

Early Warning and The Field: A Cargo Cult Science?

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1. Introduction

Early warning is a large field with many different methodologies operating on different levels and with a wide range of issues. There are a broad variety of actors involved in these systems from grassroots projects to academics working on computer simulations. Few people would disagree with the concept of early warning: to obtain knowledge and, what is more, to use that knowledge to assist in the mitigation of conflict. In this sense, early warning is an irrefutable necessity. There is a need to actively engage in crisis prevention where the first step is the prognosis of when, why and where conflict will erupt. This is the same process as any troubleshooting: what is the problem and cause, how imminent and what can we do about it? The options that can be taken are necessarily tied to the understanding of the cause. It is, in this sense, that crisis prevention is coupled to early warning.

Although related, it is different to ask whether early warning systems are essential or whether they can be successful. They are related to each other because the concepts of early warning behind their importance are in turn the criteria of success. This chapter will critically review whether early warning systems can effectively: (a) identify the causes of conflict, (b) predict the outbreak of conflict, and, what is more, (c) mitigate that conflict.

It is argued that unless the early warning system has a mechanism to mitigate the conflict, there is little utility to be gained in refining the accuracy of current models. Therefore, after outlining the field of early warning, I will discuss the challenges and problems facing these systems in relation to conflict mitigation before addressing the accuracy in identifying the causes and predicting the outbreak of violence.

Section II will outline the state-of-the-art in the field of early warning and identify the different areas of focus, methodologies and mechanisms employed. It will end by summarising these mechanisms into an archetypical model for early warning. Section III will assess the third goal of early warning and outline the major challenges facing the transition from early warning to early response. Contained within this section, I will propose some tentative recommendations on bridging the gap. Section IV will assess quantitative early warning systems against the first two goals of early warning by drawing on the work of Peter Winch (1995) in *The Idea of a Social Science and its Relation to Philosophy*.

The term *early warning system* (EWS) will be used generically to mean any initiative that focuses on systematic data collection, analysis and/or formulation of recommendations, including risk assessment and information sharing, regardless of topic, whether they are quantitative, qualitative or a blend of both. „*Risk assessments* are based on the systematic analysis of remote and intermediate conditions. Early warning requires near real-time assessment of events that, in a high risk environment, are likely to accelerate or trigger the rapid escalation of conflict.“ (Gurr 1996, 137) Leading on, *early response* will refer to any initiative that occurs in the latent stages of a perceived potential armed conflict with the aim at reduction, resolution or transformation. The term mechanism will refer to the individual units of an EWS such as data collection, data formatting, data analysis with the understanding that there is a relationship and process between these units for the system to operate. Although a term from the natural sciences, nothing more is implied than a sub-unit that interacts with

other units to form a system. The term *model* will refer to the systems that are theoretically constructed such as *Minorities at Risk*¹ has developed, which is dependent upon predefined indicators.

Table 1: Overview of Acronyms of EWS	
AKUF	Working Group on Causes of War (Arbeitsgemeinschaft Kriegsursachenforschung)
BCOW	Behavioural Correlates of War
CASCON	Computer Aided System for Analysis of Conflicts
CEWS	Conflict Early Warning System
CEWP	Conflict Early Warning Project
CHE	Complex Humanitarian Emergencies
COPDAB	Conflict and Peace Data Bank
EAWARN	Network for Ethnological Monitoring and Early Warning
EEWS	Epidemiological Early Warning System
EWNET	Early Warning Network
EWS	Early Warning System
FAST	Early Recognition of Tensions and Fact Finding
FEWER	Forum on Early Warning and Early Response
FEWS	Famine Early Warning System
FUGI	Future of Global Interdependence
GEDS	Global Event Data System
GIEWS	Global Information Early Warning System
HEWS	United Nations Humanitarian Early Warning System
HURIDOCs	Human Rights Information and Documentation System
ICB	International Crisis Behaviour
ICG	International Crisis Group
ICOW	Issue Correlates of War
IDEA	Integrated Data for Event Analysis
KEDS	Kansas Event Data System
KOSIMO	Conflict Simulation Model (Konflikt-Simulations-Modell)
LIVA	Life Integrity Violations Approach
MAR	Minorities at Risk
PANDA	Protocol for the Analysis of Nonviolent Direct Action
PCIA	Peace and Conflict Impact Assessment
PIOOM	Interdisciplinary Research Programme on Root Causes of Human Rights Violations (Programma Interdisciplinair Onderzoek Oorzaken Mensenrechtenschendingen)
QnEWS	Quantitative Early Warning System
SIPRI	Stockholm International Peace Research Institute
TABARI	Textual Analysis by Augmented Replacement Instruction
TWEED	Terrorism in West Europe: Event Data Project
UNDHA	United Nations Department of Humanitarian Affairs
USAID	United States Agency for International Development
WEIS	World Events Interaction Survey (event data set)

¹ See <http://www.cidcm.umd.edu/inscr/mar/home.htm>

2. Mapping Out the Field of Early Warning

EWS are not new mechanisms. They have been in existence since the 1950s, since when different focal issues have been addressed using different methodologies. The origins of the modern EWS can be found in two stems: first, the military strategic intelligence gathering to predict an attack. Second, those used to forecast humanitarian and natural disasters such as drought and famine exemplified by the United Nations Humanitarian Early Warning System (HEWS). This article will focus on current developments of the latter strand and its broadened application to include the analysis of ethno-political conflict.

