

Conflict and Mediation Event Observations (CAMEO):

A New Event Data Framework for the Analysis of Foreign Policy Interactions

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The CAMEO codebook, data sets, and software discussed in this paper, as well as a pdf version of the paper with color graphics, can be downloaded from the KEDS project web site: <http://www.ku.edu/~keds>.

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Abstract

The Conflict and Mediation Events Observations (CAMEO) framework is a new event data coding scheme optimized for the study of third-party mediation in international disputes. We have developed and implemented this system using the TABARI automated coding program and have generated data sets for the Balkans (1989-2002; N=69,620), Levant (1979-2002; N=146,283), and West Africa (1989-2002; N=17,468) from Reuters and Agence France Presse reports. In this paper, we describe why we decided to develop a new coding system, rather than continuing to use the World Events Interaction Survey (WEIS) framework that we have used in earlier work. Our decision involved both known weaknesses in the WEIS system and some additional problems that we have found occur when WEIS is coded using automated methods. We have addressed these problems in constructing CAMEO and have produced much more completed documentation than has been available for WEIS.

In the second half of the paper, we make several statistical comparisons of CAMEO-coded and WEIS-coded data in the three geographical regions. When the data are aggregated to a general behavioral level—verbal cooperation, material cooperation, verbal conflict and material conflict—most of the data sets show a high correlation ($r > 0.90$) in the number of WEIS and CAMEO events coded per month. However, as we expected, CAMEO consistently picks up a greater number of events involving material cooperation. Finally, there is a very significant correlation ($r > 0.57$) between the count of CAMEO events specifically dealing with mediation and negotiation and a pattern-based measure of mediation we developed earlier from WEIS data. Appendices in the paper show the WEIS and CAMEO coding framework and examples from the CAMEO codebook.

Introduction

The Kansas Event Data System (KEDS) project develops automated natural language processing software, creates specialized event data sets on international political behavior, and analyzes these data statistically.¹ Our initial machine coding system, KEDS, has been validated against both the textual record and human-coded events (Gerner et al. 1994, Schrodt & Gerner 1994) and has been used by scholars looking at interactions in Northern Ireland (Thomas 1999), the Balkans (Goldstein & Pevehouse 1997, Pevehouse & Goldstein 1999, Schrodt & Gerner 2001, Schrodt et al. 2001), the Middle East (Schrodt and Gerner 1997, Gerner & Schrodt 1998, Schrodt 1999, Schrodt & Gerner 2000, Gerner et al. 2001, Goldstein et al. 2001), West Africa (Huxtable 1997), and the United States (Wood & Peake 1998). In 2000, Schrodt created a new program, TABARI (Textual Analysis by Augmented Replacement Instructions), as the successor to the KEDS software.² We have recently begun to use TABARI to code events relevant to third-party mediation—one of the most common contemporary international responses to political conflict—in three geographical regions: the Middle East (1979-2002), the Balkans (1991-2002), and West Africa (1989-2002). *This paper describes a new event data coding system—CAMEO—that we have developed for this project and provides some statistical comparisons between the new framework and the World Event Interaction Survey (WEIS) system with which we have been working for a number of years.* (Appendices 1 and 2 show the basic CAMEO and WEIS frameworks.)

Why a New Coding Framework?

For several decades, event data research has been dominated by two coding frameworks: Charles McClelland's WEIS (1976) and the Conflict and Peace Data Bank (COPDAB) developed by Edward Azar (1982). Both were created during the Cold War and assumed a "Westphalian-Clausewitzian" political world in which sovereign states react to each other primarily through official diplomacy and military threats. There have been some efforts to extend WEIS and COPDAB—most notably Leng's (1987) Behavioral Correlates of War (BCOW) and Bond et al.'s (1997) Protocol for the Analysis of Nonviolent Direct Action (PANDA)—but WEIS and COPDAB still dominate the published literature.

These coding systems, while innovative when first created, are ill-suited for dealing with contemporary issues such as ethnic conflict, low-intensity violence, organized criminal activity, or multilateral intervention. The systems have other problems as well. For instance, WEIS has only a single category for "military engagement" that must encompass everything from a shot fired at a border patrol to the strategic bombing of cities. COPDAB contains only 16 event categories; these were intended to span a single conflict-cooperation continuum that many researchers consider inappropriate. McClelland (1983) viewed WEIS as only a "first draft;" he certainly did not anticipate that it would continue to be used, with only minor modifications, for four decades.

1 Event data—nominal or ordinal codes recording the interactions between political actors as reported in the open press—break down complex activities into a sequence of basic building blocks that can be analyzed statistically.

2 Like KEDS, TABARI—which is "open-source" code and available for the Linux, Macintosh, and Windows operating systems—uses a computational method called "sparse parsing." Instead of trying to decipher a sentence fully, TABARI determines only the parts required for event coding—for instance, political actors, compound nouns and compound verb phrases, and the references of pronouns—and then employs a large set of verb patterns to determine the appropriate event code. Sparse parsing techniques can be used successfully on unedited news wire text such as lead sentences from the Reuters and *Agence France Presse* news services. Automated event data coding is more reliable and transparent than human coding and—once the actor and verb dictionaries have been developed—automated coding is about seven-million times faster than human coding. See Gerner et al. (1994), Schrodt & Gerner (1994), Schrodt, Davis & Weddle (1994), Bond et al (1997), Thomas (1999), and King & Lowe (2001) for additional discussions of automated coding.

The “lock-in” of these early coding systems is readily explained by the time-consuming nature of human event coding from paper and microfilm sources. Because human coders typically produce between five and ten events per hour, and a large data set contains tens of thousands of events, experimental re-coding was simply not feasible. Established protocols for training and maintaining consistency among coders presumably further constrained efforts to modify WEIS and COPDAB once these were institutionalized. As a consequence, only marginal changes were made in these schemes such as Tomlinson’s (1993) incremental extensions of WEIS or the GEDS project’s expansion of COPDAB (Davies & McDaniel 1993).

Automating coding, in contrast, allows researchers to experiment with alternative coding rules that reflect a particular theoretical perspective or interest in a specific set of issues because even a long series of texts spanning multiple decades can be recoded in a few minutes. This allows researchers to focus their efforts on maximizing the *validity* of a coding scheme for a particular problem; the automated coding process itself guarantees the reliability of the system. New coding frameworks that have used automated coding include PANDA and more recently the Integrated Data for Event Analysis (IDEA) system (<http://vranet.com/idea/>; also see King and Lowe 2001). The effort involved in implementing a new coding system once it has been developed is *relatively* small because most of this can be done within the dictionary of verb phrases. In most cases verb phrases can simply be assigned to appropriate new categories. If a phrase *cannot* be unambiguously assigned to a new code, it should be eliminated or modified. This itself represents an improvement in the coding system since we do not want to include any ambiguous phrases.

Despite the obvious drawbacks of WEIS, we have used that coding framework for all of our earlier work with KEDS. WEIS was “good enough,” and in the early stages of our automated coding development, it was important for us to implement an existing system so that we could directly compare human-coded and machine-coded data (Schrodt & Gerner 1994). However, we recently decided to abandon WEIS. Several considerations motivated this decision. First and foremost were long-standing concerns about ambiguities, overlaps, and gaps in the WEIS 2-digit cue categories. In addition, the distribution of events in WEIS is quite irregular and several of the cue categories generate almost no events. Third, we wanted to eliminate distinctions among actions that, while analytically discrete, could not be consistently and reliably differentiated given existing news source materials. Finally, as indicated above, the Cold War perspective that permeates WEIS is less appropriate understanding for contemporary international interactions. The result of these concerns is a new coding scheme we call Conflict and Mediation Event Observations (CAMEO). CAMEO is specifically designed to code events relevant to the mediation of violent conflict.

Specific Problems with WEIS

Our extensive coding experience with WEIS has led us to recognize major drawbacks and weaknesses in several of its categories. First, there are a number of events that do not fit into any of the WEIS categories and other instances where different types of events are placed in a single category. Both these problems raise issues of validity and reliability. First, it is difficult to maintain conceptual consistency within categories when the definitions are broad, vague, or unclear. Second, some discrete categories are analytically confusing because they seem to refer to nearly identical concepts.

One of the first problems one encounters with WEIS is the lack of an extensive standard codebook. We have based all of our development of coding dictionaries on the ICPSR version of the WEIS codebook (McClelland 1976). The section of the codebook dealing with event categories is quite short—about five pages—and provides only limited guidance. (By contrast, the ICPSR codebook for Leng’s BCOW system is over 100 pages in length and provides substantial detail.) McClelland’s never intended that WEIS would become a *de facto* coding standard and the ICPSR WEIS data set was meant primarily as a proof-of-concept. We have copies of more extensive WEIS-based codebooks—Sherwin and VanBeers (1976), Third Point Systems (1985) and Tomlinson

(1993)—but these are not widely available, nor were their proposed extensions widely disseminated. Therefore we have used the ICPSR codebook as our reference.

The broadness of definitions, and vagueness and unclearness problems are all illustrated in WEIS cue category Force (22). The subcategories of (22) combine different events that range from violent civilian demonstrations to a military occupation of another state to aerial and tank attack on another state. Combining all events that include the use of force, regardless of the level of the force used, lead to questioning WEIS's measurement. In other words, it will be hard to imagine that an analyst would be able to make sense of an event data set that combine events involving civilian demonstrations and a large-scale military occupation of a territory.

In addition, the subcategories of (22) are too broad to the extent that different events analytically do not go together, end up being coded under a particular subcategory. Subcategory (223), for instance, refers to military engagement. Events such as military occupation, aerial attack, military closure, use of small arms, and artillery and tank attacks are all measured as one type of military engagement. This categorization looks at a military occupation of a state with an equal significance to a gun battle. It also treats an Israeli closure of the Palestinian territory as an equal event to Israeli aerial, artillery, and tank attacks on the Palestinian territory. Events involving bulldozers razing homes, blockade of territories, a gunfire battle, missile attacks, tank attacks, rocket attacks, or massacres are all coded under this subcategory. The vagueness problem is clear when (223) is compared to (211). According to WEIS, “Seize position or possessions” (211), “may also be used when a nation militarily takes or occupies another’s territory.” This description conflicts with military engagement (223) since a military occupation of another’s territory is a military engagement activity.

