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Resilience Thinking for Peacebuilders*

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Abstract

The concept of resilience is currently making its way into the field of peace and conflict studies, but it is a concept with different meanings and implications. The argument advanced in this paper is that in order to make the most of resilience thinking, the field should not conceive of resilience merely as the ability to bounce back to an original state after a disturbance, a conceptualization usually referred to as "engineering resilience." Instead, it should engage with "ecological resilience," which refers to the amount of disturbance that a system can absorb before being pushed across a threshold from one stable state to another. I also relate these different types of resilience to another distinction between specified resilience to anticipated disturbances and general resilience to unknown ones. Finally, I consider a few other implications of resilience thinking for research on peace and conflict.

Introduction

Resilience is one of those terms that combine positive connotations with elasticity of meaning and therefore become popular in all sorts of contexts. Structures and machinery, children and grown-ups, ecosystems and societies are all expected to be resilient in order to withstand crisis, survive and function in a complex world. The most basic definition of resilience is "the ability to bounce back," but the manifestations of resilience among children are obviously very different from the manifestations of resilience among machinery or ecosystems, and consequently a wide range of definitions have been formulated (see e.g., CARRI, 2013; McAslan, 2010; Sudmeier-Rieux, 2014).

In the fields of peace and development resilience has been taken on board by policy makers and researchers. UNDP markets its Strategic Plan (2018–2021) as addressing "three broad development contexts: eradicating poverty; structural transformations; and building resilience" (UNDP, 2018). The World Bank uses the concept in some of its recent World Development Reports, with chapters such as "From violence to resilience", and "Fostering resilience and prosperity through a vibrant enterprise sector" (World Bank, 2011a; 2013). It is also a central, but not very specific, concept in the European Union Global Strategy (EU, 2016, 24):

> Echoing the Sustainable Development Goals, resilience is a broader concept, encompassing all individuals and the whole of society. A resilient society featuring democracy, trust in institutions, and sustainable development lies at the heart of a resilient state.

In research on peace and development, resilience is not yet as prevalent as many other concepts. A search for *peace resilien** (not in quotation marks) as topic on Social Science Citation Index in early October 2018 resulted in 167 hits, 85 of which were published in 2015

or later. The corresponding figures for *peace sustainab** were 826 total/406 from 2015 or later; for *peace stability* 991/370; and for *peace security* 3602/1334.

However, researchers are increasingly turning to resilience to understand and analyze the governance of complexity (Chandler, 2012; 2015), the connection between natural disasters and conflict (Harrowell & Özerdem, 2018; Vivekananda, Schilling & Smith, 2014), and new strategies of and approaches to peacebuilding more broadly (Bachmann & Schouten, 2018; Bargués-Pedreny, 2015; De Coning, 2016; 2018; Fontan, 2012; Stepputat, 2018). In this research, resilience is sometimes related to security and stability, sometimes to the local turn and context sensitivity and sometimes to non-linearity and self-regulation, illustrating the variety of understandings of resilience also within peace and conflict studies. In this paper I want to focus on one particular distinction between different ways to understand resilience—as stability or as adaptability. This distinction reflects very different assumptions about and implications of resilience, but it is seldom expressly formulated.

Briefly, one way to look at resilience is as the ability to bounce back after crisis and trauma. It is about returning to a pre-crisis state or situation, it is about returning back to normal, to where things function the way they should function. However, there is not always a "normal" to return to or a particular way such systems "should" function. This is especially true for adaptive systems such as ecological and social systems that may function in very different ways depending on the circumstances. Here, resilience becomes a question of being able to adapt to foreseen and unforeseen change. In line with Gunderson (2003) and others, I will refer to the bouncing-back version as *engineering resilience* and to the adaptive version as *ecological resilience*. The purpose of this paper is to describe these different understandings of resilience and to discuss their very different implications for peacebuilding, as well as for peace and conflict studies more broadly.

