

Wicked Problems: How Complexity Science Helps Direct Education Responses to Preventing Violent Extremism

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Wicked Problems: How Complexity Science Helps Direct Education Responses to Preventing Violent Extremism

Abstract

This article draws on the insights from complexity science to outline potential strategies within education which could interrupt the spread of violent extremism. It first identifies three problems in examining extremism - definitions, causes and targets—before arguing for a focus on systems, not individual learners. Within systems, diversity is needed for emergence, and narrow, hard secularism is rejected in favor of a dynamic secularism which encourages a variety of belief systems in order to guard against polarization. The systems of education, religion, law and of terrorism itself are analyzed to identify entry points and vulnerabilities. After looking at the theories of change used by extremist groups, the paper proposes a theory of change within the niche of education which has four strands: Introducing turbulence through value pluralism, working within the enabling constraints of human rights, building confidence and resilience, and developing networking for social change. All four combined are necessary to generate the creativity which can undermine the wicked problem.

Introduction

In a complexity perspective on the world, problems are cast as *wicked*.¹ This means not only that there are multiple legitimate ways of framing each question, but that any solution has unintended consequences that are likely to spawn new problems. Wicked problems have no stopping rules. This article argues that the phenomenon of violent extremism is a wicked problem, with some unique features, where there cannot be tests of effectiveness of solutions. Wicked problems cannot in fact be solved at all—all that is possible is that the problem space is loosened so that a wider range of options for action emerges.² This article examines how education can be part of this loosening of the problem space.

To do this means acknowledging how education, as a potentially complex adaptive system (CAS), is nested in other CASs, in this case religion and law. The complex adaptive system—whether the brain, the immune system, the world economy, or an ant colony—can respond to its environment to survive, with redundant features bypassed or dying out and new ones tried and then developed. The CAS may have to reach *criticality* or *the edge of chaos* before emerging into something new, a new fitness landscape. A degree of turbulence is essential, as a CAS exists in a state called *far-from-equilibrium*. In fact, a stable equilibrium would mean death for a complex system.³

Complexity perspectives have been applied to education before, but mostly in terms of seeing educational institutions as bounded systems, where a complexity approach can mean leadership that is more effective and hence better student attainment.⁴ A new journal *Complicity* devoted to this field. In this institutional theory of change, the endpoint is a transformation in the working of the school. When focusing on the challenge of violent extremism, however, there is a very different transformation vision—if such change can be visualized as a concrete

¹ Horst Rittel, and Melvin Webber, “Dilemmas in a General Theory of Planning,” *Policy Sciences* 4 (1973): 155–169, available at: <http://dx.doi.org/10.1007/BF01405730>.

² Kevin H. Rogers, Rebecca Luton, HHarry Biggs, Reinette Biggs, Sonja Blignaut, Aiden G. Choles, Carolyn G. Palmer, and Pius Tangwe, “Fostering Complexity Thinking in Action Research for Change in Social–Ecological Systems,” *Ecology and Society* 18:2 (2013): 31, available at: <http://dx.doi.org/10.5751/ES-05330-180231>.

³ Brent Davis, and Dennis Sumara, *Complexity and Education: Inquiries into Learning, Pedagogy and Research* (Abingdon: Routledge/Taylor and Francis, 2006).

⁴ Michael Fullan, *The New Meaning of Educational Change* (New York: Teachers College Press, 2007); Brad Kerschner, and Patrick McQuillan, “Complex Adaptive Schools: Educational Leadership and School Change,” *Complicity: An International Journal of Complexity and Education* 13:1 (2016):4– 29, available at: <https://ejournals.library.ualberta.ca/index.php/complicity/article/viewFile/23029/20337>.

reality at all. Building on previous work using complexity theory in education and conflict, this article looks at how a theory of change rooted in complexity science can give some interesting clues towards an educational practice that could possibly help interrupt the spread of violent extremism.⁵

Education in terms of formal learning is a plays a relatively small role in preventing violent extremism—military (sometimes called *kinetic*) solutions seem immediate and impactful. Nonetheless, the conviction that education can do something still lives on. PVE-E (Preventing Violent Extremism-Education) is now a whole industry with several different books and materials, by individuals and by international agencies such as UNESCO, aimed at teachers and policy makers.⁶ Yet the impact of strategy is notoriously difficult to evaluate, because of the attribution gap—if fewer young people go off to become foreign fighters, is this because of their educational experience or something else? Prevention necessitates measuring the negative and attributing causality where none can be fully determined.⁷ However, with these caveats in mind, some strategies are suggested.

Problems and Uncertain Paths

Initially, however, three linked problems need surfacing—definitions, causes, and targets. First are the difficulties of definition in our wicked problem. Given the multiplicity of types of extremism (political, ethnic, sectarian, separatist, criminal), there are no internationally agreed definitions of extremism, nor of violent extremism, nor therefore of what countering violent extremism (CVE) or preventing violent extremism (PVE) actually targets. It is like trying to nail jelly to a wall. Unlike trying to find a cure for AIDS, this is one of the reasons CVE is a wicked problem. In a *United States Institute of Peace* publication, Heydeman writes how CVE has struggled to find a clear and compelling definition as a field, and, what is more, poses significant risks to participants and practitioners in the association with counter-terror.⁸ The result of such vagueness is either recourse to reductive, linear thinking about cause and effect, or to have a huge scattergun approach, labeling everything as CVE.

⁵ Lynn Davies, *Education and Conflict: Complexity and Chaos* (London: Routledge, 2004); Lynn Davies, *Unsafe Gods: Security, Secularism and Schooling* (London: IOE/Trentham, 2014).

⁶ UNESCO, *A Teachers Guide to the Prevention of Violent Extremism* (Paris: UNESCO, 2016).

⁷ Naureen Chowdury Fink, “Something Old, Something New: The Emergence and Evolution of CVE Effort” (Washington, D.C.: United States Institute of Peace Insights Newsletter Spring, 2014).