Subcategory (222) is also problematic because it includes all non-military acts that involve “injury-destruction.” This means that the subcategory includes acts by guerilla groups, suicide bombers, opposition factions, and any other injury or destruction caused by individuals. Events such as the Abu-Sayyef group’s killing of a U.S. journalist, the 11 September attacks, a suicide bombing in Israel, or a Timothy McVey scenario are all assigned the same code.

Another source of confusion for coders appears when we compare subcategory (221) to “Non-military demonstration” (181). Referring to non-injury destructive acts, subcategory (221) also includes demonstrations that report “actual physical destruction.” The same acts, however, might be coded under (181), which “applies to activities such as marching, picketing, stoning, etc.” So, if we have an event of a demonstration that involved stoning, which probably led to physical destruction, where should the event be coded? 221 or 181?

The analytical confusion created by some of the WEIS categories surfaces when we examine the conceptual difference between Request and Propose, Agree and Promise, and Grant and Reward. Despite the fact that these categories are conceptually different, our coding experience indicates that it is almost impossible to identify verb phrases that consistently differentiate between them. Although we know that requests are conceptually different from proposals, event data sets usually include leads that do not differentiate between the two concepts. Subcategory (092), for example, refers to “Ask for policy assistance,” and (102) refers to “Urge or suggest action or policy.” The conceptual question raised here is: How would “Ask for policy assistance” be distinct from “Urge or suggest action or policy?” Due to this problem, one might argue that Urge is not substantially conceptually different from Ask For. Furthermore, it is hard to argue that “Call for action” (094) is substantially different from “Urge action or policy” (102).

The same problem occurs when we examine the conceptual difference between Agree and Promise. Generally speaking, all promises entail commitments to do something. That said, one would expect fundamental difficulty when trying to measure the difference between these two categories. How is promising to provide support different from agreeing to provide support? Are we able to measure the conceptual difference, if it does exist? Reward and Grant raise a similar conceptual question. Although they are conceptually different, it is a hard task to measure such a difference through an examination of event data sets.

Finally, there is a long-standing problem with Demand, Warn, and Threaten. According to the WEIS codebook (McClelland 1976), “occasionally the words ‘demands’ and ‘threaten’ are used in news items, which should be coded as warnings”. Such definition of “warn” creates ambiguity and substantial confusion in the coding process. Even if we want to conceptually differentiate between Warn and Threaten by having two separate cue categories, it is very difficult to make this distinction systematically. The following example illustrates how even when the word “warn” is used in a sentence, it may be difficult to determine whether the event should be coded under Warn or Threat without making inferences based on background knowledge about the region and circumstances of the event

Yugoslavia’s Politburo warned Slovenia on Thursday not to adopt constitutional amendments giving it the right to secede from the federation and barring federal intervention on its territory.

The Creation of CAMEO

The creation of CAMEO benefited substantially from the fact that those who participated in this process had different backgrounds and experiences in the fields of event data coding and conflict resolution literature. Some participants had extensive coding experience, others had strong knowledge of the conceptual and theoretical propositions in the field of conflict resolution, and others combined both. With such experience and knowledge diversity, our meetings often involved confrontations the goal of which was to make CAMEO a reasonable coding system that balanced theory and practice. Our initial disagreements usually turned to be advantageous as they directed us to do further research in an attempt to find common ground between the practitioners and the theorists.

Alker (1988:224)—citing a story about an Egyptian female graduate student coding event data differently than her U.S. white male counterparts—has raised the possibility of cultural and gender biases in event data coding. In light of this concern, we would note that CAMEO makers were ethnically diverse, and included a Cypriot, a Palestinian, an Iranian-American, an Indian-American, and several Kansans. The regional interests of our team were also diverse; some focused on the Middle East, some on the Balkans, and others on Africa. Finally, our summer and fall 2001 team had substantially more women than men (7 women and 3 men), and the core group responsible for most of the development was almost exclusively female. Given Alker’s concerns, it will be interesting to see if CAMEO differs noticeably from the earlier coding schemes (WEIS, COPDAB, BCOW, PANDA, and IDEA) that were developed by males.

Following the lead of IDEA, we initially conceived of CAMEO as an extension of WEIS. The first phase of CAMEO’s development involved the addition of cue and sub-categories that we found theoretically necessary for the study of mediation and conflict, while keeping most of the WEIS cue categories intact. The next phase involved looking for sample leads and writing definitions for the codebook. A thorough examination of a large number of leads with the new framework in mind enabled us to see how some of the distinctions we would have liked to make theoretically were not possible to make given the nature of the news leads. A Promise (WEIS 07), for example, is almost indistinguishable from an Agree (WEIS 08) unless the word ‘promise’ is used in the lead. Therefore, we eventually ended up merging the two into an Agree cue category, which includes codes representing all forms of future commitments. In addition, an examination of the conceptual difference between Propose and Request has brought to light the practical difficulty of distinguishing these two concepts from each other. Verbs such as “call” or “ask for,” “propose,” “appeal,” “petition,” “suggest,” “offer,” and “urge” are used interchangeably in news leads to refer to very similar activities. Hence we made the decision to combine Propose and Request in one cue category. Similar decisions have been made in regard to other WEIS cue categories such as Grant and Reward, Deny and Reject, and Warn and Threaten.

While developing CAMEO, we also paid significant attention to achieving consistency in our new additions and/or combination of older WEIS categories. In other words, having an Approve cue category required the addition of a new Disapprove cue category. The new CAMEO Disapprove category incorporated the older WEIS Accuse cue category and included a new “Official protest” subcategory. WEIS’s Reduce Relations also led us to create CAMEO’s Cooperate (04) under which grants of diplomatic recognition, apologies, and forgiveness are coded. Furthermore, CAMEO is highly consistent in regard to the order of its main cue categories. Unlike WEIS and IDEA, we started with the most neutral/cooperative category Comment and moved gradually from cooperation to conflict categories. While the initial coding category in WEIS and IDEA is Yield, CAMEO starts with Comment and locates Yield between Provide Aid (07) and Investigate (09). Technically, all three of these systems provide only nominal categories, and the placement of each category is arbitrary, but in fact the categories are often treated as ordinal or even interval variables. To the extent that one wishes to do that, CAMEO’s categories have an ordinal increase in cooperation as one goes from category 01 to 09, and an ordinal increase in conflict as one goes from 10 to 20.

We have also developed a formal codebook for CAMEO with descriptions of each category and sample leads to illustrate the types of events that fit into each category (see examples in Appendix 3). Following the model of the IDEA codebook (<http://vranet.com/idea/>), the CAMEO codebook exists in both printed and web-based formats. We have also followed the lead of IDEA in introducing 4-digit tertiary coding categories that focus on very specific types of behavior, for example differentiating agreement to, or rejection of, cease-fires, peacekeeping, and conflict settlement. We anticipate that the tertiary categories will be used only rarely—we will instead aggregate the data to the secondary or primary level—but this framework retains distinct code for very specific behaviors that might be useful in defining patterns.

The Mechanics of Creating New Dictionaries

When automated coding is used, the implementation of a coding system rests in the dictionaries that have been developed to associate verb phrases with the event codes in the framework. The dictionaries we have developed for CAMEO are the result of an extended process of integrating dictionaries produced by the KEDS project over the past ten years.

The first step in this integration occurred before we had decided to create CAMEO. During the period 1990-1998, we had accumulated a number of different KEDS coding dictionaries from working on various projects. Some of these—notably the Levant dictionary, which has always been the focus of KEDS project research—had been developed almost continuously during the life of the project. On the positive side, this dictionary contained the combined efforts of more than a dozen coders; on the negative side it was found to have retained a number of verb phrases intended solely to get around bugs and limitations in early versions of KEDS, and some phrases that were added when we were still relatively inexperienced at automated coding. We had Balkans and West Africa dictionaries from two independent projects (Goldstein & Pevehouse 1997 and Huxtable 1997 respectively), and about a dozen dictionaries that had been used to produce one-year experimental data sets on a variety of countries such as Mexico, China, and Russia. All of these dictionaries used WEIS as the coding framework.

Using TABARI’s “Merge” feature, which produces a comparison of two dictionaries, we combined all of these into “standard” actors and verbs dictionaries. This involved integrating all of the verb phrase vocabulary that dealt with general political behaviors, and combining all general political actors (nation-states, heads of state of major powers, major IGOs and NGOs) from the actors dictionaries. We eliminated phrases involving behavior that was idiosyncratic to specific regions or crises (for example, the collapse of a pyramid investment scheme that triggered the civil disorder in Albania in 1997), and eliminated phrases that were excessively long or in the dictionaries

only because of earlier problems with KEDS. These standard dictionaries are now available from the project web site.

We then took the standard dictionaries and used these as the basis for developing new, regionally-specific dictionaries for the Balkans, Levant, and West Africa. The first step in this process was to re-incorporate regionally-specific actors into the actors dictionaries. We then used the KEDS program to work through about 18 months of *Agence France Presse* (AFP) lead sentences for each of the three regions. At this point, we had just obtained new NSF funding, and had hired a new cohort of coders,³ so this new coding served the combined purpose of getting the coders accustomed to working with KEDS, checking the standard dictionaries to make sure that we had not inadvertently deleted useful phrases, and adding vocabulary specific to AFP, since all of the earlier dictionary development had been done on Reuters.

When this process was completed, we were ready to make the transition to CAMEO. We first did a final manual review of the revised WEIS dictionaries to eliminate phrases that appeared problematic. We then changed all of the WEIS codes that mapped directly into CAMEO using a global search-and-replace on the dictionary files. This, however, dealt with only about a third of the 4000+ verb phrases in the dictionaries. The remainder of the code changes were done manually, with pairs of coders working from printed copies of the dictionaries. Unsurprisingly, this process revealed a number of ambiguities in our earlier versions of the CAMEO codebook, and we made a number of additional changes—some quite substantial—as a result of this process. During this period we held weekly meetings with the entire team to discuss potential ambiguities in the CAMEO scheme, and to consider elements of CAMEO that could probably not be consistently implemented based on the coder's prior experiences developing WEIS dictionaries.

When the manual updating was complete, we started going through the AFP leads again, this time with CAMEO rather than WEIS coding. At this point, we also made a transition from using KEDS as our coding program to using the newer—but largely untested—TABARI program. The intensive use of TABARI revealed a number of bugs in both the interface and the coding engine of the program. TABARI was gradually corrected until it settled into the relatively stable version that was used to produce our current data sets. We have continued to make minor changes in the CAMEO codebook based on feedback from the coders, but we believe that we are close to having a final version of the framework.