Resilience is entering the discourse on peacebuilding at a time when the international engagement is both very extensive and highly criticized. Over the past quarter century, the United Nations have launched around 50 peace operations in more than 30 countries across the globe, from Croatia to Timor Leste, from Angola to El Salvador. The mandates of these operations have often been significantly more detailed and ambitious than those of peacekeeping operations of the Cold War era, and they are much more likely to contain enforcement measures (Ramsbotham, Woodhouse & Miall, 2016; Thakur, 2017; Wallensteen & Johansson, 2016). An important feature of this development has been the standardization of peacebuilding into what is referred to as the liberal peacebuilding paradigm. This paradigm has long been criticized as representing a narrow "peacebuilding consensus" (Richmond, 2010, 22) insensitive to context, and which has resulted in "template-style peace implementation" (Mac Ginty, 2006, 7). Liberal peacebuilding is perceived as being closer to state building, meaning the establishment of formal institutions, than to peacebuilding, which refers to understanding context, integrating local culture and decision making, and engaging with the everyday lives of people. This way, according to Richmond (2010, 24–25), "liberal peacebuilding has been turned into a system of governance rather than a process of reconciliation." Jabri (2010, 54), in the same volume, argues that "[s]ecurity is hence the ultimate imperative of the liberal peace project." In other words, ideas about resilience is entering the field of peacebuilding at a time when conventional practice is being continually criticized for being too heavily tilted toward stability.

The next section outlines the concept of resilience, emphasizing the distinction between engineering resilience and ecological resilience. The third section relates resilience thinking to peacebuilding by discussing how the aims and strategies of peacebuilding would differ depending on whether they were influenced by ideas about resilience as stability or resilience as adaptability. The fourth section considers three other implications of resilience thinking for

peace and conflict studies. Finally, the argument is summarized, and a few conclusions are presented.

Resilience

The term resilience comes from the Latin *resilere*, which means to rebound or recoil. McAslan (2010, 1) describes the development of resilience as a scholarly concept from its first use in the early 19th century to describe the ability of timber to resist breaking from heavy loads to later being used to describe a property of "species, ecosystems, people, communities, organizations and even nations." Resilience should not be confused with efficiency. On the contrary there is a trade-off between resilience and efficiency, and this is the case for engineering as well as ecological resilience. As expressed by Pariès (2011, 26–27):

> Proceduralisation and automation both try to reduce the uncertainty in the system by reducing variety, diversity, deviation, instability. But the side effect is that this also reduces autonomy, creativity, and reactivity. Increasing order, conformity, stability, predictability, discipline, anticipation, makes the systems better (more efficient, more reliable), possibly cheaper and generally safer within the confines of their standard environment. They also make them increasingly brittle (less resilient) outside the boundaries of the normal envelope.

Similarly, Walker & Salt (2006, 77) argue that as it becomes increasingly efficient, "a system is increasingly stable—but over a decreasing range of conditions." Increasing efficiency is about reducing redundancy and because redundancy is what allows margins of error increasing efficiency means reducing margins of error. In other words, increasing the efficiency of a system means making it less and less able to respond to internal stress or external shock. For example, the short-term suppression of forest fires to ensure high timber output may lead to the accumulation of fuel for larger fires at a later time. Relatedly, the market economic mantra of reducing fixed costs may induce manufacturers to minimize storage costs by having materials delivered just when they are needed, making them highly vulnerable to supply shortages (Anderies, Janssen & Ostrom, 2004; Folke, Colding & Berkes, 2003). Increasing efficiency becomes increasing rigidity, and with "extreme and growing rigidity, all systems become accidents waiting to happen" (Holling & Gunderson, 2002, 45).

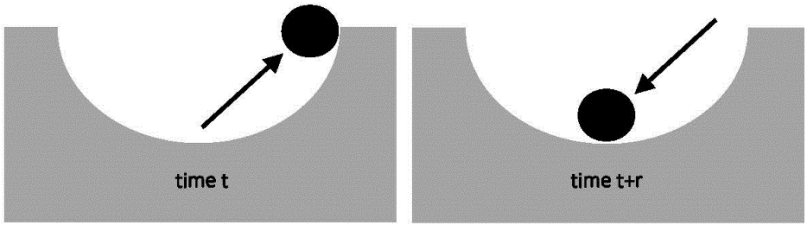
Sometimes of course resilience is a higher priority than efficiency. For example, this is why Boeing uses a system of three computers from three different retailers, all based on different hardware and different software, to control the fly-by-wire system of its 777 airliners (Maruyama & Minami, 2013, 4). This is how a resilience approach is distinct from a liberal approach. Whereas the liberal approach wants to achieve stability through market principles, competition, and efficiency, resilience thinking is based on the virtues of redundancy.