The litany of contemporary EWS have analysed and warned on many different issues and areas. This spectrum has included: genocide, minorities, Complex Humanitarian Emergencies (CHEs), terrorism & human rights violations (*see* Table 2).

Early warning is a term that is often used to describe a variety of activities that are not all strictly early warning, including conflict analysis and monitoring, data analysis, risk assessment and advocacy. While some systems belong to one sector alone such as AKUF (conflict analysis) others often straddle sectors such as FAST (conflict analysis and monitoring, data analysis, risk assessment and advocacy).

Table 2: Early Warning about What?	
refugee / interdependencies / development / human rights violations	Future of Global Interdependence (FUGI)
	Amnesty International
	Human Rights Watch
	Interdisciplinary Research Programme on Root Causes of Human Rights Violations (PIOOM)
ethnopolitical conflict	Early Recognition of Tensions and Fact-finding (FAST)
	Forum on Early Warning and Early Response (FEWER)
	International Crisis Group (ICG)
Genocides and politicides	Accelerators of Genocide
	Genocides and Politicides Project
	Life Integrity Violations Approach (LIVA)
armed conflict / military expenditure / arms production	Global Event Data System (GEDS)
	State Failure Project
famine and food supplies	Famine Early Warning System (FEWS)
	Global Information Early Warning System (GIEWS)
successes and failures in preventing violent inter-group conflict	Conflict Early Warning System (CEWS)
militarised disputes	Correlates of War
crisis development and effectiveness of attempts at management	International Crisis Behaviour (ICB)
telecommunications and its relation to conflict	Leland Initiative: African Telemetric Project
Minorities	Minorities at Risk (MAR)
direct political action	Protocol for the Analysis of Nonviolent Direct Action (PANDA)
CHEs	ReliefWeb (UNDHA)
terrorism	Terrorism in Western Europe: Event Data Project (TWEED)

All the systems can be further divided into four methodological categories: quantitative, qualitative, a dual process of quantitative and qualitative, and finally networks (see Table 4). Table 2 provides a simplification of the main activities of the early warning systems.

Monitoring / Conflict Analysis	Model Data Analysis	Risk Assessment / Early Warning	Lobbying recommend	Networks
AKUF	KEDS	MAR (Minorities at Risk)	ICG (International Crisis Group)	FEWER (Forum on Early Warning and Early Response)
KOSIMO	PANDA	FAST	Human Rights Watch	Network on Ethnological Monitoring and Early Warning of Conflicts
SIPRI	Accelerator of Genocide	USAID		HURIDOCS (Human Rights Information and Documentation System)
ICOW (Issue Correlates of War)	WEIS	FEWS		HEWS (Humanitarian Early Warning System)
UPSALLA	State Failure Project	GIEWS		EWNET
PIOOM	Accelerator Project	EEWS		Conflict Watch Inter Press Service
ICG (International Crisis Group)	GEDS	FUGI		
Human Rights Watch	KEDS	ICG		
	PANDA			

2.1 Qualitative early warning

These systems are characterised by the ‘watch’ group (Adelman et al. 1996, 47), exemplified by Human Rights Watch, Amnesty International and the International Crisis Group (ICG). They employ field-based analysts or special envoys, often posted within the region in question, to monitor and conduct specific research. The resulting recommendations are then lobbied with key decision makers and policymakers.

Case Study 1: The International Crisis Group (ICG)

The strength of ICG comes from the decision-makers being part of the internal structure of the organisation in its hourglass shape. It comprises field analysts who stay long term in a specific region such as Central Asia, Africa, South America, especially Columbia and the Balkans. The analysts generate up-to-date, on-the-ground reports about the latest

changes in the situation which are then processed at the offices in Brussels, Paris and Washington from where they are distributed to the 40 board members, comprised of former prime ministers, foreign ministers and advisors, who then lobby the recommendations with key policy makers. The reports move simply beyond the abstract „something must be done“ to concrete tailored policy recommendations with further speculation about future scenarios and their consequences. By the transmission of on-the-ground information to the toplevel leadership, it is one of the few organisations that successfully breaches the micro-macro divide. It is an attractive forum for local actors to be heard and moreover to be given the channel to communicate this information. Policy meetings at the regional and head offices further support the work with key policy makers, where the field analysts are often present. The organisation also uses the media to gain maximum visibility, while also targeting the media in general when partial reporting has aggravated the situation. ICG is a system that has managed to successfully bridge the gap between early warning and early action.

2.2 Quantitative early warning

Quantitative early warning systems (QnEWS) celebrated their heydays during the 1960s and 1970s in the form of event data-coding. Granted large budgets by governments, they aimed to construct theoretical models for understanding political behaviour. Two examples are the *World Events Interaction Survey (WEIS)* established by McClelland in 1976 and Azar's *Conflict and Peace Data Bank (COPDAB)* in 1982. However, due to the consuming human and financial resources required to code the data, they had lost favour by the mid 1980s. Their second boom came in the 1990s due to the collapse of the Iron Curtain coupled to the significant advances in computer technology as well as new information sources such as the internet.