This entire process took considerable time and effort. The original consolidation that produced the standard dictionaries took two research assistants six to nine months of effort. CAMEO itself required about six months to develop, with between three and six people involved in the process at various times.⁴ Conversion of the dictionaries from WEIS to CAMEO required about a month and a half. All of these times are approximate and involve student research assistants (graduate and undergraduate) who working anywhere from 10 to 30 hours in a given week rather than full-time work.

³ The term “coder” refers to the individuals who are working on dictionary development in KEDS or TABARI. To insure transparency and replicability, actual generation of a set of event data is done entirely by the automated program once the dictionaries have been finalized. We use the term “coder” and “coding” because it involves a third as many syllables as “dictionary developer.” Most of our coders have been undergraduate honors students, with assistance and supervision from graduate research assistants.

⁴ Stress on everyone and public speaking demands on Gerner and Schrodtt in the weeks following the attacks on 11 September 2001 undoubtedly delayed completion of CAMEO somewhat, but we had put in about two months of effort on the system even before that event.

Description of CAMEO

The main distinguishing feature of CAMEO is its incorporation of mediation related event codes. The extended Consult (02) category includes specific codes for events that are identified as mediation and negotiation. “Engage in mediation” (025) is used when a party meets with others explicitly to play the role of a mediator. “Engage in negotiation” (026) is used when parties come together to negotiate, potentially to arrive at a settlement on particular issue(s). Rather than assuming that all visits and meetings constitute negotiation or mediation events, or trying somehow to infer from codes of visits and meetings when events of mediation occur—as we did in Schrodtt et al. 2001 and Schrodtt & Gerner 2001—CAMEO enables a precise distinction between mere visits and meetings and those that represent cases of mediation or negotiation. Although this distinction is clearly subject to the explicitness of the news leads, the following examples illustrate how the distinction—whenever possible—is made using appropriate codes of CAMEO.

Taiwan's Vice Foreign Minister *visited* Russia today, becoming the island's highest ranking government official to go there.

President Francois Mitterrand *gave a warm welcome* on Thursday to South African leader F.W. de Klerk who is attempting to break his country's international isolation.

Qatar's emir, Sheikh Hamad bin Khalifa al-Thani, *launched a mediation effort* on Saturday between the Emirates and Saudi Arabia whose ties have been strained by Riyadh's new friendship with Tehran.

Israel and Lebanon *renewed negotiation* today on an Israeli troop pullback from Lebanon and their future relations.

While the first two leads are coded as the linked events of “Make a visit” (022) and “Host a visit” (023), since the purpose of the visits are not made explicit, the latter two are obvious events of codes CAMEO (025) and (026), respectively.

We also included a code for meeting in third locations (024), referring to gatherings that take place somewhere other than in the territory of any of the parties. We made this distinction because the literature suggests negotiations that take place in neutral locations—not all third locations are neutral but in order for one location to be neutral it necessarily has to be one that none of the negotiators are from—are more likely to be successful than if they were undertaken on a territory associated with any of the negotiating parties. “Discuss by telephone” (021) refers to consultations by phone, and has been included since phone diplomacy is a common form of mediation.

In addition to mediation and negotiation sub-categories under Request/Propose (05), Agree (06), Demand (10), Reject (12), Threaten (13) and Reduce Relations (16), these cue categories also include other codes relevant to contemporary conflicts and mediation, such as ceasefires, peacekeeping, and settlement of disputes. The following are a few examples depicting how such events might show up in leads and how they would be coded under CAMEO.

A group of prominent Liberians, including its foreign minister and Washington ambassador, have written to President George Bush *urging* him to *send* U.S. *peacekeeping* troops to their capital Monrovia.

Event: (Liberia “Ask for protection or peacekeeping” 054 USA)

Yugoslavia and its breakaway republic of Slovenia *agreed* to a *ceasefire* after two days of fierce fighting but media reports said sporadic clashes were still continuing.

Event: (Yugoslavia “Agree to yield” 067 Slovenia, Slovenia “Agree to yield” 067 Yugoslavia)

European Community foreign ministers *demanded the withdrawal* of Yugoslav federal forces from Bosnia-Herzegovina on Monday calling them an occupying army, diplomats quoted an EC declaration as saying.

Event: (EEC “Demand withdrawal” 106 Yugoslavia)

Palestinian leader Yasser Arafat Wednesday *rejected* a US *offer to host a summit* in mid-July to hammer out a framework agreement for peace between the Israelis and the Palestinians.

Event: (PLO “Reject mediation” 124 USA)

The Soviet Union has *threatened to stop negotiations* to reduce long-range nuclear weapons if the United States goes ahead with the planned deployment of new medium-range nuclear missiles in Europe, the Washington post reported today.

Event: (USSR “Threaten to halt negotiations” 1311 USA)

Syrian officers today *ended mediation* efforts between rival militias in Tripoli as shells continued crashing into the north Lebanese port and the death toll rose to more than 200.

Event: (Syria “Halt mediation” 164 Libya)

Creation of four different cue categories of violence—each with various sub-categories—is yet another major improvement in CAMEO. While all forms of violence were lumped into a single cue category of Force (22) under WEIS, four more specified and less ambiguous main categories of force are created under our new framework. These categories expand on and shuffle codes under not only Force but also Expel (20) and Seize (21), creating conceptually coherent categories and event forms that can be more reliably coded.

Four ‘violence’ cue categories under CAMEO are: Use Structural Violence (17), Use Unconventional Violence” (18), Use Conventional Force (19), and Use Massive Unconventional Force (20). Structural violence refers to the use of force against the rights and properties of civilians. Unconventional Violence, typically directed at the physical well-being of civilians, refers to the use of forms of force that do not necessitate high levels of organization and technological sophistication. Source actors of events coded under this category are typically sub-state actors that are not organized and do not possess weaponry designed for sustained high levels of violence.

Use Conventional Force, on the other hand, encompasses uses of force and engagements in acts of war by organized armed groups. Military blockades, occupations, and use of weaponry ranging from small arms to artillery or aerial bombs are coded under this cue category. Use Massive Unconventional Force—which we hope will not occur very often!—refers to the use of unconventional weaponry with massive destructive capacity, such as CBR (chemical, biological, radiative) and nuclear weapons. The following examples, which would all have been coded under Force (22) in WEIS, illustrate how CAMEO enables a more conceptually sound and precise coding of events with different forms of force and potentially different levels of violence.

Egyptians *have been beaten* by armed men in Christian east Beirut, a senior Arab diplomatic source told Reuters on Thursday.

Event: (Egypt “Non-lethal physical assault” 182 Lebanese Christian)

Irish nationalist guerrillas *wounded* two British soldiers in a *bomb attack* on Thursday, police said.

Event: (IRA “Suicide, car, and other bombing” 183 Britain)

Israel today *mounted* its long-threatened *invasion* of South Lebanon, ploughing through United Nations lines on the coast of south of Tyre and thrusting forward in at least to inland areas.

Event: (Israel “Military occupation of territory” 192 South Lebanon)

Iraq said tonight its *warplanes attacked* Iran's main oil export terminal at Kharg island in the Gulf and a gas plant in the southern Iranian city of Ahwaz.

Event: (Iraq "Aerial attack" 195 Iran)

In addition to coding events relevant to various forms of conflict and mediation more precisely, another major theoretical goal that shaped CAMEO was to be able to differentiate between events that have taken place and those that may or may not occur in the future. We made sure that each sub-category present under the cue categories Request/Propose (05), Agree (06), Demand (10), and Threaten (13) has a corresponding code for use when those proposed, agreed on, demanded, or threatened actions actually take place. We wanted to be able to code agreement on a certain issue and its implementation differently since agreeing on or promising a particular action obviously does not guarantee that the agreement or the promise is to be honored. This is a critical distinction, especially in mediation and conflict resolution studies, since settlements are at least as likely to fail during implementation as they are in the negotiation phase. Agreeing or promising to negotiate or to accept mediation is similarly distinct from actually sitting at the negotiation table, and the two are coded differently in CAMEO as the following examples illustrate.

Afghan rebel leaders *said* on Wednesday they *would meet* U.N. mediator Diego Cordovez if he gave them a veto over any settlement reached in peace talks.

Event: (Afghan rebels "Agree to mediation" 06 UN)

Arab League Secretary General Chadli Klibi, supported by Algeria and Saudi Arabia, *undertakes a mediation* mission between Syria and Palestinian leader Yasser Arafat.

Event: (Arab League "Engage in mediation" 025 Syria)

Event: (Arab League "Engage in mediation" 025 PLA)

East German Foreign Minister Oskar Fischer *will visit* Albania in June, the first Warsaw Pact foreign minister to do so since Tirana split with Moscow in 1961, the Albanian embassy said.

Event: (East German Government "Agree to meet or negotiate" 068 Albania)

French National Assembly president Laurent Fabius and a group of deputies *held talks* with leaders of Romania's new government on Tuesday, the first high level Western delegation to visit Bucharest since last month's revolution.

Event: (French Government "Engage in negotiation" 026 Romanian government)

It is also important to distinguish between mere threats and the implementation of such threats. The following leads and the accompanying CAMEO codes exemplify how this distinction is made under the new coding framework.

Moscow tonight *warned* Japan it could face a *retaliatory strike* if it agreed to the deployment of more weapons aimed at the Soviet Union.

Event: (USSR "Threaten conventional attack" 135 Japan)

Vietnamese and Kampuchean forces *were battling* for control of a strategic base near the border today, Thai military sources said.

Event: (Vietnam "Use of conventional force" 190 Cambodia)

Event: (Cambodia "Use of conventional force" 190 Vietnam)

Comparison of CAMEO and WEIS Data

In this section we will compare data sets coded in the WEIS and CAMEO frameworks on a number of dimensions. We will first compare the overall distribution of events by 2-digit cue category. We then look at the distribution of general event types over time, using monthly aggregations, to determine the extent to which the two systems pick up different behaviors. Finally, we compare the time series of mediation and negotiation events in CAMEO with a pattern-based mediation measure that we derived from WEIS data in earlier research.