Engineering Resilience and Ecological Resilience

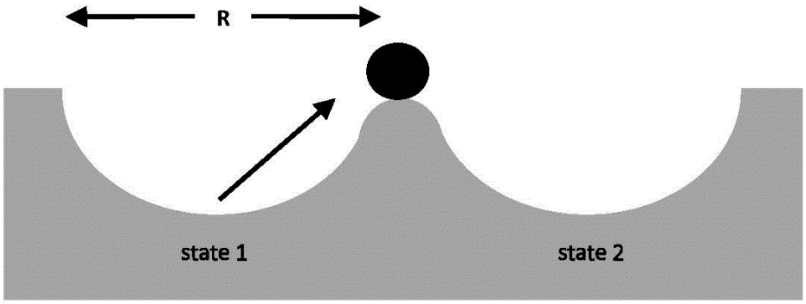
Resilience can be understood as the ability to bounce back to normal after a crisis or trauma, or as the ability to adapt to change. The labels engineering and ecological resilience largely correspond to how the concept is understood in those respective fields of research, but both types are used in other fields as well (Gunderson, 2003, 34–35; Hollnagel, 2014, 221). When these types of resilience are contrasted engineering resilience can be understood *as the*

amount of time it takes for a system to return to normal after a disturbance. This view assumes that there is only one stable state for a system to be in and that the system can either function or not. Conversely, ecological resilience refers to *the amount of disturbance* that a system can absorb before being pushed across a threshold from one stable state to another. This means that the reinforcing feedbacks of a system can reinforce different things depending on which stable state the system is currently in (Gunderson, 2003, 34–35; Holling & Gunderson, 2002, 27–28). In the literature on ecological resilience these stable states are also called as "equilibria," "regimes" or "basins of attraction" and refer not to a situation where nothing changes, but to one where the feedbacks of the system reinforce each other so the system maintains basically the same components and functions.

The idea of systems equilibria and the two ways of conceptualizing resilience can be visualized a ball (the system) in a bowl (the equilibrium). A deep bowl with steep edges would represent a more resilient system than a wide bowl with low edges; cf. Figure 2 below.



A. Engineering resilience (r).



B. Ecological resilience (R).

Figure 1: Engineering resilience and ecological resilience (cf. Gunderson, 2003, 35).

Figure 1 illustrates the difference between single-equilibrium engineering resilience and multiple-equilibrium ecological resilience. The ball represents the system, and the basins represents the equilibria. For engineering resilience there is one equilibrium. The system can be disturbed and needs a bit of time to get back to normal in order to function. This tends to be how we view engineered systems—systems that are constructed for a specific purpose and either work in a particular way or not at all. For ecological resilience there are two (or more) equilibria, meaning that the system can function in more than one way. A minor disturbance can put the system off track, but allow it to remain in its "original" state; a major disturbance can push the system across a threshold into another state where new types of feedbacks make the system function differently than before.

An ecological example of multiple stable states can be illustrated with a shallow lake filled with small submerged plants and various fishes (Scheffer, 2009, 110–115). Ecological feedback mechanisms are beneficial to both plants and animals, and contribute to keeping the lake in a clear state. Fertilization in surrounding areas can increase nutrient loadings in the lake, particularly of phosphorous and nitrogen. This stimulates the growth of phytoplankton, and increased turbidity, which often leads to loss or disappearance of aquatic vegetation. As hiding places in the vegetation disappear, zooplankton become easier pray for fish, which reduces their number, in turn removing an important controller of phytoplankton biomass. Next, fish that live off sediment-dwelling small animals come to dominate the lake, and their search for food in the sediment both amplifies turbidity and releases more phosphorous. At this stage, the reduction of nutrients alone is unlikely to have much effect on the lake, as ecological feedback mechanisms have been altered, and now work to keep the lake in its new state. These new feedback mechanisms can be highly resilient to attempts at pushing the system back into a clear state.

A system that moves from one stable state to another crosses a threshold. Ecological resilience therefore requires us to be concerned with threshold effects. Threshold effects occur in non-linear relationships when an independent variable increases beyond a certain level resulting in a jump in the dependent variable. Threshold effects can be reversible, meaning that when the dependent variable decreases back below the threshold, the dependent variable follows along. More relevant in the context of ecological resilience are non-reversible threshold effects. If a threshold effect is non-reversible, once the threshold is passed decreasing the independent variable back to a previous value may have little or no effect on the dependent variable, such as in the example with the turbid lake described above.