The methodology employed is based on the systematic collection and processing of empirical information according to a given set of criteria. The main objective of quantitative analysis is to „... isolate factors that contribute to the outbreak of war or make warfare more likely...[and] one tries to reveal a direct link between them and the outbreak of war.“ (Conrad & Schlichte 2000, 4) From empirical evidence, they try to ascertain the antecedent contextual structures, events and processes that caused the outbreak of violence. I will use the analogy of a glass shattering to illustrate the different objects of analysis.

To develop upon Gurr's typology (1998), systems based upon quantitative methodologies can be classified into five main models: structural models, accelerator models, threshold models, conjunctural models and response models.

Structural models

These models, also referred to as causal models or risk assessments, aim to identify the conditions and structural contexts under which violent conflict will erupt. From a predefined list of indicators, the models review causal relationships between these indicators and their magnitude in relation to the objective whether this is state failure or minority risk. The base data, which is data of previous conflicts, is used to identify the indicator magnitude. The results are then tested retrospectively on different conflict data to verify the indicator constellations. Through analogy, in trying to discover why the glass shattered, they look for elements such as brittleness and the degree of brittleness.

Case Study 2: Minorities at Risk

The underlying assumption of the project is that future violent rebellion will be instigated by groups who are most at risk. To date, there have been four project phases spanning from 1993 to the present. Originally identifying 227 groups, the current phase is now working with 275. A minority is defined as „...a group in which (the country of residence) has a population greater than 500,000 in 1995, the group itself has a population larger than 100,000 or one per cent of the country’s population.“ The conditions under which a group will instigate violent rebellion are: collective incentive, capacity for joint action and external opposition.

Collective incentives are equated with the perception of disadvantage or grievance felt by the group. This can be broken into (a) history of lost political autonomy and (b) active political, economic, cultural discrimination in the 1990s.

The group capacity for collective action is based on the feeling of shared identity and this in turn is directly related to the extent of the difference with the host group. This theme further examines whether the group is politically organised.

The group opportunities for collective action arise from a variety of factors; the two most important being (a) the time since the last dramatic change in the political structure and (b) the amount of external support provided, either materially or symbolically.

The project divides the world into six geo-political regions: the Western Democracies and Japan (region 1), Eastern Europe and the former Soviet Union (region 2), Asia and the Pacific (region 3), North Africa and the Middle East (region 4), Sub-Saharan Africa (region 5) and Latin America and the Caribbean (region 6).

The rules of inclusion for groups have already been discussed, but as with most rules, there are grey areas and caveats to note. Group discrimination and bias are only relevant to this project as they exist in relation to other groups within the country. Thus, denial of the right to vote is only relevant if some groups in the country do have the right to vote. The focus of these indicators is the relative status and condition of the group, not its absolute condition. Also, the identity of the group must be relevant in some way to its discrimination or disadvantage. Likewise, if the group is mobilized, the mobilization must centre on group issues vis-à-vis other groups or the state. Mobilisation as part of some non-ethnic campaign (e.g., ideological) does not qualify as group mobilisation in the context of this project.

Source: Minorities at Risk at <http://www.bsos.umd.edu/cidcm/mar/projdesc.html>

Accelerator models

The aim of these systems, also referred to as sequential or processural models, is to identify the triggers and antecedent processes that spark and lead to conflict. Barbara Harff points out that „...certain events cluster prior to an outbreak of geno/politicide“ (Harff 1998, 71). These events can then be traced backward as a process prior to the specific outbreak. Developing upon risk assessment by adding a timeframe, accelerator models identify sequences that lead from high-risk situations to conflict. To use the analogy, with the knowledge that glass is brittle, it infers that when a stone’s trajectory crosses the glass that the glass will shatter. An example of such a model is the *Global Event Data Survey (GEDS)*.

Threshold models

These models are based on event data analysis and, although they do not try to identify the causes or processes of conflict, attempt to abstract the information from other conflicts and to identify similarities in the patterns formed by the event data.

Case Study 3: Event Data and Event Data Coding

An event is simply an action such as „July 23, 1990: Iraqi newspapers denounce Kuwait's foreign minister as a US agent“. This data is acquired from services such as LEXIS / NEXIS which holds news wires from press agencies through specifically written programs such as the NEXIS SPIDER. Using Boolean statements (linking terms by using AND, OR or NOT), the spider can isolate the relevant data, for example in the study of the Levant 1979 – 1995 by Schrodtt, the search was limited to Israel, Jordan, Egypt, Lebanon, Syria, PLO, Palestine, Kuwait and Iraq. Any wire with these words in the headline is downloaded. For these criteria, there were approximately 100,000 events of which fifty per cent were relevant.

Once downloaded, the reports are converted into machine-readable text such as „900723 IRQ KUW 122“ i.e. date (1990 July 23rd) Iraq Kuwait denounce (code 122). There are several coding mechanisms such as the Behavioural Correlates of War (BCOW), Conflict and Peace Databank (COPDAB), Integrated Data for Event Analysis (IDEA), and World Event Interaction Survey (WEIS). The WEIS system assesses 22 cue codes which are subdivided into 223 secondary codes i.e. there are 22 clusters each forming a certain range of actions such as ACCUSE (cue code 12) which contain variations such as DENOUNCE (secondary code 122). Each of these codes is given a value such as those identified in the Goldstein scale. For example the above secondary code 122 (denounce) has a negative scale of -3.4 while the secondary code 071 (external economic aid (as gift and/or loan)) within cue code 7 (reward) has a positive scale of 7.4.