Table 1 shows the coverage of the three data sets we have generated. The source texts are from the Reuters files on the NEXIS data service prior to 10 June 1997, Reuters Business Briefing for 11 June 1997 to 31 May 1999, and *Agence France Presse* on the NEXIS data service for 1 June 1999 to 28 February 2002. The listed actors in each data set correspond to the terms used in the NEXIS (or Reuters) search to find the texts to be coded. The search was done on the full story, whereas in these data sets only the lead sentences are coded,⁵ so many sentences contain events that do not directly involve any of the actors found in the search term. For example, if the foreign ministers of Germany and France meet to discuss conflict in the former Yugoslavia, this will generate an event involving only Germany and France.

Table 1. CAMEO Data Sets

Data Set	Time Period	Actors
Balkans	Apr-89 to Feb-02	Albania, Bosnia, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Slovenia, Yugoslavia
Levant	Apr-79 to Feb-02	Egypt, Israel, Jordan, Lebanon, Palestine, Syria
West Africa	Apr-89 to Feb-02	Benin, Cameroon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mauritania, Nigeria, Senegal, Sierra Leone, Togo

Both the CAMEO and WEIS data were coded with version 0.4.04B2 of TABARI. We have been actively working on TABARI for the past three months, and it is rapidly going through version numbers.⁶ As is the standard procedure for data produced by the KEDS project, these data sets are generated from fully-automated coding with no record-by-record manual adjustments to individual records. This insures that the data generation process is complete reproducible, that the dictionaries reflect the true coding protocols, and that no statistical artifacts are introduced by different coders working on various parts of the data.

The CAMEO dictionaries are the versions current on 1 March 2002. We are continuing to develop these as we refine the CAMEO categories and as we modify the dictionaries to make use of TABARI features that were not available in KEDS. For the WEIS coding, we used the CAMEO actors dictionaries, but we used the WEIS verb dictionaries that had been finalized prior to creating the CAMEO dictionaries in November 2001. These do not incorporate additional verb phrases that we found over the past three months while developing CAMEO, but are otherwise relatively

⁵ The lead sentence is the first sentence in the article, which usually summarizes the content of the entire story.

⁶ For example, we made several bug corrections due to 1-in-250,000-record problems that we found while doing this coding, but any changes in TABARI will *probably* affect fewer than 0.01% of the coded records

complete and were developed with at least one pass through all of the AFP data for January 1999 to April 2001. Because there are idiosyncratic differences in vocabulary in the three regions, we have developed customized dictionaries for each region. The data sets, and the dictionaries used to code them, are available at <http://www.ukans.edu/~keds/data.html>.

Comparison of distribution of events in WEIS and CAMEO by category

Our first statistical comparison of the CAMEO and WEIS framework looks at the overall distribution of events by cue categories. Tables 2 and 3 show the numerical distribution of events in the three data sets; Figures 1 and 2 show the percentage distribution.

Some of the differences between the two systems conform to our expectations. For example, events in WEIS's Force category are distributed across CAMEO's three violence categories, whereas the counts in the Consult categories—which are similar in the two systems—are almost identical.

We had hoped that CAMEO would eliminate some of the low-frequency categories found in WEIS, but this has not proven to be the case: The standard deviation in the cue category event counts is in fact slightly higher in CAMEO. While we eliminated or combined several of the low-frequency WEIS categories—for example, combining of Promise and Agree, and Warn and Threaten—we introduced some new low-frequency categories suggested as important in the contemporary conflict resolution literature such as Investigate and Civilian Direct Action. In other instances, categories have a low frequency because of the characteristics of the protracted disputes we are studying. This is notably the case in the Cooperate category, which we introduced in order to provide a symmetry with the WEIS-derived “Reduce Relations.”

We noticed two interesting features in Figures 1 and 2, which give percentage distributions and therefore can be compared across regions. First, the overall pattern of events in the three cases is roughly similar, despite their being coded in three disparate geographical regions and, in the case of the Levant, across ten years (1979-1988) that are not coded in the Balkans and West Africa. This similarity is reassuring, given that these cases all involve protracted conflicts with substantial third-party mediation and some international peacekeeping. It is particularly interesting to note that while the *frequency* of events in West Africa is substantially less than that in the Balkans and Levant, reflect the more limited media coverage of this region, the overall *distribution* is similar.

Second, the pattern of events in our data—whether WEIS or CAMEO—differs substantially from that found in the ICPSR WEIS, which covers 1966-1978 and is based on *The New York Times*. The key difference is that our data report about half as many “comments” as the ICPSR data set, and about twice as many “consults” (McClelland 1983: 172). This is partly due to the characteristics of the regions we are coding. These areas have active mediation, so we would expect to see more reported meetings than one would find in the world in general. In addition, however, we have de-emphasized the use of the Comment category in our dictionaries, since we had difficulty differentiating, neutral, pessimistic and optimistic comments, and in many cases comment may simply be an artifact of reporters or editors seeking out stories. More generally, the “comment” category is not particularly useful. For example, the Goldstein (1992) scale for WEIS assigns comments values in the range -0.4 to +0.4 in a scale that ranges from -10.0 to +10.0, and McClelland (1983: 172-173) reports that the comment category was only added to WEIS as an “after-thought.”

Table 2. Distribution of WEIS Events by Category

Categories	Balkans	Levant	West Africa
01 Yield	1507	1825	214
02 Comment	9812	17522	2007
03 Consult	17039	42898	5683
04 Approve	2397	3804	464
05 Promise	1128	1579	225
06 Grant	2061	3710	590
07 Reward	2973	4691	1138
08 Agree	4976	7177	1340
09 Request	3756	6581	841
10 Propose	3702	5502	657
11 Reject	2434	4344	400
12 Accuse	4358	9897	903
13 Protest	737	1541	160
14 Deny	639	1532	145
15 Demand	1193	1218	145
16 Warn	1278	1620	114
17 Threaten	1275	1824	150
18 Demonstrate	1233	2521	317
19 Reduce Relations	2410	4169	707
20 Expel	368	833	214
21 Seize	2471	5245	674
22 Force	5817	19274	1005
<i>Total</i>	<i>149,489</i>	<i>73,752</i>	<i>18,129</i>
<i>Standard Deviation</i>	<i>3739</i>	<i>9430</i>	<i>1185</i>

Table 3. Distribution of CAMEO Events by Category

Categories	Balkans	Levant	West Africa
01 Comment	10119	18409	2287
02 Consult	17602	43302	5758
03 Approve	2527	4110	533
04 Improve relations	909	1624	231
05 Request	6239	10687	1258
06 Agree	7614	12469	1964
07 Provide aid	1642	2150	668
08 Yield	2571	3766	522
09 Investigate	412	1176	109
10 Demand	1498	4607	585
11 Disapprove	4759	10142	913
12 Reject	2174	4490	441
13 Threaten	1808	3102	208
14 Civilian Direct Act	444	851	119
15 Military Posture	356	959	114
16 Reduce Relations	1042	1873	273
17 Structural Violence	2438	5365	681
18 Unconventional Violence	1562	5992	346
19 Conventional Force	3900	11130	444
20 CBRN Warfare	0	0	0
<i>Total</i>	<i>146,283</i>	<i>69,620</i>	<i>17,468</i>
<i>Standard Deviation⁷</i>	<i>4273</i>	<i>9848</i>	<i>1315</i>

⁷ Not including category 20

Figure 1. Distribution of WEIS Events by Category (percent)

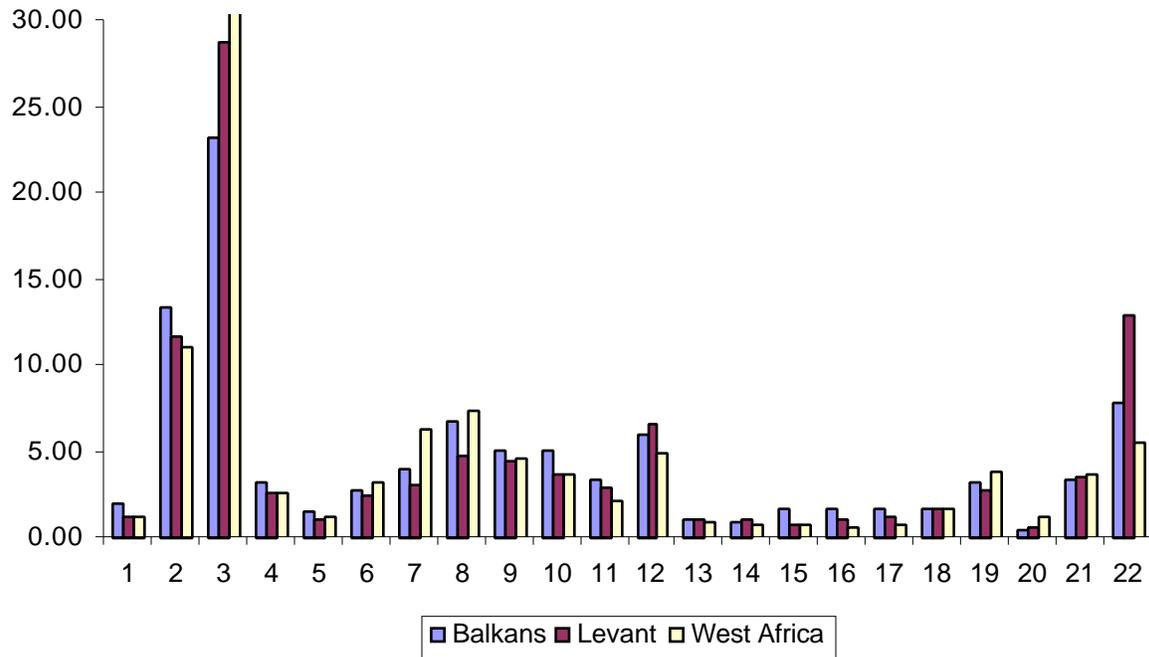
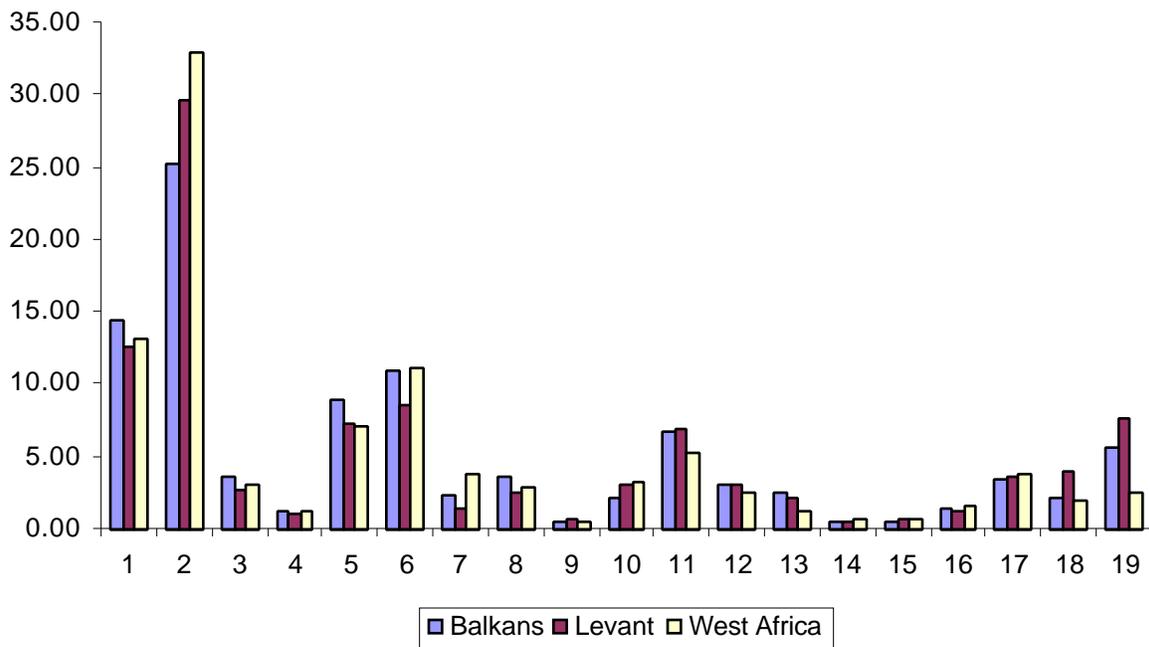