Another important feature of resilience thinking is adaptive cycle theory, the notion that systems do not merely change and develop but that they go through adaptive cycles. The adaptive cycle (Holling & Gunderson, 2002, 32–49) consists of four phases: exploitation (r), conservation (K), release (ω), and reorganization (α). The first two phases—exploitation and conservation—represent the traditional view of ecosystem succession, "a familiar, slow, fairly predictable pattern of growth" (Scheffer, 2009, 76). However, in the adaptive cycle theory, they form the *forward loop*, which is this is only half the story—or half the cycle. The other two phases—release and reorganization—constitute an often rapid and unpredictable *back loop*. During the back loop, "[a]ccumulated resources are released from their bound, sequestered, and controlled state, connections are broken, and feedback regulatory controls weaken" (Holling & Gunderson, 2002, 45). Resilience is at its strongest during the change from reorganization to exploitation, and then decreases as the conservation phase becomes more rigid, before expanding again during the back loop. The result is episodic upheaval and change.

Holling and Gunderson describe adaptive cycle theory in an ecological context, but it is equally useful for understanding social systems. It was in fact originally formulated by Schumpeter to describe the cyclical fluctuations he observed in market economies. He argued (Schumpeter, 1950, 83) that

> [t]he process as a whole works incessantly however, in the sense that there always is either revolution or absorption of the results of revolution, both together forming what are known as business cycles. - - - This process of Creative Destruction is the essential fact about capitalism.

The implication of adaptive cycle theory and the process of creative destruction is not that all systems continuously break down. Instead, some systems manage to stay in the exploitation

phase of the forward loop for a long time. They do that by allowing smaller-scale disturbance to take place; instead of becoming more and more efficient and rigid, they retain a certain level of redundancy and resilience. As Scheffer (2009, 78) explains:

> One might see the *forward loop* in the Holling cycle as a process of digging a deep basin of attraction. The fact that the basin is deep corresponds to a strong performance. However, it also keeps the system as it is in place in a rigid way. Slow larger-scale developments inevitably change the overall stability landscape in such a way that this basin of attraction ends up being a tiny valley in some scary high place. Eventually, a large catastrophic transformation out of this situation is inevitable. If the self-dug stability basin had been less deep, changes in the stability landscape might have led to earlier adaptation and resettlement into another place.

To refer back to the examples above, by allowing smaller fires to reduce the outtake of timber from time to time the devastating disaster of the major fire may be prevented, and by accepting slightly lower profits by keeping goods in storage a manufacturer can continue production even during brief recessions.

Specified and General Resilience

Resilience can be specified or general (a distinction that does not overlap with engineering and ecological resilience). Walker and Salt (2006, 120) describe specified or targeted resilience as the resilience of specific parts of a system to specific disturbance—"the resilience 'of what, to what.'" Assessing specified resilience therefore means identifying "known and possible thresholds between alternate states (or regimes) the system can be in" (Walker & Salt, 2012, 68). In an ecological system feedback changes can be related to such factors as rainfall or temperature and assessing specified resilience would mean determining the levels of rainfall or temperature that would risk altering the system and to prepare for managing high levels of those particular factors. At the same time, resilience thinking warns against the optimization of anything including specified resilience. "Optimizing for one form of resilience can reduce other forms of resilience" (Walker & Salt, 2006, 121).

More fundamental therefore is general resilience, that is, the ability to absorb novel, unforeseen disturbances. Three important features of general resilience are diversity, modularity, and tightness of feedbacks (Walker & Salt, 2006, 120–122). In practice, they features tend to overlap and reinforce one another, but in an attempt at delineating the implications of resilience thinking for peacebuilders, it makes sense to keep them theoretically distinct.

The first feature is diversity, which is a question of variety in the number of species, people and institutions in a social-ecological system. Diversity is about flexibility and keeping your options open.

Diversity increases the resilience of the system by allowing different voices to be heard in planning and decision making, by sustaining different ways of picking up on discontent and the need for change, and by avoiding the fallacies of groupthink. The contradiction between efficiency and resilience mentioned above is closely related to the question of diversity, which allows a system to maintain various functions even in the face of challenges that harm or undermine the ability of some of the system components to fulfil those particular functions.

The second feature is modularity, which is about how the different components of a system are connected. A modular system is one that contains subgroups with strong internal connections, but with weak connections between subgroups. Modularity increases the resilience of the system by allowing most subgroups to continue to function even when some fail. Conversely, failure spreads quickly in a non-modular system, where all components are highly interconnected. The need for modularity calls for encouraging the self-sufficiency of different regions or groups in a society.

The third feature of general resilience is tightness of feedbacks. This refers to the way change in one part of the system is conveyed throughout the system. Tightness of feedbacks increases the resilience of the system by allowing change in one part of the system to be perceived in other parts of the system. The sooner this can be done the more likely that the system can make the necessary adjustments in time to avoid crossing a major threshold at a later stage.

