I sit here in Szeged, Hungary, a general election is happening with all bets on the Fidesz party, led by Viktor Orban, to retain power with ease. Yet despite Hungarian membership of the EU, Orban campaigns in a distinctly oppositional way claiming he will not allow outside forces to impose leftist and liberal conceptions of democracy on a proud and unique Hungarian culture. Populism aside, he's surely onto something: Hungary's unique historical path cannot be ignored by supranational bodies that wish to impose a modernising template developed elsewhere.

In a similar vein, who anticipated the rise of the UK Independence party in the UK, a party with the explicit goal of facilitating an immediate UK exit from the EU? Nigel Farage, the leader of UKIP, constantly refers to Britain's unique and historic ties with commonwealth countries thus allowing for bilateral trade agreements to be beneficially arranged. That Britain "invented" Parliamentary democracy and does not need the advice of "unelected bureaucrats" to improve it. Again, populism aside, is he onto something?

These may not seem like critical insights, because they are not, but after reading Root's book I realised that I had previously internalised some of the ideas from Modernisation Theory without even knowing it because I would not have thought in these ways before. In fact I was unreservedly pro-EU believing any opposition was to turn one's back on the modern world and become

aligned with anti-democratic forces. Now I wonder if the EU should reconsider its expansion strategies in the light of complexity.

Caveats

Despite the highly original and interesting application of complexity approaches to the subject matter several caveats and questions are important to discuss.

Does a complexity perspective actually *produce* plausible policy options? Put another way, the degrees of freedom complexity approaches allow could mean that almost any hypothesis or interpretation may appear plausible. This could be a problem in the policy domain where, it would appear, at least some level of expert convergence and coherence is need to support significant policy actions at executive level. Put bluntly, if any analyst can claim that complexity supports their pet theory then what use is the framework?

There is nothing in the book that could not be formulated and articulated *without* complexity concepts. Though I argue it would take many more words and be less generally accessible. This could mistakenly lead a reader, with no knowledge of complexity work, to think that the book *does* fall into the trap of superficial analogies.

Although the book is highly critical of existing Western policy approaches towards international development, the basic goal is not significantly questioned. Liberal internationalist values are generally seen as a good thing and taken on face value. This is an ideological position that I concur with. However, it can be argued that a complexity approach can just as easily (perhaps *more* easily) be used to support other positions such as Romantic, Organicist, or other thought[3]. In this sense, given the challenges Root identifies, it would have been interesting to see a more radical ideological re-orientation being presented as an option. Also perhaps more questioning of the reality behind Western liberal values as they have pertained to international relations would have been instructive. Without this, the reader may get the impression that Root is attempting to shore-up a rapidly declining stock. i.e. the idea that Liberal internationalism is what it claims to be.

In this view, it could be argued that the fundamental contribution of complexity approaches, at present, is as a tool of critique and inter-disciplinary communication rather than as a positive basis for new policy. This is not necessarily a negative but could be seen as a feature – as Root indicates in his conclusion. After all, since we do increasingly live in a world of divergent ideological and specialist camps, perhaps finding a basis for communication and critique, which cuts across these fissures, is no small achievement. From a Popperian point of view, refutation is the main mode of rational advance and as Root demonstrates the complexity approach can be used as a tool to bring down exuberant wrong-headed models and polices, *and* to steer us clear of the duel quagmires of Scientism and Historicism[4].

The book covers a broad range of material based on detailed historical analysis covering varied regions and times. At times one gets the impression that too much was squeezed into a relatively slim volume (300 or so pages). Obviously Root

---

[3] Richard Bronk (2009). The Romantic Economist: Imagination in Economics. Cambridge University Press.
[4] Karl Popper (1945). The Open Society and its Enemies. Vols. 1 & 2, Routledge, London.

wants to demonstrate his framework with diverse examples but perhaps more of the detail could have been footnoted, or less examples could have been used, giving more space to focus on the framework per se.

Conclusion

This book would be of considerable value to those interested in how complexity-based policy and historical analysis might work - from historical roots to future possible trajectories and scenarios. It is written in clear language and should be understandable to the general reader, with an interest in contemporary global political economy, with or without a background in complexity.

As a computer scientist *with* a background in complexity and agent-based modelling, I started the book with a degree of trepidation. Yet, interestingly, I could appreciate the historical analysis and overall framework because Root was using a vocabulary I understood. Consequently, I view this as a true crossover book demonstrating how a complexity perspective can provide language and concepts allowing currently distinct disciplines to communicate meaningfully. This is a accomplishment.

Throughout the book numerous ideas jumped out as potential hypotheses for agent-based modelling work. The agent-based modelling community has tended to focus on micro-interactions, at the level of individuals, leaving the bigger global political context less well addressed. Those coming from the algorithmic and mathematical side of complexity should not avoid this book if they are at all interested in world affairs. It should be viewed as source material to engage with and perhaps as a set of challenges to address. There is a role for models that could capture some of the implications of Root's ideas beyond the existing litera-

ture. In this context modellers should not be in the "prediction business" but the "implications of assumptions and policy options" business.

Overall, what comes through in the book is thoughtful breadth and humility that comes from deep knowledge and experience of a subject area that has been something lacking in many complexity circles.