Figure 2. Distribution of CAMEO Events by Category (percent)



Comparison of Event Counts in WEIS and CAMEO

In order to compare the CAMEO and WEIS coding schemes, we compared the monthly event counts in the data sets. Because many of the categories in CAMEO and WEIS do not directly correspond, we used the cue category aggregations shown in Table 4. Most of our comparison involved correlation between the monthly totals of events generated by the two coding systems; we will also present some selected time-series graphs of the two series. To get additional detail, we also look at event totals involving several different sets of actors: these different subsets of the data labelled “All” for events involving all dyads, “Conflict” for events involving the primary antagonists in each region, and “Mediation” for events directed from mediations in each region to the antagonists (see Table 5). Our actors dictionaries code for a number of internal actors—notably ethnic groups in the Balkans and various rebel factions in West Africa—but these subsets use only the 3-character national code.⁸ So, for example, conflict between government and rebel groups in Liberia will have a LBR code as both source and target and therefore will be counted in the conflict set.

Table 4. Event category aggregations

Category	WEIS	CAMEO
Verbal cooperation	02, 03, 04, 05, 08, 09, 10	01, 02, 03, 04, 05
Material cooperation	01, 06, 07	06, 07, 08
Verbal conflict	11, 12, 13, 14, 15, 16, 17	09, 10, 11, 12, 13
Material conflict	18, 19, 20, 21, 22	14, 15, 16, 17, 18, 19, 20

The results of the comparison are shown in Tables 6, 7, and 8, and in Figures 3, 4, and 5. The comparisons across the various geographical regions are quite consistent. Almost all of the series correlate at a very high level, usually with $r > 0.90$, except in some of the lower-frequency aggregations involving West Africa. Even here the correlation is greater than 0.70. (All of these correlations are significant at $p < 0.001$.) In Figures 3b, 4b, and 5b, the two series are virtually indistinguishable.

There is, however, one consistent exception to this pattern. For events involving material cooperation—CAMEO’s Agree, Provide Aid and Yield categories, CAMEO consistently produces almost twice as many events as WEIS produces, despite the fact that overall the CAMEO data sets have about 5% fewer events than than WEIS data sets. This result is reassuring, as this is exactly the type of cooperative behavior that we *wanted* CAMEO to be more sensitive to; the new system appears to have accomplished this. Examination of Figures 3a and 4a also shows some tendency for the difference between the WEIS and CAMEO series to be greatest during periods following mediated agreements such as the 1995 Dayton Agreement for Balkans and the 1993 Oslo Agreement for the Levant, which is also consistent with our expectations.

⁸ In our dictionaries, internal actors are coded using a three-character state code followed by a three-character code identifying the internal actor. For example, “Liberian government” is coded LBRGOV whereas armed Liberian rebels not identified with a specific group are coded LBRREB. These identifications are particularly complicated in the Balkans, where one gets SERBS_WITHIN_BOSNIA [BFRSER], BOSNIAN_CROATS_AND_SERB [BFRSER/BFRCRO] and BOSNIA’S_WARRING_PARTIES [BFRMOS/BFRCRO/BFRSER]. Because we are using machine coding, the actors dictionaries are, in effect, the codebook for determining how various actors are identified.

Table 5. Subsets of Events

Subset	Source	Target
All	Any	Any
Conflict		
Balkans	Bosnia, Croatia, Kosovo, Serbia	Bosnia, Croatia, Kosovo, Serbia
Levant	Israel, Lebanon, Palestine	Israel, Lebanon, Palestine
West Africa	Liberia, Sierra Leone, Nigeria ⁹	Liberia, Sierra Leone, Nigeria
Mediation		
Balkans	EU, France, Germany, Italy, NATO, UK, UN, USA	Bosnia, Croatia, Kosovo, Serbia
Levant	EU, France, Germany, Italy, UK, UN, USA	Israel, Lebanon, Palestine
West Africa	ECOWAS, France, OAU, UK, UN, USA	Liberia, Sierra Leone, Nigeria

Table 6. Comparison of WEIS and CAMEO Coding for Balkans

Events	WEIS N	CAMEO N	r
All			
Verbal Coop	42,792	37,388	0.991
Material Coop	6,562	11,826	0.914
Verbal Conf	11,923	10,655	0.986
Material Conf	12,287	9,723	0.984
Conflict			
Verbal Coop	4,514	3,413	0.930
Material Coop	953	1,966	0.788
Verbal Conf	1,843	1,523	0.904
Material Conf	2,902	2,417	0.953
Mediation			
Verbal Coop	6,554	5,751	0.981
Material Coop	1,364	1,958	0.875
Verbal Conf	2,217	1,985	0.960
Material Conf	2,229	1,602	0.953

⁹ Nigeria was included for two reasons. First, Nigerian troops are involved in most ECOWAS military actions in Liberia and Sierra Leone and so this will pick up most of the ECOWAS intervention. Second, the data set contains quite a few reports of ethnic conflict within Nigeria.

Table 7. Comparison of WEIS and CAMEO Coding for Levant

Events	WEIS N	CAMEO N	r
All			
Verbal Coop	85,023	78,094	0.991
Material Coop	10,284	18,383	0.842
Verbal Conf	21,992	23,536	0.983
Material Conf	32,008	26,144	0.987
Conflict			
Verbal Coop	13,457	12,406	0.979
Material Coop	2,150	3,850	0.757
Verbal Conf	4,807	4,729	0.979
Material Conf	13,661	11,883	0.996
Mediation			
Verbal Coop	7,381	6,337	0.981
Material Coop	746	1,479	0.725
Verbal Conf	1,399	1,780	0.935
Material Conf	1,019	691	0.794

Table 8. Comparison of WEIS and CAMEO Coding for West Africa

Events	WEIS N	CAMEO N	r
All			
Verbal Coop	11,200	10,042	0.943
Material Coop	1,981	3,151	0.550
Verbal Conf	2,018	2,269	0.896
Material Conf	2,896	1,968	0.857
Conflict			
Verbal Coop	722	680	0.890
Material Coop	120	192	0.510
Verbal Conf	200	214	0.781
Material Conf	443	272	0.907
Mediation			
Verbal Coop	634	540	0.920
Material Coop	151	218	0.568
Verbal Conf	155	166	0.763
Material Conf	234	152	0.790