Resilience and Peacebuilding

How would resilience thinking play out in the context of peacebuilding? In this section I discuss peacebuilding from the perspectives of engineering resilience and ecological resilience focusing on the implications of understanding resilience as stability or as adaptability. Importantly, these two perspectives do not merely present different solutions to the same problem, but they represent different understandings of what the problem is—and even more fundamentally, different understandings of what kind of system a society is.

Low et al (2003, 103) argue that social systems are more adaptive than most because, in addition to other characteristics of complex systems, social systems also involve learning and innovation. Still social science has tended to draw more on non-adaptive physical analogies (including engineering resilience) to understand the behavior of complex systems, than on adaptive analogies from biology and ecology. What are the implications of this for peacebuilding?

In order to apply ecological resilience to peacebuilding we need to conceive of the peaceful, non-violent society as an adaptive system. This can involve both the function of the system—what it does—and the structure of the system—what it is Hollnagel (2011). The resilient peace system should not resolve all conflicts once and for all, but build and preserve the ability to (re)distribute resources in a society in a peaceful, legitimate, and authoritative manner. Or, in the words of Cousens (2001, 12),

> Peacebuilding is not designed to eliminate conflict but to develop effective mechanisms by which a polity can resolve its rival claims, grievances, and competition over common resources.

To capture the structure of the system I'm going to turn to the peace triangle, Höglund & Söderberg Kovacs' take of the conflict triangle as a basis for understanding different kinds of peace beyond the absence of war (Höglund & Söderberg Kovacs, 2010). Note that in this section I use the peace triangle to discuss how a peaceful society can be conceived of as an adaptive system; below I use the peace triangle to illustrate how specified resilience can be applied to peacebuilding.

In the original conflict triangle (Galtung, 1969) the three corners represent attitudes, behavior and conflict (or incompatibility, or issue of contention) and the idea is that hostile attitudes, conflictual behavior and disagreement over salient issues tend to reinforce each other. This is why a conflictual society can be highly resilient to attempts at conflict

resolution, which shows that resilience, per se, is not necessarily a positive quality. I return to this below.

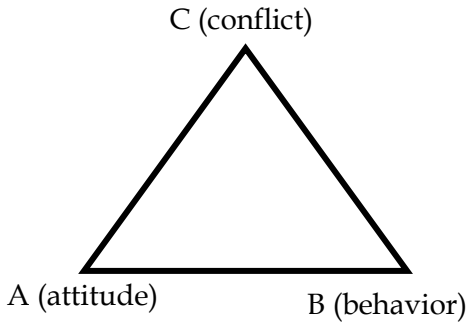


Figure 2. The Conflict Triangle (Höglund & Söderberg Kovacs, 2010)

These same aspects can be used to describe a peaceful society, or a society in a state between war and peace. A peaceful society can be conceived of as being characterized by friendly attitudes and peaceful behavior, meaning that disagreement even over salient issues can be resolved or managed without the resort to violence, whether through negotiation, sharing, third-party control, democratic elections or other methods of conflict management and resolution. According to this way of understanding social systems and feedbacks peace and war are both alternatives states that a society can be in and they can be studied as such. And in addition there are many different more or less stable states in between.

Engineering resilience peacebuilding

The engineering-type conceptualization of resilience—as the ability to bounce back—means that is it more concerned with specified than with general resilience. To some extent it has the same basic aim of stability and security as the liberal peace paradigm. However, because of the necessary trade-off between resilience and efficiency, the two approaches have different strategies for strengthening stability as well as partly different understandings of what that stability entails. While the liberal approach wants build a society that can avoid challenges, the engineering resilience approach would expect challenges to occur and instead prepare to be able to manage them. Engineering resilience also places greater emphasis on local context and capabilities. A resilience approach "(re)directs attention to local resources and practices and away from ready-made blueprints that are parachuted into conflict zones" (Wagner & Anholt, 2016, 417).

To some extent each case is unique and calls for a unique solution, but there are still similarities across cases that we can learn from. As a middle ground between a unique solution for each case and a single solution for all cases we can think of different groups of cases that need similar solutions. One way of identifying such groups is the peace triangle, to which I now turn again. Höglund & Söderberg Kovacs identify nine types of peace beyond the absence of war characterized by the relative presence or absence in post-war societies of remaining conflict issues, remaining violence and insecurity and remaining conflict attitudes (Höglund & Söderberg Kovacs, 2010, 376–384, as developed further below). These types of peace beyond the absence of war can help determining factors that may put a society at risk and that may require special attention.