⁸ Steven Heydeman, “Countering violent extremism as a field of practice,” *United States Institute of Peace Insights* 1 (Spring 2014), available at: <https://www.usip.org/sites/default/files/Insights-Spring-2014.pdf>.

Secondly, there is an understandable desperation to understand root causes of extremist behavior, so that solutions can be applied. However, there is no one linear path into (or out of) extremism, and, although vulnerability factors can be posited, it will be unique, idiosyncratic combinations that predispose individuals to support violent extremism. There is a temptation to identify a singular root cause and leap in with an equally singular educational solution. This ranges from the macro level (if it is poverty, make education vocational for the marginalized) to the more micro (if it is boredom, make school more exciting). Our social enterprise *ConnectFutures* participated in a European research project called *Formers and Families, which*, through interviewing former extremists and their families, had the aim of identifying family patterns, which made children vulnerable to radicalization.⁹ In our UK sample, however, we were unable to establish any such patterns. Families can help perhaps in preventing radicalization or afterwards supporting a journey to deradicalization, but it is crucial to avoid a causal view, which attributes blame. The focus on the individual or on dysfunctional families is a blind alley in PVE strategy.

Within the educational field, a linked third problem is that of targets. There is a growing popularity for movements such as character education, or even *character and virtue* education. The aim is to instill or encourage certain character traits and moral virtues—courage, justice, self-discipline, gratitude, humility etc. to turn out better citizens.¹⁰ This project has two fundamental flaws. The first is that the character traits described could equally apply to many violent extremists, who demonstrate determination, grit, loyalty, courage and even compassion (for those on their side). They show humility and gratitude to God for allowing them to become a martyr. There is no guarantee of how people will use their attributes. In addition, there is a danger of cementing binary notions—good versus evil, moral versus wicked.

The second flaw is character education's theory of change—the notion that if you create enough good people, a good society will result. Sadly, perhaps, this is not how societies evolve. One can have a mass of good people run by a brutal dictator and their coterie where a society goes backward. When a society does seem to emerge into something better, as

⁹ Lynn Davies, Zubeda Limbada, Laura Zzahra MacDonald, Basia Spalek, and Doug Weeks, "Formers and Families: Transitional Journeys in and out of violent extremism in the UK," *ConnectJustice* (2015): 1-32, available at <http://connectfutures.org/wp-content/uploads/2016/08/UK-Formers-Families-Final.pdf>.

¹⁰ James Arthur, *Of Good Character: Exploration of Virtues and Values in 3-25 Year olds* (Exeter: Imprint Academic, 2010).

in the fall of the Berlin wall, the end of apartheid, it is not because of some critical mass of good people, but a highly complex set of interlocking events that cannot always be predicted. PVE therefore cannot borrow from or just extend peace education, or any of the programs which focus on the transforming or sedating the individual—whether character, Buddhist inner peace or mindfulness. It is the wrong starting point. To contemplate change, we have first to look at systems.

Working within Systems

Firstly, are education systems complex adaptive ones? Clearly, some are more adaptive than are others. Education systems suffer hugely from the phenomenon of path dependence. In that they are designed to transmit received values and socialize the young into accepted norms, they are inherently conservative. In some ways, they are the classic frozen accident, or lock-in: Beginning from the need for social control, to produce the next generation of workers, many have not moved from 19th century models of group containment and frontal transmission of knowledge. Technology is forcing new ways of learning and receiving information, as pupils take photos of the blackboard/whiteboard instead of writing it down, and bypass the teacher in the search for information on the internet. Yet, many systems cling to traditional ideals and education's role in selection and sorting the life chances of future generations is firmly embedded. Education systems will not get to the edge of chaos any time soon.

Turning to religion, faith organizations can have elements of a CAS, but religions themselves are underpinned with linear ideologies. These include notions of the end time, the path that humankind will take towards God. They also include many ideas based on linear cause and effect—sin and you will be punished, love and you will be rewarded. The major and obvious point about suicide bombing is that the ultimate axiom of linear thinking—that you will be rewarded in heaven—is not open to historical proof/disproof, as might a political Utopia. The appeal of the supernatural is part of their resilience.

Religions become complex systems not because of a God directing them, rather because they become robust, self-organizing networks, able to beat off the competition. A set of exclusive relationships or networks is formed around a religious denomination that includes some into a privileged set of relations, information systems, myths, and symbols. In James Dingley's analysis from work in Northern Ireland, "the networks act as communication systems, distributing knowledge and information, and

historical memory banks.”¹¹ The historical memory banks include an essentialist perspective on other people, and the belief that those others are unlikely to change. Such memories also include gender relations. Yet it is possible to disturb such religious essentialism: A collection on *Gender, Religion, and Education* that I co-edited revealed how educational institutions do maintain gendered relations but also how women operating within those religions can challenge these.¹² Whether Christianity, Islam or Judaism, such women had the courage to show argue that gender interpretations within their own religion were a social construction. If this is accepted, the problem for religious adherents (and for the women) then becomes why *all* religion not a social construction. Those mounting a counter-narrative to ISIS will seek to demonstrate that the ISIS ideology is a social construction, not based on true Islam. This does work for some people being mentored; others prefer the more dramatic version.

Thirdly, then, the actual systems of terrorism. Is ISIS a complex adaptive system(CAS)? As long ago as 2004, the author was arguing that al-Qaida (AQ) was a CAS—self-organizing, with horizontal cells, adapting and evolving, learning, and incorporating other branches such as the Taliban.¹³ ISIS is even more resilient and evolving than AQ. It does have linear visions of the caliphate, but also highly complex military, economic, financial and propaganda sub-systems. In its aim of creating fear, it is successful. It is adaptive, searching out new and creative ways to recruit, to instill terror, and to normalize violence to an end. Many of their fighters are killed, but currently, ISIS seems able to control an endless supply of recruits. For many, it is a better life in it than out of it. While some military tactics within the War on Terror go after the leadership, taking out the leader does not mean the collapse of the organization—just as decapitation also does not work to break up complex international criminal networks. Nor is there a single space that can be marched into and occupied.