Figure 3a. Balkans Material Cooperation, all dyads

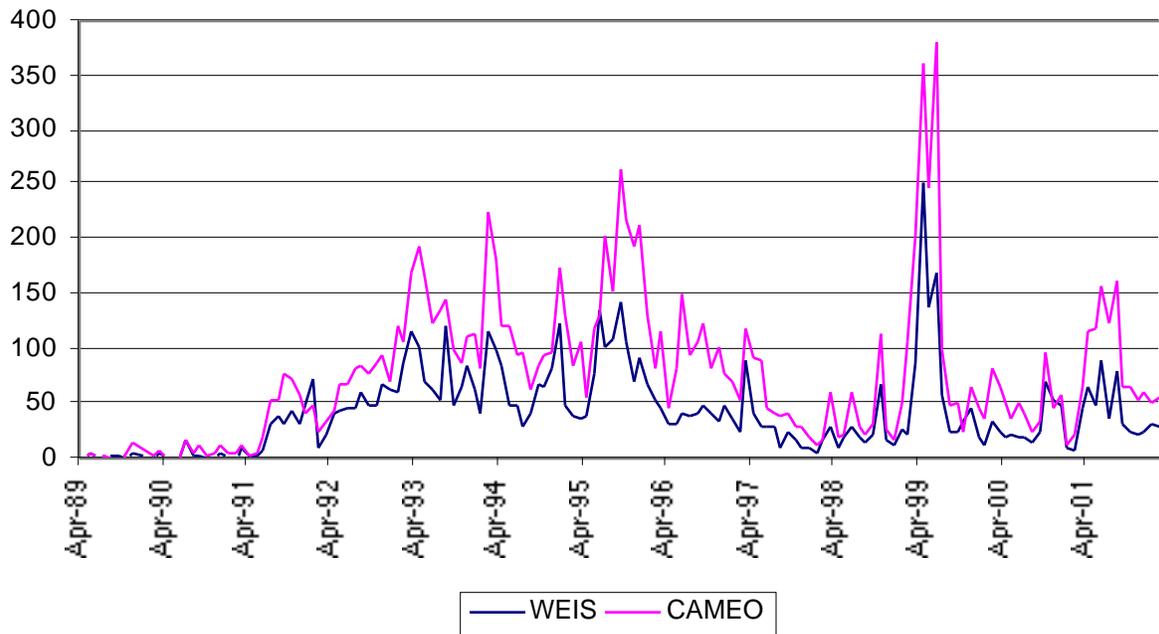


Figure 3b. Balkans Verbal Conflict, all dyads

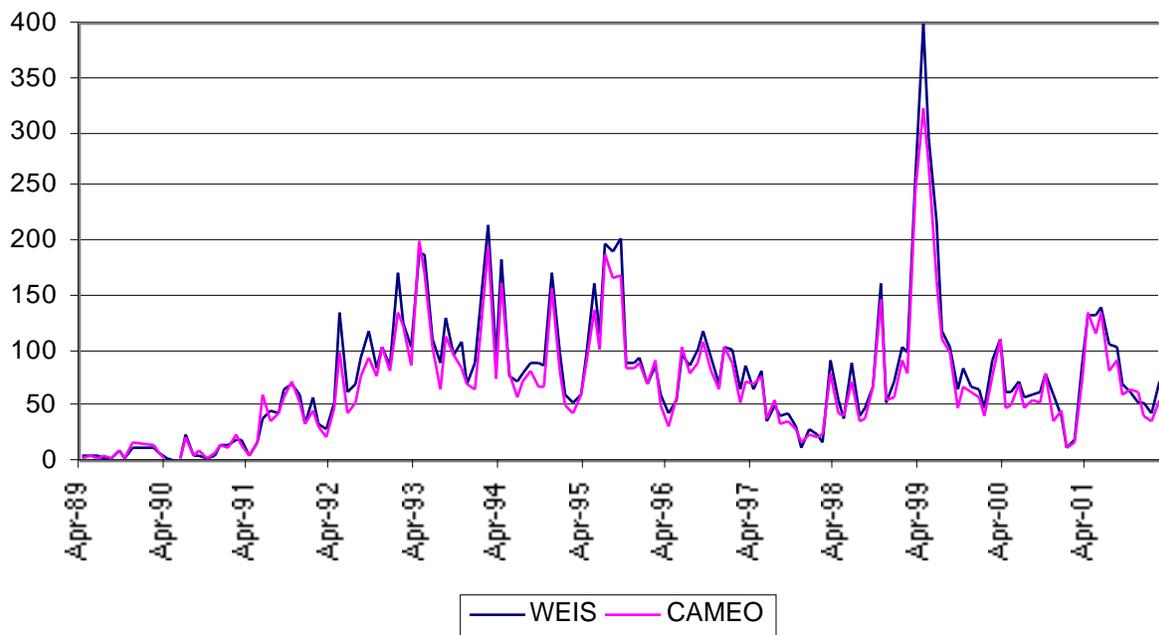


Figure 4a. Levant Material Cooperation, all dyads

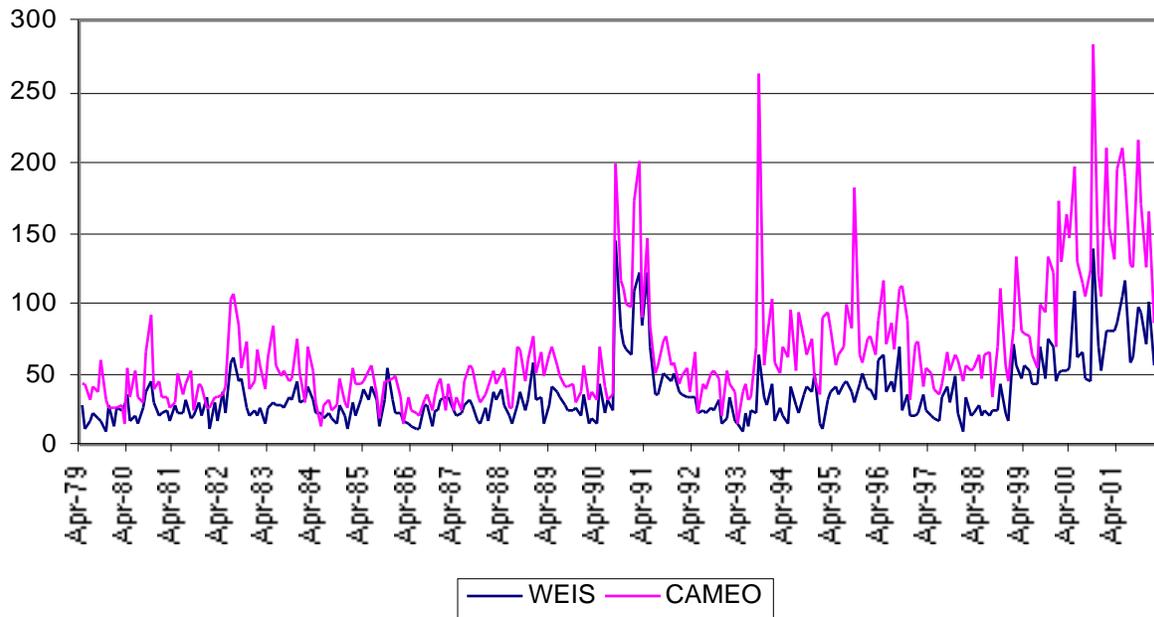


Figure 4b. Levant Verbal Conflict, all dyads

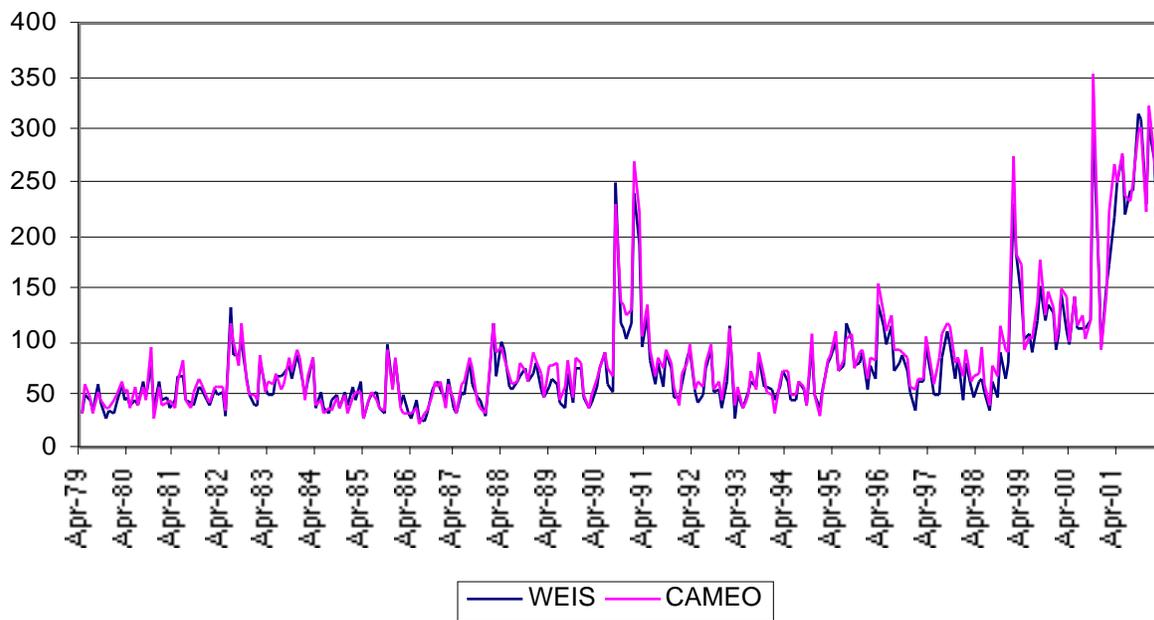


Figure 5a. West Africa Material Cooperation, all dyads

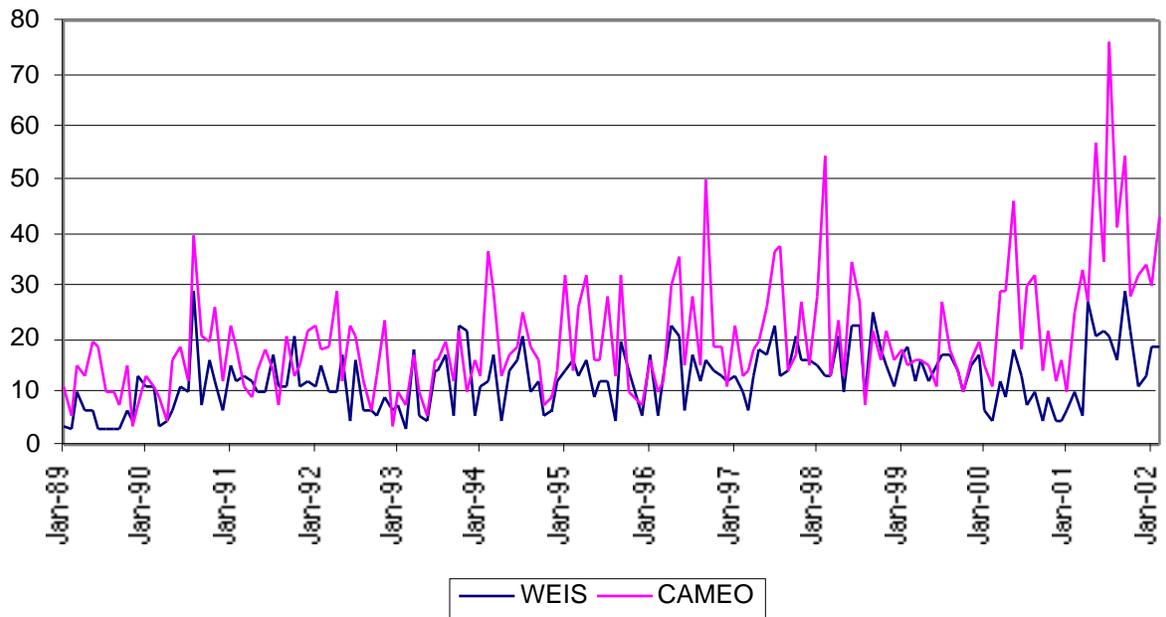
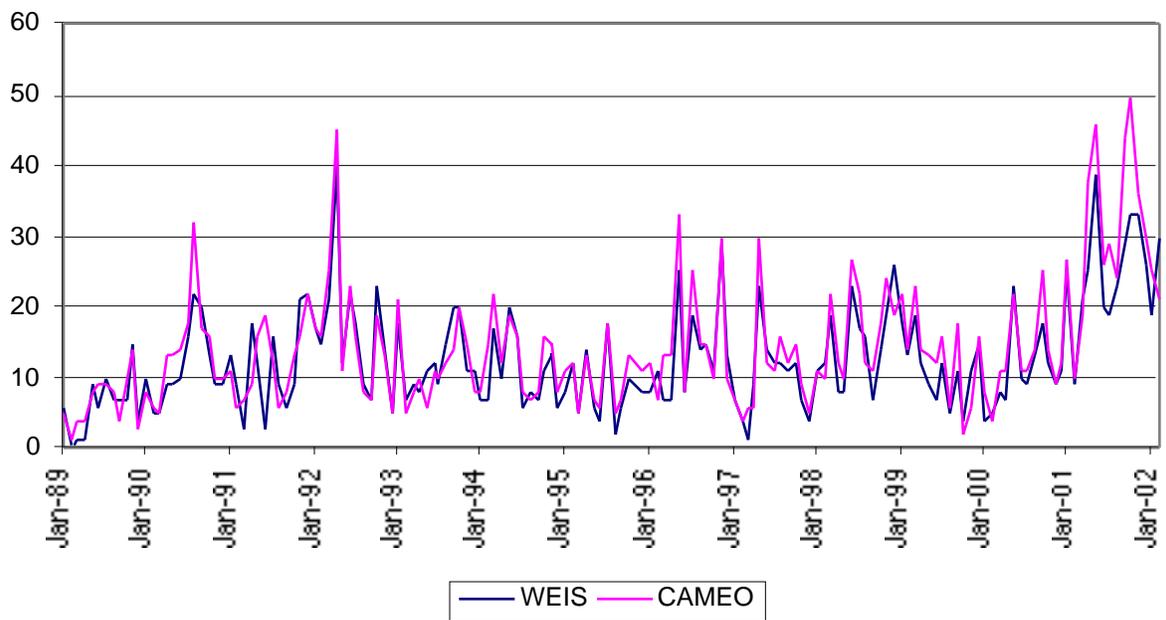