Continuing the analogy of balls in basins of attraction used above, peace beyond the absence of war can be illustrated as in Figure 2, as a situation between peace and war, which may be pushed across minor thresholds either back into war (a situation where conflictual

dynamics become self-reinforcing) or further on into peace (where peaceful dynamics become self-reinforcing).

Figure 2. Peace beyond the absence of war as a plateau between war and peace

The shallow basins in Figure 2 represent situations that are less resilient than the ones in Figure 1 above. Particularly the middle-state of "peace beyond the absence of war" is very shallow, meaning that rather small challenges or disturbances can push it across a low threshold either back to a state of war or into a somewhat more resilient state of peace.

On the issues dimension Höglund & Söderberg Kovacs describe unresolved peace as situations where key issues are left unresolved, such as the Israeli-Palestinian peace process of the 1990s, and Kosovo since 1999. Restored peace refers to situations where peace is restored but there is no transformation of society, because the underlying causes of conflict are left unattended, such as Liberia after the Abuja Agreement of 1996, and Sierra Leone after 2002. Contested peace is situations where the peace-settlement generates new conflicts. Examples include Lebanon after the Ta'if accords, and the independence of East Timor in 2002.

On the behavior dimension, they describe partial peace as situations where one or more parties continue to use armed force, but where the peace still holds in some respects. Examples include post-1991 Cambodia and post-2011 Myanmar. Regional peace refers to situations where residual violence occurs in certain parts of a country, such as post-settlement violence in the provinces of Equateur, Katanga and Kivu in the Democratic Republic of the Congo. Insecure peace refers to situations where the end of the war is followed by widespread criminal violence, often exacerbated by the ready availability of arms. Examples include El Salvador and South Africa, which both saw high levels of criminal violence in the aftermath of the solutions to the political conflicts.

The attitudes dimension comprises polarized peace where conflict attitudes remain polarized despite a peace settlement. Sometimes, as in Northern Ireland, polarization may even increase in the aftermath of the settlement. There is also unjust peace which is characterized by impunity and the absence of reconciliation. An example is post-war Guatemala, where the signing of the peace agreement was followed by the adoption of a broad amnesty. Fearful peace, finally, refers to situations where large-scale violence has been replaced by political control and repression, an example being Liberia under Charles Taylor after the 1996 Abuja agreement.

Without going into how all these different types of peace beyond the absence of war can be made more resilient, the point is that attention to these differences and to the local context more broadly means that efforts to prevent the recurrence of violence can be tailored to likely problems with critical consequences. This may be necessary in the short to medium term after a peace settlement, but in the longer run such optimization risks undermining the equally necessary adaptive capacity of a society. This brings us to ecological and general resilience.

Ecological resilience peacebuilding: peace through adaptability and capitalizing on challenges

Ecological resilience peacebuilding suggests building peace by strengthening the adaptive capacity of post-war societies. This involves a shift of focus from specified resilience, the resilience of what, to what, to general resilience, the ability to absorb novel, unforeseen disturbances through such features as diversity, modularity and tightness of feedbacks described above (Walker & Salt, 2006). Similarly, Rodin describes five characteristics of the resilience framework: being aware, diverse, integrated, self-regulating and adaptive. (The following is based on Rodin, 2015, 9–42.)

Being aware means that a system knows about "its strengths and assets, liabilities and vulnerabilities, and the threats and risks it faces" (Rodin, 2015, 14), basically Walker and Salt's specified resilience. But being aware also involves a readiness to consider new information and to adjust to it when necessary. Being diverse is about preserving variation. Diversity strengthens resilience by limiting the dependence on a singular type of actor or institution to perform essential tasks and instead preserves alternative options, it means not relying completely on any one element for a critical function. In a social system this would refer to the provision of social services, media, decision making and more. Rather than streamlining such functions in order to make for example the provision of services as efficient as possible, a concern with diversity would encourage the preservation of redundant capacity including alternative capabilities, ideas, sources of information and people.

Being integrated helps a society to bring those diverse capabilities, ideas and people together into cohesive solutions and coordinated actions. It involves transparent communication and the presence of feedback loops which allows different parts of the system to perceive changes and challenges in other parts and to react and adjust before disruptions spread throughout the system. Being integrated largely corresponds to Walker and Salt's tightness of feedbacks. Being self-regulating allows a system to "fail safely", to contain problems and disruptions and avoid a collapse of the whole system. In a post-war society strengthening self-regulation would involve decentralized governance, but possibly also preservation of some more traditional forms of social organization on village or extended family level. This is close to Walker and Salt's modularity. Finally, being adaptive means being flexible, having "the ability to apply existing resources to new purposes or for one element to take on multiple roles" (Rodin, 2015, 14). Basically it means having the ability to act upon the four other characteristics—being aware, being diverse, being integrated and being self-regulating.