Yet while terrorist organizations are evolving, we must go along with the assumption that any violent extremism is not good for general social evolution—based as it is on regressive purist or Millennial ideologies. Religious violent extremism aims at a return to medieval and misogynistic practices; right-wing extremism to some imagined community of pure white, non-Jewish/Muslim inhabitants; and left wing extremism to some

¹¹ James Dingley, Religion, Truth, National Identity, and Social Meaning: The Example of Northern Ireland,” *National Identities* 11:4 (2009): 367-83, 369.

¹² Zehavit Gross and Lynn Davies, *Gender, Religion and Education in a Chaotic Postmodern World* (Dordrecht: Springer, 2015).¹³ Davies, *Education and Conflict*.

¹³ Davies, *Education and Conflict*.

communist collectivist existence—or anarchy. None is evolutionary. Violent extremism is also incredibly wasteful of resources: It helps the arms industry (and the PVE industry of course) but it is economically ruinous. Will violent extremist movements die out? Can we hasten their demise?

Their key vulnerability is the lack of diversity—and in the end, the lack therefore of negotiating power, still less negotiating will. Power sharing is unthinkable. While terrorist organizations recruit, in the end only a narrow band of people will subscribe to the terrorists' methods, despite their growing spread into the indoctrination of small children. The opportunity space for negotiation is not there. This is not to argue that unlimited diversity would in contrast mean greater peacefulness or communication—studies of societies such as Switzerland or Bosnia-Herzegovina show that violence or conflict is *less* likely when there are degrees of boundaries between groups. Rutherford et al argue that peace does not depend on integrated coexistence, but rather on well-defined topographical and political boundaries separating groups, allowing for partial autonomy within a single country.¹⁴ Complexity theory shows us however that for emergence, a degree of diversity is essential, so that new combinations can evolve, better suited to a new environment. Extremist movements do lack this potential.

Bifurcation and Amplification: The Wrong Sort of Secularism

If the vulnerability of ISIS is its lack of diversity, then the clear policy message is *not* to try to tackle this through an equally crude crackdown on diversity. A current example as I write is the ban on burkinis on the beaches in France. This is a manifestation of France's hard secularism and attempts at an assimilationist policy. In contrast to countries with a softer, multicultural secularism, which accommodates diversity, France understands of the brakes on extremism and ethnic conflict is an almost Soviet style banning of religious expression. One does not have to be an expert in complexity theory to know that such bans and public, forced removal of items of clothing will lead to amplification of ethnic and religious tension, not to greater integration between groups. The UN human rights agency (OHCHR) said that the bans amounted to a grave and illegal breach of fundamental freedoms, wanting local officials to lift the bans immediately, as they did not increase security. The OHCHR spokesperson said such bans “fuel religious intolerance and the stigmatization of Muslims,” and “have only succeeded in increasing

¹⁴ Alex Rutherford, Dion Harmon, Justin Werfel, Alexander S. Gard-Murray, Shlomiya Bar-Yam, Andreas Gros, Ramon Xulvi-Brunet, and Yaneer Bar-Yam, “Good Fences: The Importance of Setting Boundaries for Peaceful Coexistence” *Plos One* 9:5 (May 2014), available at: <http://dx.doi.org/10.1371/journal.pone.0095660>.

tensions.”¹⁵

As this author has argued before, secular governance is central to the management of religious and sectarian divides.¹⁶ However, this must be a dynamic secular governance, which not only accommodates different religions but also *encourages* diverse worldviews. A good, useful protective secularism does not deny religion; it merely has the principle that no one religion is privileged in national decision-making, and that can human rights cannot be overturned on the grounds of cultural or religious expression. Dynamic secularism is pragmatic and aimed at equity: a nice current example is that Mounties in Canada are to be permitted to wear a hijab, to encourage Muslim women to consider a career in the Royal Canadian Mounted Police.¹⁷ The banned burkini women have decamped to the beaches of Italy, joined by nuns swimming in their full clothing to make a point—one which demonstrates the partial and hypocritical nature of the French stance. Nevertheless, even though the ban will be rescinded, the damage is done, and France is likely to be the subject of more terrorist attacks, not fewer. In some ways, the French project has similarities to character education—the focus on the individual, on changing people and their souls to be more French. It thus suffers from the same flaws.

The danger is not just amplification but bifurcation. At critical junctures, systems can go in contrasting directions. Menafee points out how both Canada and Somalia have complex adaptive systems.¹⁸ The primary difference is that Canada has a system that rewards good behavior; Somalia has a system that rewards militancy, piracy, and corruption. These latter behaviours are all adaptations inside an unhealthy system—and self-reinforcing. Similarly, in Acemoglu’s and Robinson’s book *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* the authors’ cite path-dependent change as an explanation for why there are huge, divergent differences in living standards across the world.¹⁹ They contrast extractive and inclusive economic and political institutions. Extractive political and economic institutions reinforce each other as the rich seize control, and with it seize resources for themselves. Inclusive institutions

¹⁵ “French court overturns ‘illegal’ burkini ban in France,” *Al-Jazeera*, September 1, 2016, available at: <http://www.aljazeera.com/news/2016/09/french-court-overturns-illegal-burkini-ban-nice-160901202423711.html>.

¹⁶ Davies, *Unsafe Gods: Security, Secularism, and Schooling*.

¹⁷ Harris, Kathleen, “RCMP allows Muslim women Mounties to wear hijab,” *CBC News*, August 24, 2016, available at: <http://www.cbc.ca/news/politics/rcmp-diversity-policy-hijab-1.3733829>

¹⁸ Trey Menafee, “Capabilities and Complexity: A response to Owen Barner” *The Comparativist Blog*, August 16, 2012, available at <http://www.comparativist.org/?p=510>.