Figure 5b. West Africa Verbal Conflict, all dyads



While we have not looked at the sources of these higher cooperation counts systematically, they appear to be due to general differences between the two systems. For example, while the CAMEO Agree category combines the WEIS Promise and Agree categories, the total Agree events in CAMEO is about 25% higher than the sum of the WEIS Promise and Agree categories for the Balkans and West Africa, and more than 40% higher for the Levant. Similarly, the CAMEO Yield category—which is much more extensive than its WEIS counterpart—contains almost twice as many events as WEIS in each of the three data sets.

Comparison of CAMEO mediation events and WEIS pattern-based mediation indicators

In a final test, we compared the events in CAMEO that specifically deal with mediation and negotiation—CAMEO event categories 025, 026, 056, 057, 058, 059, 065, 066, 068, 105, and 108—with the pattern-based measure of mediation that we derived from WEIS-coded data for the Levant and Balkans (Schrodt et al 2001; Gerner and Schrodt 2001). This comparison indicated how much specific mediation activity CAMEO is picking up—in other words, how many of the reports specifically mention mediation or negotiation, as distinct from just referring to generic meetings or diplomacy, and also provided a validity check on the WEIS-based measure.

In those earlier papers, we used a simple—and somewhat indirect—indicator of mediation: *the number of instances where the mediator has a cooperative interaction (WEIS categories 01 through 10) with both sides of the conflict within a period of 7 days.*¹⁰ This pattern does not guarantee that the third party is actually engaged in mediation—and our future work will use more detailed measures—but almost all mediation activities will satisfy this criterion. In other words, this measure provides a necessary but not sufficient indicator of mediation activity.

Figures 6 and 7 show the two series for the Balkans and Levant respectively. In order to make the vertical scale of the graphs comparable for the two series, the CAMEO counts have been multiplied by 5 for the Balkans and 10 for the Levant. The correlations between the WEIS and CAMEO series are $r = 0.57$ for the Balkans and $r = 0.59$ for the Levant, and both are significant at the $p < 0.001$ level. In both regions, the two series track each other quite well, and there are no clear patterns with respect to the political events or crisis phases where one measure is consistently higher (or out of synchronization) with the other.

We would guess that for most applications, the measures could be used interchangeably, and at the very least their correlation reinforces the validity of each approach. The advantage of the direct CAMEO measure is that the word “mediation”, “negotiation” or some other phrase that explicitly refers to mediation has been used in the story. The disadvantage is that this might depend in part on an idiosyncratic choice of vocabulary by a reporter or editor. Explicit mediation and negotiation events are also far less frequent than the patterns of mutual meetings we looked at earlier. One reason may be that after initial stories report that the meetings involve “mediation,” subsequent stories simply mention that a meeting occurred (particularly when the participants refuse to say anything about what happened). The pattern-based measure would also pick up situations where an actor did not want to explicitly state that he or she was mediating, but where the sequence of consultations would be consistent with mediation going on. Since we can still derive the pattern-based measure from CAMEO—the relevant event categories remain in the framework—we will probably experiment with using both measures in the future.

¹⁰ We did a few tests using an interval of 4 days; this made no discernible difference in the results.

Figure 6. Comparison of CAMEO mediation events and WEIS mediation patterns, Balkans

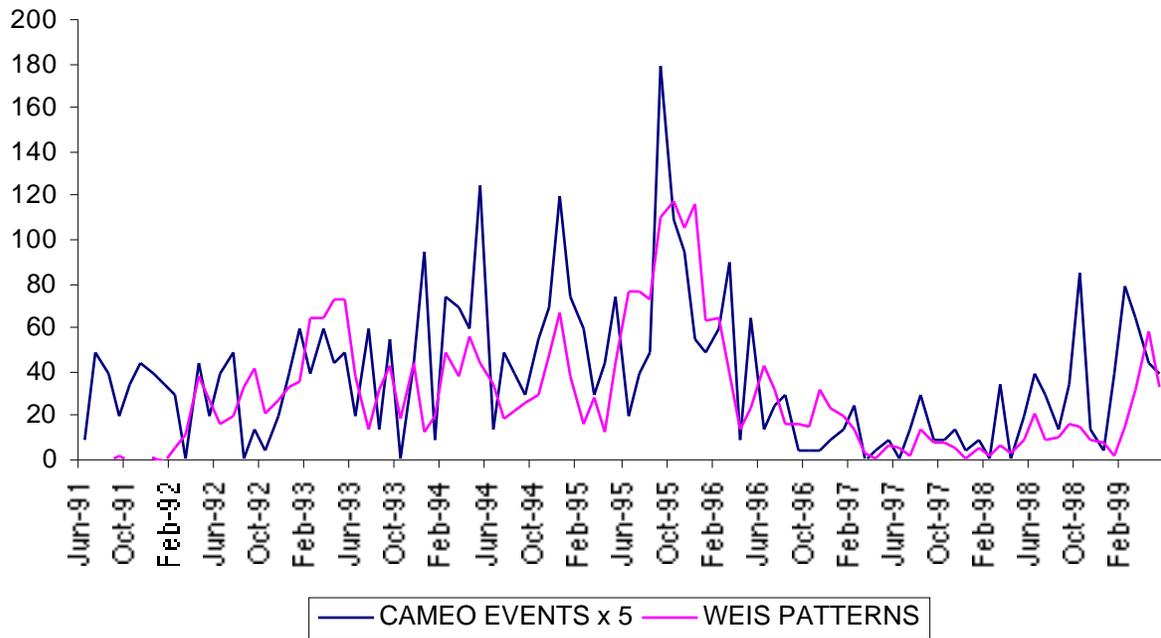
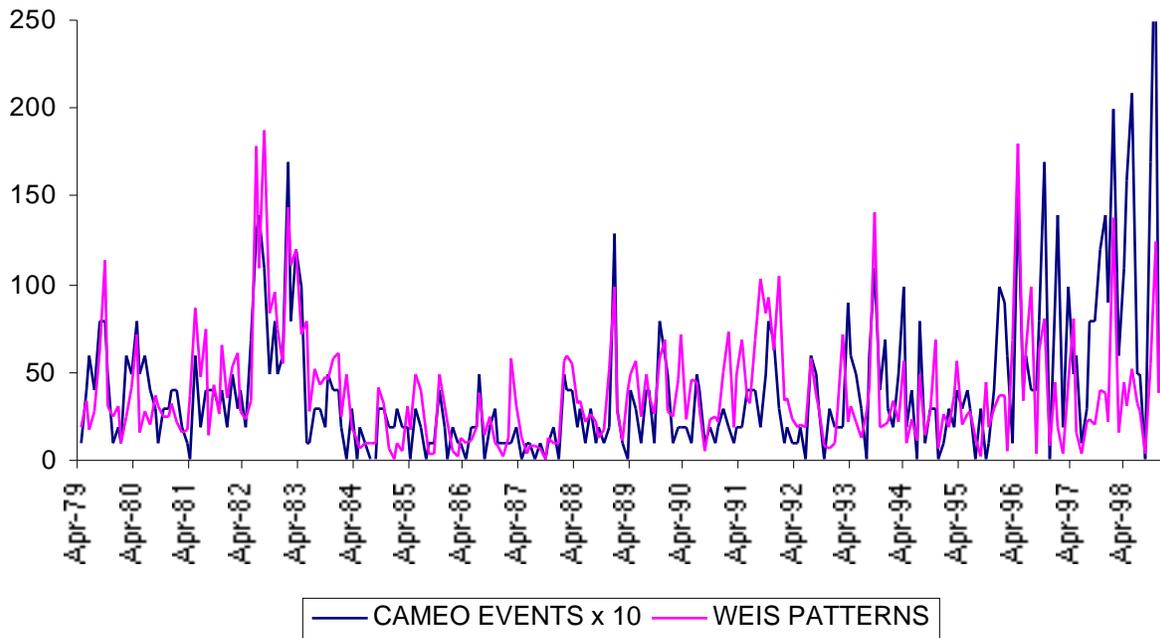


Figure 7. Comparison of CAMEO mediation events and WEIS mediation patterns, Levant



Conclusion

The paper has summarized the reasons why we have developed a new event data coding system, and the process we used to implement this. In this final section, we will conclude with some observations about how our experience relates to the more general enterprise of event data analysis.