Similarly Taleb and Treverton (2015, 88) describe the principal sources of societal fragility as "a centralized governing system, an undiversified economy, excessive debt and leverage, a lack of political variability, and no history of surviving past shocks." They illustrate their argument with a comparison between Syria and Lebanon in the context of the Arab Spring. In Syria centralized control of the economy and top-down management of society created a rigidity that made highly vulnerable to disruption. Conversely, in Lebanon the civil war had helped decentralizing the state, which in combination with a free-market economy may have appeared chaotic but paradoxically (so far) turned out to be resilient. The conclusion is that we should not try to avoid failure at all cost. Instead we should build our capability to cope with failure, and use it to our advantage. "In a complex and fluid reality, failing better is seen to be a much more realistic goal than narrow short-term understandings of policy 'success'." (Chandler, 2014, 12)

In sum, there is a lot of criticism against the liberal blueprint-type of peacebuilding and its focus on stability through statebuilding rather than emancipation through peacebuilding, including with reference to resilience. The argument of this paper is that resilience does not

offer one single alternative. On the one hand, engineering resilience means preparing for likely challenges so that they do not push the system completely off track but merely result in minor detours from which the system can return to the right track as soon as possible. In combination with its concern for local context and capabilities resilience engineering peacebuilding might therefore be conceived of as a map-type process. On the other hand, from the perspective of ecological resilience and the possibility of multiple equilibria we might not even know exactly where we are going. The system can make use of challenges to strengthen its ability to learn and adapt. Peace can take different forms and it can change over time and it is therefore built neither according a blueprint nor by following a map, but with the help of a guidebook. This means that if a certain destination or mode of transport turns out to be unsuitable, other options are or can be made available. This perspective constitutes a more fundamental challenge the liberal paradigm—and is more in line with other critical approaches to peace and conflict studies. This argument can be summed up as in Table 1.

approach	strategy	view on challenges	analogy
liberal paradigm	stability	avoid	blueprint
engineering resilience	diversity	manage	map
ecological resilience	adaptability	capitalize on	guidebook

Table 1. Three Approaches to Peacebuilding

Other Implications

So far, this paper has highlighted a few aspects of resilience and what they might mean in a peacebuilding context, such as the need to accept and prepare for change, and the need to consider both specified and general resilience. In this section, I will briefly outline three other important implications of resilience thinking for peace and conflict studies. First, the idea of multiple equilibria means that just as resilience keep a society in a peaceful state it can also keep a society in a conflictual state. Second, ecological resilience means that rather than bouncing back from crisis to a previous state, a crisis can be conceived of as an opportunity to learn, develop, and move forward. Third, resilience thinking requires a different understanding of conflict termination.

The Resilience of Conflict

From the perspective of ecological resilience and the assumption of multiple equilibria a social system can find itself in a peaceful state, where various feedbacks between the attitudes, behavior and issues dimensions reinforce each other and keep the system in its peaceful state; or it can find itself in a conflictual state. Both states can be resilient to change. Once a threshold is crossed—once the lake becomes turbid, once methane is being released from thawing tundra, or once large-scale violence begins to feed hostile stereotypes—it can be difficult to push the system back across the threshold to a more positive state again. In the words of Holling & Gunderson (2002, 32): "Resilience can be the enemy of adaptive change." This means that calls for "building resilience" need to be clear about what it is that is to be made resilient. The notion of protracted social conflicts is well known in peace studies (see e.g., Azar 1990). Researchers are also using the term resilience to describe such situations, for example Wallensteen et al (2009, 258), who argue that "internal conflicts throughout the world tend to be resilient to conflict management initiatives." Relatedly, the World Bank (2011b, 172) uses resilience in the context of social norms preventing women rights:

> Social norms are typically most resilient in areas that directly affect power or control. Those who would lose power under a change in the social norm actively resist change, and those who would gain often are too weak to impose change. The resilience of dysfunctional social norms may also stem from the difficulty of the potential gainers to credibly commit to compensate the losers after the change is made.

From this perspective, peace and conflict are different states that a society can be in rather than completely different phenomena. The same theoretical framework of systems, thresholds, stable states, feedbacks and adaptability can therefore be used to analyze societies both at peace and in conflict.