¹⁹ Daron Acemoglu, and James Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty* (London: Profile Books, 2012).

in contrast enforce rights and create a level playing field for investment. They have a degree of political centralization to establish law and order, tax systems, health care, education, and an inclusive market economy, but political power is widely distributed and in a pluralistic manner.

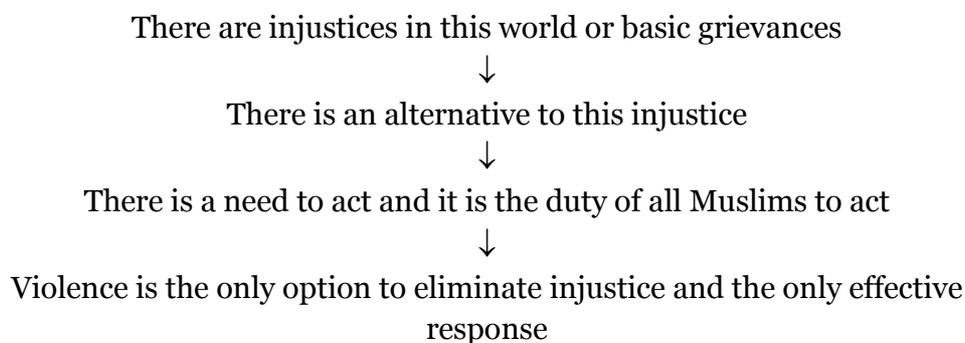
The message then is for inclusive pluralistic politics—including an inclusive secularism. It is important that secular/religious is not forced into a binary mold: Islamist extremists will claim that secularism is the same as atheism, and therefore an enemy. There a large amount of educational work to be done to demonstrate that an open secularism is not only possible, but also is a friend to religion—as organizations such as *British Muslims for a Secular Democracy* understand well. At a critical fork, it is crucial not to choose the path of a narrow nationalism. Trying to make people more the same is the antithesis to evolutionary change.

This is not however to argue for some sort of legal pluralism. The rule of law under a secular governance means people should not be able to make choices within different systems (for example marriage or property) as this erodes the protective power of the law, which entails the same rights being applicable to everyone regardless of culture, religion, or gender. Different legal systems - as for example between Islamic and secular - are not negotiable within the terms of our usual binary thinking models, with religious law stemming from the divine rather than the man-made. Secular law can be challenged through democratic processes as well as through acknowledgement of changing times. Divine law is less open to question and adaptation, and has different logics. Overlaps could be found; but extremist interpretations of the law are even less adaptable and, clearly, the methods of violent extremism violate international human rights law.

Theories of Change

In millennial and fundamentalist movements, there may be a vision of the inevitability of the end-time, for which we just must wait. Yet extremist movements will want to hasten this, or even see this acceleration as their calling. In this, they will have an earthly theory of change. The ISIS theory of change is the terrorist one—that fear will make governments act differently, and that people under ISIS control will behave differently and eventually come to embrace the conditions. Neither of these is true—governments do act differently, but more likely in terms of a heightened military response than in terms of drawing up plans for a caliphate to accede to demands. The recent liberation of the Syrian town of Manbij from ISIS control saw women joyfully burning their burkas and men shaving off their beards.

ISIS operates on parallel theories of change—the one regarding governments and that peddled to recruits. A recent initiative by the CVE organisation Hedayah examines the varying types of narrative used by Islamist extremists in South East Asia.²⁰ The basic structure of persuasion is:



The counter-narratives that are developed focus mostly on the last of these logics—stressing that Islam is a peaceful religion. The question for complexity is whether counter narratives offer only binary alternatives, or simple refutations. These may not work for all those at risk. It is very difficult to refute claims of grievance—the claim that governments are preventing Muslims from practising their faith appears to be validated in the French instance discussed earlier. If people accept that there are grievances, and equally accept their duty to act, it is difficult to offer internationally proven alternatives to violence, as options to redress grievance are localized. Yet the clue to mounting different structures of persuasion is equally to focus on the second of the propositions, that there is *an* alternative to injustice. A complexity approach shows how a theory of change through education helps promote multiple alternatives, not one.

Education's Niche

Although change appears evolutionary or random, humans are instrumental, particularly in amplification and polarization—accidents of power and networks can determine whole nations and their economies. Therefore, we must believe that in education, we can make small interventions, which will not change the course of history but may make small ripples in the pond. Education does occupy a niche (with niches being characteristic of a typical CAS).²¹ There are four promising properties of the niche: Creating turbulence, promoting rights, building argumentative confidence, and providing a platform for networking.

²⁰ Sara Zeiger, *Undermining Violent Extremist Narratives in South East Asia: A How To Guide* (Doha: Hedayah, 2016).

²¹ M Mitchell Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (London: Penguin, 1992).

1. Creating turbulence

In complexity theory, turbulence is a productive force. Simple perturbations can nudge a system into creative activity.²² To break up rigidities in conflict and inequity, turbulence is needed, to spark creativity and a new landscape. In terms of extremism, the turbulence needed is disturbing path dependence into violent responses, and unlocking the frozen accidents of sectarianism. In particular, the need is to challenge binary thinking, black and white truths, them, and us. The *Formers and Families* research mentioned earlier revealed just such binaries:

“...you should be able to show your hatred and your enmity towards the non-Muslims. If you cannot do that then you are not showing your Islam.”

“...when I was with the brothers, I was a bit hardcore and I wouldn't listen to anybody...What I thought—what I studied and what I was being taught—I thought that was 100% correct. I didn't want to listen to anybody else because I thought, 'No, everybody else is wrong'.”