Concerning speed and accuracy, due to recent developments KEDS can code up to 45 events per second. A second system Textual Analysis by Augmented Replacement Instruction (TABARI) has reached speeds of 3,000 events per second, depending upon the computer. The advantage of such systems can be seen when placed next to the 40 events per individual per day of human coding. KEDS has managed to accurately code 91 per cent of Reuters newswires.

This event data can then be used in several ways for the analysis: deductively or inductively through factor analysis, discriminant analysis, use of event count rather than scaled data, clustering using time as a variable and clustering using alternative matrices

(Schrodtt & Gerner 1998)

Almost all of the event data coding is now automated. Schrodtt et al. (2001) identifies five main advantages: cost, sharing software, lack of bias and, finally, the possibility to experiment with coding rules. As it is no longer necessary to input the code manually, the only cost is the purchase of the information source. Concerning bias, although both human as well as machine coding result in bias: „...that even expert [human] coders in the military tend to overestimate the military capability of China during the 1980s because they know China to be a large communist country“ (ibid; citing Laurance 1990), the bias in machine coding is consistently incorrect in contrast to human coding where there are as many bias positions as there are coders. The machine bias holds the advantage that the program can be continually re-adjusted to compensate for the bias. The dataset would then require to be re-run, which for the Levant dataset would take approximately three hours.

What is the advantage of using event-data in analysis and how can it be used in early warning? Again Schrodtt argues that coding brings data to a „...theory rich but data poor field...“, and addresses the „...need to be able to systematically study alternative theoretical explanations for the behaviour“ (ibid). Event data is now being applied to early warning. The assumption is that the event data will form a cluster before there is a shift in conflict phase. These phases or stages in conflict are defined within the respective systems such as those identified by Computer Aided System for Analysis of Conflicts (CASCON) and SHERFACE that divide conflict into six phases: dispute, conflict, hostilities, post-hostilities, post-hostilities conflict, post-hostilities dispute, and settlement. In the simplified analogy, the model does not search for the cause of the glass shattering or even the process leading to the shattering but rather after a review of many instances of shattering identify the patterns just before the glass will shatter.

Conjunctural models

These models, such as those speculated by Peter Brecke (2000), are still in their infancy and have not reached any practical application. Similar to causal models, they operate using predefined indicators but differ insofar as they do not examine the magnitude but rather the relationship between, and combination of, indicators. By identifying the constellations present in the pre-conflict phase, they hope to build an early warning. In the analogy, it moves beyond the throwing of a stone and the brittleness of glass to identifying that the stone was thrown ,at‘ the ,stationary‘ glass.

Response models

Similar to threshold models, the response model does not attempt to identify the cause of conflict but rather the impact of various interventions and their appropriateness to the conflict. The main product is to produce various hypothetical scenarios in response to different combinations of intervention.

Case Study 4: Life Integrity Violations Analysis (LIVA) – A Good Enough model

The aim is to detect signs and portents of escalation of violence towards genocide/politicide: to relate the levels of violation to underlying and intervening causes and to relate life integrity violations to other kinds of rights violations. With regard to preventive action, LIVA aims at tracing the impact of government intervention and aid on the level of violation: considering the efficacy of different response strategies at different levels of violation and tracing the impact of NGO campaigns against various classes of violators.

While there is much agreement between Fein and Harff on the precipitating events leading to genocide/politicide, Fein proceeds to focus on the responses at the pressure points. The indicators derived from the theoretical model are to recognize, not to explain (a Good Enough Model instead of Causal Explanatory Model). The testing of models should thus not be the testing of indicators (as Harff does), but the testing of the effect of intervention/response.

Source: van de Goor, L & S. Versteegen 1999 Conflict Prognostication: Part 1 Bridging the Gap from Early Warning to Early Response, Netherlands Institute of Internal Relations, Appendix V.

2.3 Qualitative and quantitative early warning

In a few cases, some projects employ both methodologies running parallel to each other such as the Early Recognition of Tensions and Fact Finding (*Frühanalyse von Spannungen und*

Tatsachenermittlung – FAST) of the Swiss Peace Foundation. This system utilises four information sources: constant monitoring (qualitative analysis), event data analysis (quantitative analysis), expert network (external expertise), and fact finding missions (field investigations). These sources feed into the core outputs which are (a) Country Risk Profile: baseline studies, risk assessment, policy options and supportive data (b) Up-Dates (regular, executive summary, risk assessment and supportive data).

Case Study 5: Early Recognition of Tensions and Fact Finding (FAST)

(1) FAST Country Risk Profiles

- The annual FAST Country Risk Profile presents an in-depth base-line assessment of the situation in the target countries. It discusses root, proximate and intervening factors that may lead to armed conflict, hamper conflict resolution or provide a window of opportunity for de-escalation and peace-building efforts.
- The core indicators derived from this analysis are depicted in the Analytical Monitoring Roster used for daily monitoring and continuous updates.
- A crucial feature of the annual assessment is the formulation of case scenarios and detailed policy options identifying an overall strategy, steps toward implementation (including obstacles to be overcome) and specific tools/programs.
- In addition, key actors are profiled and a set of background information is provided (e.g. chronology of events, tension barometers, strategic information on political, economic/ecological, socio-demographic and military aspects of a country).