Inducing Disturbance

A crisis is often perceived as a window of opportunity among other things to address vulnerabilities and initiate change. "Never let a good crisis go to waste," as Churchill expressed it (Rodin, 2015, 241). Similarly, according to Friedman (1982, ix) "[o]nly a crisis—actual or perceived—produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around." In resilience terminology, novelty is suppressed during the more rigid phases of the adaptive cycle, as growth results in established structures that leave little room for change. Then, as the cycle enters the release phase it effectively experiences a crisis, which opens windows of opportunity for change and novelty (Scheffer, 2009, 76–77).

Accepting or even inducing small-scale disturbance can serve both as a safety vent, to address problems early on rather than suppressing them until they become more serious, and as a type of social stress inoculation, improving the ability to react constructively to later, larger disturbances, although other factors are, of course, also important (Oldehinkel et al., 2014). The same argument has recently been made for countries' ability to deal with disorder:

> Countries that have survived past bouts of chaos tend to be vaccinated against future ones. Thus, the best indicator of a country's future stability is not past stability but moderate volatility in the recent past. (Taleb & Treverton, 2015, 88)

These "past bouts of chaos" do not have to take the form of violent upheaval. On the contrary, as expressed by Holling, Gunderson & Peterson (2002, 95):

> Modern democratic societies (…) have invented ways to diffuse large episodes of creative destruction by creating smaller cycles of renewal and change through periodic political elections. So long as there is a literate and attentive citizenry, that invention demonstrates that the painful lessons from episodic collapses of whole societal panarchies [linkages between adaptive systems at different levels] might be transferred to faster learning at smaller scales.

Regular elections can function as a safety vent for democratic societies. It helps them to avoid the accumulation of pressure for reform, which could otherwise erupt in the form of violent protest.

Conflict Termination

While there are many ways of measuring the durability or sustainability of conflict terminations, the lasting absence of direct violence remains a standard minimum requirement. The absence of armed conflict for at least five years has been a common operationalization of durable peace (Walter, 2002), but both longer and shorter periods have been used, as well as more than one cut-off point, and minimum levels of democracy or respect for human rights have served as qualifiers. (Downs & Stedman, 2002; Doyle & Sambanis, 2000; Druckman & Albin, 2011; Johansson, 2010; Ohlson, 1998). However, all these measures have one thing in common: if and when conflict breaks out again, peace has failed—irrespective of the duration and severity of the renewed conflict.

However, this is when resilience is really put to the test. Does the situation escalate to large-scale, long-term warfare, or is the recurring violence limited and brief? Is the system pushed across a threshold back into a conflictual equilibrium, or is it resilient enough to absorb the disturbance and remain in the essentially peaceful equilibrium? Does a short-term relapse into violence even represent an opportunity for learning about remaining vulnerabilities, and for addressing these vulnerabilities to make the society better prepared to handle the next setback? From a resilience perspective then, the recurrence of violence is not in itself reason enough to write off a case as a failure.

Conclusions

The premise of this paper was that as peace and conflict studies takes on the concept of resilience, there is reason to be aware of different understandings of the concept. I described two versions of resilience: engineering resilience, based on the assumption of a single equilibrium and conceiving of resilience as the time it takes for a system to bounce back to its original state after a disturbance; and ecological resilience, based on the assumption of multiple equilibria and conceiving of resilience as the amount of disturbance a system can absorb before being pushed across a threshold from one stable state to another.

Common to both conceptualizations of resilience is a contradiction, or at least a necessary trade-off, between efficiency and resilience. Efficiency is about reducing redundancy, but redundancy is what makes up the margins of error necessary for resilience. This means that resilience should not be mistaken for an extended version of stability, or even as the ability to remain stable in the face of change. On the contrary, resilience thinking implies the inevitability of change and the need to prepare for that change. Resilience thinking therefore means that peacebuilding cannot be about "template-style peace implementation." Building resilient peace is not about getting closer and closer to an ideal social system, over time meeting more and more of a range of positive-peace-criteria, and being done when all the boxes are ticked. Instead, resilient peace is a continuously ongoing process, and building resilient peace is about strengthening the ability to manage a continuously evolving and changing social system in ways that avoid, as far as possible, the use of violence as a means of advancing political goals. It is about assisting a society to develop the capacity and skills, materially and intellectually, to avoid a major breakdown of the conservation phase, and to do that through the timely inducement of small-scale disturbance. This will support the defining priority of peacebuilding, namely "*the construction or strengthening of authoritative and, eventually, legitimate mechanisms to resolve internal conflict without violence*" (Cousens, 2001, 4 original emphasis).

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