“...he does get angry...politically and Islamically he was very divisive at that stage. And very two tone; black and white, right, and wrong, and Islam, tawhid and shirk. And there's nothing in the grey. There's no middle ground there.”²³

One of the very promising strategies in the field of challenging binaries is the work on promoting integrative complexity.²⁴ A study by Sudfield, Cross, and Logan shows that participant's increasing degree of commitment to violent action shows, is attended by an increasing and significant lowering of integrative complexity.²⁵ Similarly, when an individual starts to renounce extremism, this takes different and complex shapes—deradicalization, disengagement, desistance, or debiasing.²⁶

²² Roger Lewin, *Complexity: Life at the edge of chaos* (London: Phoenix, 1993).

²³ Davies, *Formers and Families*.

²⁴ Jose Liht and Sara Savage, “Preventing Violent Extremism through Value Complexity: Being Muslim Being British,” *Journal of Strategic Security* 6:4 (2013): 44-66, available at: <http://dx.doi.org/10.5038/1944-0472.6.4.3>.

²⁵ Peter R. Suedfeld, Ryan W. Cross, and Carson Logan, “Can Thematic Content Analysis Separate the Pyramid of Ideas from the Pyramid of Action? A Comparison Among Different Degrees of Commitment to Violence,” in Hriar Cabayan and Valerie Sitterle, and Matt Yandura (eds.), *Looking Back, Looking Forward: Perspectives on Terrorism and Responses to It* (Washington, D.C.: Strategic Multilayer Assessment Office, Office of the Secretary of Defense, 2013), available at: http://www.ctcitraining.org/docs/LookingBack_LookingForward_2013_09.pdf.

²⁶ Basia Spalek and Lynn Davies, “Mentoring in Relation to Violent Extremism: A Study of Role, Purpose and Outcomes,” *Conflict and Terrorism Studies* 33:5 (2012):

From intervention programmes, it has been found that participants can be encouraged to maximise a wider range of their own values to increase the complexity of their thinking. Rather than focusing on the content of ideology or beliefs, the focus is on the structure of thinking. Similarly, the journey to being a *former* often involves a new range of reading, particularly within sociology or philosophy, which would give complex and nuanced views of the world.²⁷ The theory then is that both prevention and deradicalization are associated with acceptance of value pluralism, the discovery of realistic but value-complex solutions to moral and social issues. Liht and Savage argue that,

“It is value-complex solutions that protect both sacred and secular values of different groups, and it is this protection of sacred and secular values that enables peaceful and stable resolutions for inter- group conflict in the context of globalisation, thus protecting people from the lure of value-monist radical discourses.”²⁸

Other parts of this volume will be describing this work in more detail, so here I just highlight their introduction of hot topic’ with young people to start the process of generating a range of viewpoints– being comfortable with a range of perspectives while retaining one’s own core principles. However, complex thinking entails “holding one’s strong opinions lightly.”²⁹ Initially this means stepping outside one’s comfort zone.

It is significant that work within the field of transitional justice also stresses surfacing and sharing a range of narratives about a conflict.³⁰ As this article was written, a peace deal has been struck between the Colombian state and FARC guerrillas, one of the oldest conflicts of its kind in the world. In an interview, Humberto de la Calle, leader of the government’s negotiating team, talked about the different stories of the conflict, depending on who tells it.³¹ He was asked whether what should be negotiated was a common story in which we all can recognize ourselves. However, he countered:

354-368, available at

<http://www.tandfonline.com/doi/abs/10.1080/1057610X.2012.666820>.

²⁷ Lynn Davies, *Educating Against Extremism* (London: Trentham, 2008).

²⁸ Liht and Savage, “Preventing Violent Extremism through Value Complexity,” 50.

²⁹ Rogers et al., “Fostering Complexity Thinking,” 31.

³⁰ Lynn Davies, *The Power of a Transitional Justice Approach to Education* (New York: International Centre for Transitional Justice, 2016).

³¹ Juan Gabriel Vásquez, “Peace Has Been Reached in Colombia. Amid the Relief is Apprehension,” *The Guardian*, August 26, 2016, available at: <https://www.theguardian.com/commentisfree/2016/aug/26/peace-colombia-farc-guerrillas-conflict>.

“No, there’s not one common story... “The reason behind the truth commission we have created is not to dictate one version of the truth, but to learn to live with different truths. A final agreement is not a military question. It’s about learning to live with more than one truth at a time.”³²

This “living with more than one truth” characterizes what I have termed *justice-sensitive* education, which, in history and social science, takes a more complex view of victims and perpetrators and tries to understand the conflict from multiple viewpoints. Transitional justice mechanisms aim *not* to recreate the contexts and perspectives which generated the conflict, and, in order to prevent its reoccurrence, there must be an understanding of why rights were denied in the past, and to envision a future where rights might take hold. In education, this might mean introducing turbulence into official versions of history and who constituted enemies. It is important to understand how violence becomes normalized, that is, how violence becomes a path dependent response to perceived injustice or offence. Complexity theory allows us to see how cycles of revenge and retribution occur; the educational task is not just to say violence is wrong, but to generate debates on violence, on when violence might be justified, based on whose narratives, and whose narratives have greatest traction.

The deployment of former extremists can be very useful. Just as in Northern Ireland, where ex IRA members have been invited into school, in Indonesia and Malaysia the narratives of former JI members have been incorporated into secondary school programmes. The NGO Aliansi Indonesia Damai pairs a former with a survivor of terrorism to talk together to school students.³³ In our organization, *ConnectFutures*, we have also made a video with the former extremists in our research, to use in schools and other community forums.

2. Working within Rules, Structures, and Rights

Value pluralism is different from cultural relativism. We need a framework within which to make judgments, however provisional. Complex systems do not have an invisible hand directing activity. However, one component of a CAS, which gives us traction, is its structure. In physical terms, these might be molecules or physical laws of gravity. Emergence happens within these frames—although it may alter them, (we know that genes are not immutable, but can be changed by lifestyle or even diet). On top of structure is what is usually referred to in

³² Ibid.