(2) FAST Updates

- In order to keep clients in touch with the developments in the countries monitored, FAST provides quarterly updates of the situation on the ground. FAST Updates utilise the Analytical Monitoring Roster as basis and mainly focus on the factors that either increase or decrease the likelihood of armed conflict. Intentionally kept short, FAST Updates do not exceed more than three pages of text and provide only the essential supportive information in the form of a short chronology of main events and tension barometers.

Source: FAST – Early Recognition of Tension and Fact Finding, Swiss Peace Foundation, 2001

2.4 Networks

Although in a strict definition a network is not a formal system, nevertheless networks provide a contributive role in the warning about conflicts. These networks cooperate with one another to share field reports and information both from NGOs as well as inter-governmental agencies. There are various forms of networks ranging from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) to Humanitarian Early Warning System (HEWS). These networks require some type of central coordination and have the advantage of being more cost effective than conducting repetitive field studies. They continue to offer the greatest chances for bridging the divide between the private and public sectors. Further examples of these networks are the Forum on Early Warning and Early Response (FEWER) based in London, the Human Rights Information and Documentation System (HURIDOCS), and the Network for Ethnological Monitoring and Early Warning (EAWARN).

Case Study 6: Network for Ethnological Monitoring and Early Warning (EAWARN)

Main activities

- interaction by means of electronic communication between leading specialists for the dissemination and exchange of analytical information
- regular analysis of ethnopolitical situations through reports and analytic papers based on local and national expertise
- work on the model of ethnological monitoring and early warning
- publication of bulletins, reports and methodological materials
- the use of global experiences and updating conflict analysis in annual seminars and other international contacts
- consultation with specialists for the purpose of developing a system of management with procedural negotiations of issues in regions experiencing conflict as well as the preparation and implementation of programmes in the area of nationalities policy

Source: Network for Ethnological Monitoring and Early Warning,
http://www.eawarn.ras.ru/centr/eawarn_engl/index.htm

2.5 Concluding remarks

Early warning systems can be categorised by the methodology that they use. (*see* Table 4).

Despite these different methodologies, a number of general remarks can be made about the mechanisms within an early warning system. To achieve the three main goals: (a) identify the causes of conflict, (b) predict the outbreak of conflict and, what is more, (c) mitigate that conflict, an early warning system should contain six core mechanisms. To address the first objective, the archetypical system should have a systematic process of: (i) data collection (quantitative and/or qualitative) and (ii) data analysis. In order to predict conflict, it is necessary to have (iii) an assessment for warning or identification of different scenarios. To move towards the mitigation of conflict and bridging the gap between early warning and response, the model should in a continual circle: (iv) formulate an action proposal, (v) transmit recommendations and (vi) assess the early response, which in turn feeds back into the formulation of action. The need for this continual circle is that warning must not stop with intervention. The intervention itself will have an impact on the specific context and that context will change. EWS must then review this impact and then if necessary revise the first set of recommendations. It is unclear exactly where the demarcation line lies between early warning and assessment methodologies such as the Peace and Conflict Impact Assessment (PCIA) (*see* Austin, Fischer and Wils 2003). One area that has received no attention is this relationship and it would be of considerable advantage to review and consider the potential merging of the two areas: reducing early warning to simply analysing the conflict setting while expanding PCIA to link directly into the recommendation phase of early warning as well as maintaining its planning mechanism.

3. Conflict Mitigation and Crisis Prevention

This section will aim to review the challenges facing early warning systems in the mitigation of conflict. It is one of the core arguments of this paper that it is insufficient to assume that early response will follow from making sure that the right information is given at the right time

Table 4: Early Warning Methodologies			
Qualitative	Quantitative	Qualitative & Quantitative	Networks
LIVA	MAR	FAST	HEWS
ICG	State Failure Project	Interdisciplinary Research Programme on Root Causes of Human Rights Violations (PIOOM)	FEWER
Fund for Peace	Accelerators of Genocide		EAWARN
Canada Peacekeeping Initiative	Conflict Early Warning Project (CEWP)		HURIDOCs
Human Rights Watch	Cluster Analysis		Early Warning Network (EUNET)
Amnesty International	Protocol for the Analysis of Non-violent Conflict (PANDA)		Conflict Watch Inter Press Service
	Global Event Data Survey (GEDS)		
	Kansas Event Data Survey (KEDS)		
	Future of Global Interdependence (FUGI)		
	World Events Interaction Survey (WEIS)		
	Conflict & Peace Data Bank (COPDAB)		

to the right department or person. Man is not a rational animal. This can be seen in the case of Zaire, where despite clear warnings, little or no action was taken at an early stage (*see* Adelman forthcoming). In fact the difficulties are even larger than warnings not being heeded. As illustrated by Rwanda, even when the conflict is at a violent stage, response was either slow in coming or non-existent. If there is no response, even when there are signs more clear than the potential outbreak of violence, what chances are there for responses to early warning? The inverse is also true, early response has occurred where there has been no explicit warning such as in some countries belonging to the former Soviet Union – for example in Estonia (*see* Birckenbach 1999) or Moldova.

Until there is a better understanding of the conditions, motivations and reasons for response, as well as the relationship between early warning and early response, there will be little utility in focusing on improving the accuracy and methodology of the specific early warning system. Until there is an improved design cohesion between the systems and the intervenors, there can be little hope of bridging the gap between response and warning.

The remaining part of this section will be devoted to those challenges and issues that force this breach wider apart beginning with the underlying assumptions of early warning and crisis prevention. This will include factors outside of the structural design of the system. The second part of this section will make some tentative recommendations concerning ways in which the breach can be bridged.

3.1 Factors inhibiting the move from early warning to early response

Early warning is faced by substantial, possibly unobtainable, evaluation criteria. In few other fields, is there such a success criteria as high and ideal as peace or the prevention of conflict. Whether systems can mitigate conflict is based on two lurking assumptions: (a) that conflict can be mitigated in the first instance, and (b) that one knows how to mitigate it – both are highly contentious. Concerning the latter, the field of conflict management is moving from a young age to a more reflective state. For the past two years, there has been an ever-increasing speculation about what is working and what is failing through the various lessons learned and best practices projects. This has occurred both on the conceptual as well as the practical level.

The conceptual level can be characterized by the *Handbook* group of initiatives such as Paffenholz and Reychler's *Peacebuilding: A Field Guide* (2000) as well as this volume. These publications aim to collect the state of the art throughout the field and to raise critical challenges and open questions. A second conceptual trend should also be alluded to here – namely the precursors of the best practices movement. From the 1950s onwards, a small section of academics have continually attempted to isolate, from the broad spectrum of activities, the most appropriate options for each stage or phase of conflict. These have resulted in various frameworks under the title of *contingency models* and can be exemplified by Fischer & Keashley (1996) and Blénesi (1999). The practical arm of lessons learned and best practices has developed through initiatives such as the *Local Capacities for Peace Project* and the large conference *Towards better Peacebuilding Practice* held in Soesterberg (2001) organized by the European Platform for Conflict Prevention and Transformation. This conference aimed to collect examples of successes and failures; it remains to be seen whether the results can be transposed beyond the site-specific context to broader surroundings.

In short, even if conflict can be mitigated, the broader field of conflict management is at the moment trying to isolate ways to engage successfully. As Lund points out „[t]here is a lack of understanding and knowledge, particularly at the high and middle policymaking levels of the US government and other key entities, of the range of potential risks posed by post-Cold War trends and of their real costs, of the various policy method and entities that can in fact be used to reduce them, of the particular strategies that appear to work the best and of how to implement those strategies.“ (Lund 1996, 28) Until there is more concrete information resulting from best practices and lessons learned initiatives, early warning will continue to be faced with major challenges on recommending what, when and by whom initiatives should be taken.

Lund (1996) and Adelman et al. (1996) have outlined several difficulties with moving from early warning to early response. These have revolved around the role and motivation of the intervenor and have included: the press of daily commitments, altruism versus egoism, confusion of the intervention and noise. The latter refers to more pressing matters, such as actual violent rather than potentially violent conflicts, that tend to override the prevention of conflict with the management of conflict.

One significant factor is the by-stander syndrome. The review of this syndrome is currently being undertaken within the socio-psychological field by academics such as Levine (1999). Although Levine asks the same questions as those posed by early warning experts, namely why was there no responsive action, there has been, as yet, little or no application to the conflict setting. As Staub asserts „[t]he by-stander plays a central part in the establishment and maintenance of human rights abuses. By turning away or remaining passive in the face of threats to human life, the conditions for genocide are maximised“ (Staub 1999).

In 1964, a woman by the name of Kitty Genovese was raped and murdered. In an attempt to explain why 38 witnesses failed to provide help to her, socio-psychologists have devoted

considerable attention to why people fail to intervene. Although the results cannot be directly applied to the ethnopolitical context, they are worth mentioning here as potential areas for further research.

In reviewing when assistance was given, the findings are as follows. First, it was more common to assist people from the in-group, i.e. people belonging to a similar group as the intervener. Second, intervention is more likely to out-groups closer to home rather than out-groups at some distance. Third, the number of witnesses usually had an inverse relationship to whether intervention occurred: the more witnesses there were the less likely that intervention would follow. This was attributed to audience inhibition, social influence and diffusion of responsibility. Finally, whether a group or individual intervened was found to equate to a cost against reward relationship.

It is unclear whether the results would be of any utility to understand the complex reasons that form a lack of intervention in ethno-political conflicts. Nevertheless, it is an area that remains underdeveloped and requires work.

3.2 Some tentative recommendations

There are two possible ways to address the gap between early warning and early response. New early warning systems must be:

- built back-to-front. To increase the likelihood that the recommendations would be followed, the early warning systems must directly engage the support and, what is more, the capacity of the decision makers. Unless, this is achieved at, then it will make little difference how much is invested in the accuracy of the system.
- built as a satellite around specific conflict prevention mechanisms thereby directly linking warning with actual response initiatives. The system should not be built in isolation.