³³ Sara Zeiger, *Undermining Violent Extremist Narratives in South East Asia*, (Sydney: Hedaya, 2016), 1-45, available at: <http://www.hedayahcenter.org/Admin/Content/File-3182016115528.pdf>.

complexity theory as organization—the human element, the way people work within these structures and the values they espouse, which condition the way they work. Sometimes structures are coterminous with what Woodhill calls institutions—in turn to be understood as rules that make ordered society possible, such as language, currency, marriage, property rights, taxation, education, and laws.³⁴ Institutions help individuals know how to behave in certain situations. They are critical for establishing trust in a society.

However, complexity theory does not tell us who should decide the rules. A CAS has no morality as such, simply what works.

“Complexity simply is. It exists the same way gravity exists, and is a causal reason for both good and bad things. Gravity both supports all life on earth and is directly responsible for every plane crash. Neither complexity nor gravity are good or bad, they’re just things we move around with. At best, we understand it, at worst we ignore it.”³⁵

Human institutions have developed rule systems for what works, how to behave and how to choose between competing ideas. These can be religious frameworks of morality, although these derive from sacred texts, which do not easily invite critique or independent adaptation. A more dynamic and inclusive framework is that of human rights, a structure which cuts across all religions and none.

Rights are sometimes called “enabling constraints”; they guarantee in some cases the protection of property, enable individuals to plan their lives and to make long-term investments. They include guarantees that the government would abide by its laws, repay its debts and so on. Rights are multi-layered except in the necessary distinction among absolute, limited, and qualified rights, which enable us to make judgments on competing rights. Certain rights are held in tension with others, freedom of speech versus hate speech, or when the right to freedom from harm supersedes the right to privacy in the home if a child is being abused.

Current government counter-terror legislation in many countries raises significant rights issues, in particular the rights to citizenship or to

³⁴ Jim Woodhill, “Capacities for Institutional Innovation: A Complexity Perspective,” *IDS Bulletin* 41:3 (2010), 47-59, available at: https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/7828/IDSB_41_3_10.1111-j.1759-5436.2010.00136.x.pdf;jsessionid=8DE1537ACD767E1D126D896CE43D4753?sequence=1.

³⁵ Menafee “Capabilities and Complexity.”

freedom of movement (if a passport is taken away, or one cannot return to one's country), or the right to freedom of association (for banned organizations). Security strategy in these areas evokes varied reactions. Groups such as ISIL and AQ often argue that human rights are irrelevant as the West's lip service to them betokens hypocrisy, on matters such as torture, renditions, drone attacks, the Iraq war, or the treatment of Saddam Hussein and Colonel Ghaddafi. This greatly strengthens narratives in which groups position their battle logic around Man-made law against God's law, with the former portrayed as hypocritical, politicized, and unfair in contrast to the utopian vision of the latter. There may need to be a much wider public education forum, which explains different types of rights and encourages discussion and dissent about what rights take precedence in a security strategy. In a context of PVE, public education is therefore not just about resilience to extremist thought, but learning about state responses to violent extremism.

At school level, awareness of rights becomes central to supporting structures of trust in a society. A good example is UNICEF's Rights Respecting Schools in UK, which are built on every participant in the school (students, teachers, support staff, governors, parents) knowing the Convention on the Rights of the Child, and being bound by it. This is an obvious example of an enabling constraint: research has shown that children learn better, because they understand that they have the right to learn, and that misbehavior infringes others' right to learn. Relationships between teachers and students become equal and respectful, as all have the right to be treated in a dignified manner. The right to participate in decisions that affect you means a more democratic order, with school rules derived from the right to freedom from harm rather than arcane strictures around uniform or hair length. Rights Respecting Schools are cited favorably in a DfE report "Teaching Approaches that help to build resilience to extremism among young people."³⁶ They are particularly good at conflict resolution. The report comments on how, in place of a potentially angry disagreement, teachers and pupils are encouraged to identify where their rights are being violated and how to correct this violation. A Year 10 student (about 14/15 years old) explained:

"And in some lessons where a student is not letting someone express their right, the teacher will point it out—because in every classroom they've got that [the charter] stuck up there—and then they'll show

³⁶ Joe Bonnell, Phil Copestake, David Kerr, Rowena Passy, Chris Reed, Rachel Salter, Sharma Sarwar, and Sanah Sheik, "Teaching Approaches that Help to Build Resilience to Extremism Among Young People," *Research Report DFE-RR119* (London: Department for Education, 2011), 1-250, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/182675/DFE-RR119.pdf.

it, [saying]: ‘this is that right and you’re not letting that person express that right’. And then that person will stop doing that.”³⁷

The right to freedom of speech and the encouragement of dissenting views is central to value pluralism as discussed earlier. Both school education on rights and their different types, and public education and discussion forums on government counter-terror legislation are needed. In the context of challenges to religious extremism, it is important that students and educators understand what constitutes a right—for example, that there is no right in international law not to be offended, and that religions don’t have rights, people do. Critique is not against the law, unless it becomes hate speech.

3. *Building Confidence and Resilience*

After—or at the same time as—learning value complexity and the place of rights comes the confidence to see oneself as an actor in change. At school level, this can come from a variety of sources—positions of responsibility, or student activism, or community work in citizenship education. The former extremists told us how important it was that young people channel their energy and sense of mission into something concrete. It does not matter what the project is—the main thing is that they see a result from non-violent action and experience a sense of agency and self-worth. In our organization, we work with young people to enhance their skills in argument and debate, so that they can mount an argument but also predict others’ arguments.³⁸ Small training interventions in a safe space can vastly improve their confidence to speak, but also gives them multiple perspectives on controversial issues.³⁹ We also encourage simple telling of their life stories, and sharing these across different groups, to understand the diversity in our lives as well as gain confidence in speaking and the power of narrative. We have found that media training and filming them cement such skills, and we include how to use social media such as Twitter safely and productively. This helps in on-line safety as well as campaigning skills. Knowledge of rights again helps in mounting and countering arguments and deciding between competing values.