In addition, van de Goor & Verstegen (1999) have identified ways in which the outcome of the analysis can be dealt with more effectively. They stated:

1. The standardised analysis needs to be applied for the purpose of:

- helping to identify and prioritise options for operational response;
- finding the right mix of short-term, medium-term and long-term projects;
- committing to sustained efforts instead of ad hoc operations and betting on instant successes;
- identifying shortcomings in existing policies and instruments, adapting these, or developing new ones.

2. Catalogue and assess the situation in relation to the policy and response capacity available. It is imperative to focus analysis of conflict situations in such a way as to derive guidelines for policy interventions. Analysis should be directed towards understanding, anticipation and intervention:

- Understanding requires analysis directed towards conflict processes in general as well as the particular contextual conditions (country profile);
- Anticipation asks for the monitoring and analysis of dynamic processes and risk evaluation criteria (trend analysis);
- Intervention refers to an inventory of the institution's toolbox, an analysis of the applicability of the policy tools to the goals and the conflict's various needs, and identification of potential moments and field for intervention.

4. Identifying the Causes and Predicting Conflict

This section will critically review the ability of quantitative early warning systems against the first two goals: (a) identification of the causes of conflict, (b) prediction of the outbreak of conflict. The main argument will follow that of Peter Winch as outlined in *The Idea of a Social Science* (1958) as I believe that many of the problems that arose in the 1950s with the social sciences are still present in quantitative early warning systems (QnEWS). The similarities between QnEWS and the social sciences of that time are: (a) complexity of empirical evidence, (b) causal relationships, (c) generalisations from empirical evidence.

4.1 Quantitative empirical evidence – the search for unicorns

The following questions cannot be equated through a degree of empirical complexity: how much does it take to raise the temperature of a bucket to make the water boil? and how much grievance must be endured before a conflict will erupt? To equate them would be a misconception of the words grievance and endurance. In the former question, the evidence can be collected empirically and the facts would press themselves upon the researcher in an unmistakable fashion; in the latter, the threshold line is one that we must choose as researchers and one that the individual must choose before taking to arms.

This can be illustrated through the present crisis in datasets. Chojnacki and Eberwein (2001), in a presentation at the Uppsala Conference on Data Collection, clearly outline this dilemma with various comparisons between different conflict datasets. One of these comparisons concerned four datasets and the logged occurrences of interstate conflicts between 1950 and 1999. The results were startling: KOSIMO identified 19 instances against 39 instances identified by AKUF. Chojnacki and Eberwein argue that it is necessary to run the empirical evidence of one dataset through the parameters of the other and thereby use the methodology to resolve the dilemma.

However the problem is not due to insufficient or inaccurate parameters and consequently it cannot be resolved by re-using empirical evidence with different parameters; it is a problem of different concepts. David Hume has alluded to this in his statement „In vain do you pretend to have learned the nature of bodies from past experience, their secret nature, and consequently all their effects and influence may change, without any change in their sensible qualities. This may happen sometimes, and with regard to some objects: Why may it not happen always and with regard to all objects? What logic, what processes or argument secures you against this supposition?“

The way through this dilemma is to examine the relationship between early warners and their specific focus on the concepts and assumptions that they are using about conflict. Decisions are made not on the environment but on the individual's perception of that environment; warnings are not given about the outbreak of conflict but the perceived outbreak of conflict. In order to understand why KOSIMO logs 19 instances while AKUF 39, it is necessary to review their assumptions about interstate conflict.

The same argument must also apply to the subjects of the analysis and it is here where there is a misconception of the concept of grievance. If early warners reach different conclusions based on their understanding of conflict, why then must an individual who takes arms have the same quota of grievance tolerance as the next person, and, what is more, why then must it remain static for each individual? To do so would be to reject the idea that grievance can be manipulated.

In the case of Kosovo, as well as many other conflicts, one argument is that the sense of grievance was manipulated to mobilise groups into violence for the greed of the elite. Whether this

is through hate messages transmitted through the radio or through appealing to a selective view of the past, the grievance that can be tolerated by an individual before taking arms continues to be a dynamic ever-changing force, an ever-changing quantity with no fixed starting point. As a result, it is not important whether the minority has a history of lost political autonomy or cultural discrimination (as identified in the Minorities at Risk project); it is whether it is perceived as such.

To conclude, grievance is not an empirical state and the search for the causes of conflict outside of perception will remain similar to a search for unicorns. This latter search could be conducted through an empirical methodology – the idea of a unicorn is generally accepted – an animal akin to a Welsh pony with a horn in the centre of its forehead. All that would be required is to empirically search the globe and prove the existence or non-existence of unicorns. However, levels of grievance tolerance vary considerably from person to person, and cannot be known empirically – only conceptually. As a result, QnEWS will remain to be a quest for a mythical beast.

4.2 Causes of conflict – cargo cult early warning systems

The residents of Papua, Yaliwan, Vanuatu and other places noticed that when the colonial occupiers built wharves and airstrips, the wharves and airstrips were soon visited by ships and airplanes that delivered cargos of goods. They concluded that the ships and airplanes arrived as a consequence of the building of the wharves and airstrips, so they built their own wharves and airstrips in the expectation of receiving their own cargoes (FitzGerald 1999).

QnEWS, in trying to find the causes of conflict, examine data for causal relationships: when A is present how often is it followed by B. John Steward Mill defined a causal relationship as follows: „The temporal succession of A and B is an instance of a generalisation to the effect that events like A are always to be found in our experience to be followed by events like B“ (cited by Winch 1958, 67).