Teachers, too, need confidence (especially in contexts such as the UK Prevent strategy, which places a duty on schools to prevent violent extremism). As Arun Kundnani, the author of *Spooked: How Not to Prevent Violent Extremism* stressed in the context of expecting teachers and youth workers to identify extremists, trust is an essential ingredient in

³⁷ Ibid., 89.

³⁸ ConnectFutures website, available at: <http://www.connectfutures.org>.

³⁹ Lynn Davies, *Speak for Yourself* Evaluation Report, March 2016, available at: <http://connectfutures.org/wp-content/uploads/2016/08/SFY-Evaluation.pdf>.

counter-terrorism.⁴⁰ Young people need to be able to speak openly with teachers and youth workers about the issues they feel strongly about. If schools and youth clubs can no longer be relied on to provide such a venue, where will young people go? Kundnani reckons that the likelihood of their turning to those already committed to violence will only be increased.

“Ultimately, the real alternative to terrorism is not the official promotion of state-licensed British values but a democratic process that is capable of listening to the views that the majority may find offensive or discomfoting.”⁴¹

Speech should not be silenced in classrooms, as far-reaching mistakes have been made in the notion of respect. Eventually, confidence to speak up needs to go beyond the school walls. An Australian campaign for example asks people to Speak up if they witness racism with the hashtag #EraseRacism.

It is significant that teachers as independent change agents seem rarely enlisted in PVE, except in terms of surveillance of students. The South-East Asia *Hedayah* compendium mentioned earlier lists effective messengers in the counter-narrative as families (particularly mothers), community actors, religious leaders, and former extremists. Materials and guides are produced *for* teachers, but a question remains as whether an active network of teachers could be powerful in guiding others, not always being guided.

Learning occurs not just in schools and colleges, but also in other social environments such as prisons. The better prison schemes (as outlined by a former governor) build on acknowledgement that everything revolves around relationships (a complexity tenet) between prisoners and between prisoners and staff.⁴² The safest prison is one where there is most space for these relationships to develop, forming over time through unacknowledged tests that establish boundaries on both sides, and small tokens of trust. The ability to say truthfully we will always listen and talk to you regardless of whether you listen and talk to us is vital. (Former extremists also stress that families should not give up on them). Offenders cannot be managed, as in some industrial process—more promising

⁴⁰ Arun Kundnani, *Spooked: How Not to Prevent Violent Extremism* (London: Institute of Race Relations, 2009)

⁴¹ *Ibid.*, 33.

⁴² Peter Dawson, “Managing radicalization and extremism in prisons,” *Counter Terror Business* 27 (2016), available at: <http://www.counterterrorbusiness.com/features/managing-radicalisation-and-extremism-prisons>.

approaches draw on desistance theory to stress the prisoner's own agency in any lasting change. This requires the prisoner to define what a better life for them might look like and negotiate the steps towards it. Isolation does not work. IRA hunger strikers in the 1970s proved that radicalization does not depend on face-to-face contact, or personal access to the media. The peace process ultimately rested on the promise of a life that was demonstrably better without terrorism than with it.

Collectively and individually, then, the big educational task is the persuasion that life is better without terrorism than with it. The clear majority agrees; how can the confidence and strategic power of the tiny minority who do not be built?

4. *Developing Networks*

This leads on to the fourth aspect of a complexity approach to PVE: the power of networks in a CAS. What has been learned from the way that the Arab Spring developed is that horizontalism (not vertical control) is the key to change. Network theory shows us how the more people that use a network, the more useful it becomes to each user. The network effect is the creation out of two people's interaction a third thing that comes free. As Paul Mason points out in his book *Why It's Kicking off Everywhere: The New Global Revolutions*:

“Everyone who uses information technology understands that they are—whether at work, on Facebook, on eBay or in a multiplayer game—a ‘node’ on a network: not a footsoldier, not a bystander, not a leader, but a multitasking version of all three.”⁴³

Mason is optimistic about networks—that the democracy of retweeting filters out the trash as people respond and comment. Truth can travel faster than lies and all propaganda becomes instantly flammable. Spin can be inserted, but the instantly networked consciousness of millions of people will question it, acting like white cells against infection. This optimism is viable up to a point—young people doing their research homework from Wikipedia and other sites are accustomed to looking at the resulting comments and dialogues to check veracity. However, lies do travel fast as well. Young people are part of the new turbulence in information. While there are Facebook followers, networked interaction is not about singular leaders or heroes. This was well captured by Marc Sageman in his book *Leaderless Jihad*.⁴⁴ New technology has enabled

⁴³ Paul Mason, *Why It's Kicking Off Everywhere: The New Global Revolutions* (London: Verso, 2012), 74.

⁴⁴ Marc Sageman, *Leaderless Jihad: Terror Networks in the Twenty-First Century* (Philadelphia: University of Pennsylvania Press, 2008).

swift movement of ideas across peoples and continents, but most importantly has enabled self-organization. It is no accident that we talk of viruses in computers, or of something going viral: viruses too have no leader, but can spread.

The power of networks makes us rethink what we understand by empowerment. There is an inherent, sometimes spontaneous power in the popular, networked, and viral everyday settings that children are currently constructing and reconstructing. It could be that the ways we currently conceive of giving children power (school councils, representation on committees etc.) do not match the way they currently network and use social media to influence others. School walls are increasingly permeable.

What sorts of networks and groupings should educators encourage? Networks can clearly be negative as well as positive forces, and we can learn a lot from how criminal networks operate, as well as violent extremist ones. They adapt, shift, and morph. Sageman talks of how, for his sample of extremist groups, the experience of faith and commitment was grounded in intense group dynamics that completely transformed them in a process of group love. With the gradual intensity of interactions within the group and the progressive distance from former ties, they changed their values. From secular people, they became more religious.⁴⁵

The distance from former ties is a significant phrase here: there can be a narrowing of networks in the process of radicalization. However, is the key the provision of alternative paths for group loyalty? This is debatable. The Boy Scouts in 1910 did capture many young people and kept them out of trouble. Sageman argues for a similar large and formal network of young Muslims, based on peaceful Muslim traditions, to give a sense of belonging. This would include a hierarchy of promotion that would recognize the talents and efforts of its members, as well as promoting local heroes to emulate. Yet this seems to be a very top-down form of organization, so does not fit what we know about the power of horizontal networks, and their fluidity and flexibility. Conceivably, they would attract only those who like this sort of thing, as did the Boy Scouts. Arguments from contact theory and the demonstrated power of encounters show that where positive change occurs it seems to be in the *clash* of values, the exposure to difference and then working through dealing with it. It would be better to encourage groupings of young people *across* different traditions and values, in pursuit of some common task, which is nothing to do with their heritage, than to isolate young Muslims in some sort of

⁴⁵ Ibid., 87.

Young Pioneer framework. The Hitler Youth did not prevent the rise of fascism - quite the contrary.

At ConnectFutures, we bring young people together across a range of communities and schools, and engage them in forums that link young people with other agents such as the police. This means we try to stretch horizons and the possibilities for interaction. Through the notion of the *strength of weak ties* (i.e. that you learn more from acquaintances than from friends), young people can see how to benefit from new networks, with possibilities of joining or creating campaigns for social change.⁴⁶ We found through sessions of problem solving with the police that young people gain confidence in their ideas, and take pride in being part of the solution not part of the problem.

There are a growing number of international networks for young people to counter extremism, for example the Institute of Strategic Dialogue's *YouthCan* (Youth Civil Activism Network) which mounts innovation labs where campaigns are generated. These range from satirical videos about eating halal meat to digital comics to raise awareness of rights and extremism in Africa.⁴⁷ There are international learning platforms such as E-twinning, which are considering how to use this for PVE.⁴⁸ UReport is a growing movement whereby young people use SMS messaging to research their communities and mount campaigns against all forms of injustice.⁴⁹ This started in Uganda, but is now an international force. Young people are also generating their own materials, for example films on propaganda through the organization Digital Disruption, such as the satirical *The Vampire Conspiracy*.⁵⁰ In addition, delighting in humor is the Indonesian series *Burka Avenger*, where the super hero helps fight injustice, and saves girls' schools.⁵¹

⁴⁶ Mark Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78:6 (1973), 1360-1380, available at: https://sociology.stanford.edu/sites/default/files/publications/the_strength_of_weak_ties_and_exch_w-gans.pdf.

⁴⁷ Erin M. Saltman, Moli Dow, and Kelsey Bjornsgaard, "Youth Innovation Labs: A Model for Preventing and Countering Violent Extremism," *Institute for Strategic Dialogue* (2016), 1-44, available at: <http://www.strategicdialogue.org/wp-content/uploads/2016/07/YouthCAN-Labs.pdf>

⁴⁸ *Thematic conference: A New Ethic for the 21st century: the contribution of e-twinning*, 21st October 2016, available at: <https://www.etwinning.net/en/pub/highlights/thematic-conference-a-new-eth.htm>.

⁴⁹ U-Report: Voice Matters, available at: <https://ureport.in>.

⁵⁰ "The Vampire Conspiracy," *Bold Creative Project Blog: Digital Disruption*, n.d., available at <http://blogs.boldcreative.co.uk/digitaldisruption/films/>.

⁵¹ *Burka Avenger*, "Burka Avenger Episode 01 – Girls' School is Shut (w/English Subtitles)," *YouTube*, August 4, 2013, available at: <https://www.youtube.com/watch?v=XahbqLdCVhE>.

In theory then there is clearly a huge possibility space for networks of schools and teachers across the globe to mount a rearguard action. Nobody knows exactly how many schools there are in the world, but estimates are around 6 million. The problem is identifying a goal: providing counter-narratives is only one aspect, and as we saw, could be narrow; but any broad campaign for peace suffers from a lack of specificity and measurable targets. YouthCan could be scaled up: but something is needed which does not rely on a relatively small number of young people attending workshops. Mass on-line campaigning and action needs a reward; just as violent extremism offers rewards. We await some sort of virus that can spread non-violence.

It is important that each of these four aspects be addressed: simply building confidence and expanding networks could be (and is) used by extremist groups to gain recruits. Conversely, simply opening up ideas without giving extra confidence, skills, and mechanisms to challenge inequity leads to frustration and can be counter-productive. Similarly, without some framework, that enables understanding of viable value frameworks, such as rights, and then there can be confusion about alternative narratives. Combinations of initiatives are indicated.

Conclusion

Complexity theory can sound abstract, but this article has tried to show its practical application in what to do and what not to do in terms of current PVE. Theories of change in this area cannot begin from improving the individual, nor can they rely on identifying vulnerabilities in people. To insert sand into the machinery of violent extremism, to tackle our wicked problem, theories of change need to start with systems. This means identifying the vulnerabilities in extremist systems and at the same time enhancing the complexity of other institutions to be a better competitor in the battle for ideas.

Education systems may not be transformative, but can provide spaces. Within the enabling constraints of rights, schools can foster value pluralism and integrative complexity to build resilience to singular messages. They can build confidence to argue, disagree, agree with teachers, authorities, leaders, and potential manipulators as well as each other. And they can enable encounters, networking and platforms across schools and other agencies to generate the necessary diversity, creativity and humor which can debunk narrow logics. As Malala Yusufzai wryly commented in her speech at the United Nations:

“The extremists are afraid of books and pens. The power of education frightens them. They are afraid of women. The power of the voice of women frightens them...That are why they are blasting schools every day. Because they were and they are afraid of change, afraid of the equality that we will bring into our society.”⁵²

⁵² Malala Yusufzai, “Malala’s Speech,” United Nations, New York, July 12, 2013 available at: http://www.un.org/News/dh/infocus/malala_speech.pdf.