These systems operate in the same manner – to look for causal relationships from which generalizations can be made. To repeat Conrad & Schlichte, the main objective of quantitative analysis is to „... isolate factors that contribute to the outbreak of war or make warfare more likely... [and] one tries to reveal a direct link between them and the outbreak of war“ (Conrad & Schlichte 2000, 4). In response to why there are many mispredictions as well as non-predictions, it can be easily argued, similar to Mill, that the answer lies in the complexity of the subject matter. In defence, Mill argued that although hard and fast rules have not yet been found, it does not mean that they do not exist. He made a comparison to the movement of the tides where although it is not possible to give a precise prediction for any given circumstances it (a) does not deny that there are rules and generalisations that apply, and (b) that „...an approximate generalisation is, in social inquiries, for most practical purposes equivalent to an exact one; that which is only probable when asserted of individual human beings indiscriminately selected...“

Following Winch suggests that the origins of conflict, as with human behaviour, lie along a different framework. QnEWS have an inverted sequence of events. For example, suppose that the LTTE (Liberation Tigers of Tamil Eelam) continues the peace dialogue with the Government of Sri Lanka because they intend to achieve a homeland. It would be wrong to say that the LTTE infers their intention of achieving their homeland in the same way as the imminent shattering of a glass might be inferred from the throwing of a stone or from its brittleness, or even the landing of planes can be inferred from the building of landing strips. Applying the way in which Winch summarises this distinction, the action of the LTTE „...is not of the form ‚Such and such causal factors are present, therefore this will result‘, nor yet of the form ‚[we] have such and such a disposition, which will result in my doing this‘; it is of the form: ‚In view of such and such considerations, this will be

the reasonable thing to do“ (Winch 1958, 81).

In short, it is not B that follows A, but rather B presupposes, or is the preceding reason for, A. It was unfortunately to the Pacific Islanders detriment, that they had the sequence of events inverted: planes did not land because landing strips were built, but rather, landing strips were built because there was a preceding intention to land planes.

To summarise the argument so far in relation to the first aim – identify the causes of conflict – QnEWS cannot identify the origins of conflict because they are based on empirical causal relationships. Empirical evidence is insufficient because the issue remains conceptual in contrast to the boiling of water where facts will press themselves upon us. Conflict analysis is where the researcher must draw the line himself and the consequences of this can be seen in the vividly different datasets. Second, the origins of conflict do not lie in causal relationships outside of the individual but rather within the perception of the individual or group. These reasons cannot be ascertained through empirical evidence unless they are to fall into an inversion of events.

4.3 Prediction and understanding

Regardless of this, can QnEWS still provide some insights into the second aim: predicting conflict? Both human behaviour and conflict contain regularities. These regularities can be monitored and various predictions may be possible. These conflict predictions may be similar to the prediction of a word in a foreign language. Winch raises the proposition that, although it is not possible to understand what is spoken nor the grammatical rules, statistical predictions can be made as to whether a word will appear.

This argument would lend support event data analysis that searches for these statistical predictions and not causal relationships. However, „...statistics, though...are not the decisive and ultimate court of appeal...[Nevertheless,] someone who interprets a tribe’s magical rites as a form of misplaced scientific activity will not be corrected by statistics about what members of that tribe are likely to do on various occasions“ (Winch 1958, 113).

Again there is an inherent problem, empirical evidence will not correct a false hypothesis. One of the linguistic philosophers pointed out the hypothesis that the globe was at the centre of the universe (because that is the way that it looked), now we know different – how has the empirical evidence changed?

To summarise, there are regularities in conflict behaviour from which predictions can be made about future scenarios. Nevertheless, as empirical evidence will not correct a false hypothesis, quantitative EWS are left in a perpetual purgatory where they may be right or wrong but without any proof either way.

5. Conclusion

The aim of this article has been to illustrate the breadth and scope of the field of early warning by categorising the systems by their focus, methodology, and mechanism. From this, EWS were reviewed against their three aims (a) identify the causes of conflict, (b) predict the outbreak of conflict and, what is more, (c) mitigate that conflict. By first examining the challenges that face the transition from early warning, the third section argued that unless these issues are addressed, there is little utility in concentrating on the refinement of the accuracy of EWS. In short, the accuracy of a system does not ensure that recommendations will be listened to. To analyse the first two goals,

section four critically reviewed quantitative early warning systems and proposed that, due to the nature of conflict and grievance, it was not possible to empirically quantify data. This was a result of two core positions, first, grievance is not a static quota given equally to all people but rather an ever-changing force where there are as many grievance tolerance levels as there are people. The second position concerned the sequence of events and the difference between cause and reason, and drew upon an analogy to cargo cults. This aimed to illustrate that a search for preceding events to a conflict were insufficient, not due to the empirical complexity of conflict, but due to the nature of intention that, as mentioned above, cannot be attained empirically.

This article has left many areas un-addressed, not least an assessment of qualitative early warning systems as well as networks. A further area only mentioned is the role of continual assessment after the intervention has occurred and this may be possible to link directly to Peace and Conflict Impact Assessment. It may also be worthwhile to consider situations where intervention is not taken and to draw upon the current work in the social-psychology field.

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