First, it is notable that CAMEO is the third major general event data coding framework—a framework designed to categorize all types of political interactions, rather than a limited repertoire of actions such as those involving conflict—to be introduced since 1993, joining PANDA and IDEA. This follows a period of about 30 years when no new systems were introduced. Furthermore, not only have we produced a coding framework, but we also have produced data sets containing over 200,000 events coded in that framework.¹¹

The difference between the earlier event data research and the current environment is, obviously, the availability of automated coding, which provides much greater cumulateness in dictionary development and speeds up the process of actual coding by a factor of several million times. This means that one can continue to refine a coding scheme while working on a research project. This is particularly valuable when it appears necessary to split a coding category: dictionaries can be revised relatively quickly by simply searching for the relevant code, and then determining which of the new categories each phrase should be assigned to. When human coding was used, it was impossible to split categories without going back through the original source texts. In practice, that simply was not done.

In the long run, we anticipate that event data coding schemes could evolve using a “mix-and-match” framework whereby a researcher could adopt most of his or her coding categories from a standard set, and then elaborate on a smaller number of new categories. For example, a data set dealing with trade negotiation would not require any of the detail CAMEO has on cease-fires and peacekeeping and would require substantially more detail on imposition of tariffs, non-tariff barriers, and appeals to the World Trade Organization. Primary categories such as Consult, Agree, and Reject would be the same in both systems, however, and many of the secondary categories that deal with behaviors not specific to mediation or trade would also be the same. Common vocabulary of dictionaries could also be shared and the focus of the new dictionary development could be on the behaviors specific to a particular theoretical issue.

Furthermore, we contend that the patterns of most political behavior have a significant empirical component that is distinct from the theoretical considerations of the academic literature on the subject. It will be necessary, therefore, to experiment with coding systems rather than trying to establish these *a priori*. Due to the strong selectivity of news reports, the fact that a behavior may be important in a case study (the analytical approach that still informs most of the mediation literature) does not mean this behavior will necessarily show up as a useful *statistical indicator*. For example, we eliminated a number of tertiary categories in CAMEO when we were unable to find any examples of news leads illustrating the category. Similarly, exploratory analysis of the event data may reveal indicators not found in the theoretical literature, often because these serve as surrogates for other variables. We are *not* arguing that statistical studies should be atheoretical. We *are* saying that the development of useful statistical models will, in part, be an empirical exercise of matching methods to data.

At the risk of sharing McClelland’s fate and being the subjects of a statement many years from now that “Gerner et al. never anticipated that CAMEO would still be in use in 2040...,” we should make it clear that we do not consider CAMEO a definitive new event data coding framework, even for the study of third-party mediation. Instead, we consider it (along with PANDA and IDEA) as an

¹¹ According to King and Lowe (2001), the IDEA project will very soon be posting a 4.3-million event data set, presumably covering the entire world. This will increase the amount of event data available to the research community by an order of magnitude.

experiment in alternative ways that event data might be coded. That said, we probably have successfully done some brush-clearing in our transition away from the WEIS cue categories, notably by combining WEIS categories that could not be differentiated, and eliminating categories that almost never occur in reported events. If we were to develop yet another new framework—which one of our erstwhile over-achieving undergraduate researchers will be doing this summer in order to study interactions in the EU—this would probably involve less work than we had to invest in CAMEO.

But several clear problems remain. First, while we have clarified numerous verb categories, we have done very little with actors. Based on our earlier experimental coding of a number of countries, we have a fairly comprehensive list of sub-state “agents” such as police, military, judiciary, various government ministries and the like, but we have not consistently implemented these in our existing dictionaries. The coding of ethnic groups is particularly problematic—for instance in some earlier Balkans data sets we put the ethnic identification of a group such as “Bosnian Serbs” in the first three characters of the actor code, whereas the Goldstein & Pevehouse (1997) data set put the ethnic identification second. We have subsequently standardized on the Goldstein & Pevehouse convention. We have also considered the possibility of using three-part codes that would identify the nation, position, and individual (e.g., U.S. Secretary of Defense Donald Rumsfeld would be coded as USA-DEF-RUM) with sub-fields left blank when more specific information is not available.¹² The PANDA and IDEA data sets use a separate “agent” field rather than combining codes, and because the IDEA research group has greater experience in coding sub-state activities than we have, we will closely watch what they are doing.

A second area where we still feel that our coding scheme is ambiguous involves the distinction between “conventional” and “unconventional” conflict. We can clearly delineate the ends of this continuum: nation-state militaries fighting World War II-style battles is conventional and a terrorist tossing a bomb into a church is unconventional. However, there is a very large grey area—which is unfortunately becoming increasingly common in terms of behavior—involving the use of conventional military weapons against civilian populations (e.g., Israel’s use of tanks and fighter aircraft to attack targets in Gaza City, Ramallah, and Bethlehem) and unconventional weapons such as car bombs and suicide bombing directed against military forces (e.g. Lebanon’s Hizbollah and various Palestinian militant groups in their attacks against Israel). Our inability to differentiate these activities is not confined to event data analysis—for example, the US and Israel label Hizbollah’s activities as terrorism, whereas many other states consider Hizbollah’s activities legitimate opposition to a military occupation—and it is also not clear that these distinctions are theoretically important for our work on mediation.

¹² This would, however, require substantial additional changes in TABARI and extensive dictionary development, so we are unlikely to undertake this until we have become convinced that it is necessary for our analysis.

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Appendix 1: Conflict and Mediation Event Observations (CAMEO)

01: COMMENT

- 010: Comment, not specified below
- 011: Decline comment
- 012: Make pessimistic comment
- 013: Make optimistic comment
- 014: Consider policy option
- 015: Acknowledge or claim responsibility
- 016: Make empathetic comment
- 017: Symbolic act
- 018: Announce routine activity

02: CONSULT

- 020: Consult, not specified below
- 021: Discuss by telephone
- 022: Make a visit
- 023: Host a visit
- 024: Meet in a "third" location
- 025: Engage in mediation
- 026: Engage in negotiation

03: APPROVE

- 030: Approve, not specified below
- 031: Praise or endorse
- 032: Defend policy or action
- 033: Civilian support

04: COOPERATE

- 040: Cooperate, not specified below
- 041: Grant diplomatic recognition
- 042: Apologize
- 043: Forgive

05: REQUEST/PROPOSE

- 050: Request or propose, not specified below
- 051: Ask for information, investigation
- 052: Ask for policy support
 - 053: Ask for material aid, not specified below
 - 0531: Ask for economic aid
 - 0532: Ask for military aid
 - 0533: Ask for humanitarian aid
- 054: Ask for protection or peacekeeping
- 055: Request mediation
- 056: Request withdrawal or ceasefire
- 057: Request settlement
- 058: Request to meet or negotiate
- 059: Propose to mediate

06: AGREE

- 060: Agree, not specified below
- 061: Sign formal agreement
- 062: Agree to policy support
- 063: Agree to provide material support, not specified below
 - 0631: Agree to provide economic support
 - 0632: Agree to provide military support
 - 0633: Agree to provide humanitarian support
- 064: Agree to peacekeeping
- 065: Agree to mediation
- 066: Agree to mediate
- 067: Agree to yield
- 068: Agree to meet or negotiate
- 069: Agree to settlement

07: PROVIDE AID

- 070: Provide aid, not specified below
- 071: Provide economic aid
- 072: Provide military aid
- 073: Provide humanitarian aid
- 074: Grant asylum

08: YIELD

- 080: Yield, not specified below
- 081: Ease non-force sanctions, not specified below
 - 0811: Ease administrative sanctions
 - 0812: Ease economic boycott or sanctions
 - 0813: Ease civilian boycott or strike
- 082: Ease, stop military blockade
- 083: Return, release, not specified below
 - 0831: Return, release person(s)
 - 0832: Return, release property
- 084: Ceasefire, observe truce
- 085: Demobilize armed forces
- 086: Military retreat or surrender

09: INVESTIGATE

- 090: Investigate, not specified below
- 091: Investigate crime, corruption
- 092: Investigate human rights abuses
- 093: Investigate military action or war crimes

10: DEMAND

- 100: Demand, not specified below
- 101: Demand information, investigation
- 102: Demand policy support
- 103: Demand aid
- 104: Demand protection, peacekeeping
- 105: Demand mediation
- 106: Demand withdrawal
- 107: Demand ceasefire
- 108: Demand meeting, negotiation
- 109: Demand rights

11: DISAPPROVE

- 110: Disapprove, not specified below
- 111: Criticize or denounce
- 112: Accuse
- 113: Official protest

12: REJECT

- 120: Reject, not specified below
- 121: Reject proposal, not specified below
 - 1211: Reject ceasefire
 - 1212: Reject peacekeeping
 - 1213: Reject settlement
- 122: Reject request for material aid
- 123: Reject proposal to meet, discuss, negotiate
- 124: Reject mediation
- 125: Defy norms, law
- 126: Reject accusation, deny responsibility
- 127: Veto

13: THREATEN

- 130: Threaten, not specified below
- 131: Threaten non-force, not specified below
 - 1311: Threaten to halt negotiations
 - 1312: Threaten to halt mediation
 - 1313: Threaten to reduce or stop aid
 - 1314: Threaten to boycott or embargo
 - 1315: Threaten to reduce or break relations
- 132: Give ultimatum
- 133: Threaten blockade
- 134: Threaten occupation
- 135: Threaten conventional attack
- 136: Threaten unconventional attack
- 137: Threaten massive unconventional attack

14: CIVILIAN DIRECT ACT

- 140: Civilian direct action, not specified below
- 141: Demonstration
- 142: Hunger strike
- 143: Strike/boycott
- 144: Physical obstruction
- 145: Violent protest, riot

15: MILITARY POSTURE

- 150: Military posturing, not specified below
- 151: Military demonstration, display
- 152: Military alert
- 153: Military mobilization

16: REDUCE RELATIONS

- 160: Reduce relations, not specified below
- 161: Reduce or break diplomatic relations
- 162: Reduce or stop aid, not specified below
 - 1621: Reduce or stop economic assistance
 - 1622: Reduce or stop humanitarian assistance
 - 1623: Reduce or stop military assistance
 - 1624: Reduce or stop peacekeeping
- 163: Halt negotiations
- 164: Halt mediation
- 165: Impose embargo, boycott

17: USE STRUCTURAL VIOLENCE

- 170: Use of structural violence, not specified below
- 171: Violence against property, not specified below
 - 1711: Confiscate property
 - 1712: Destroy property
- 172: Administrative sanctions, not specified below
 - 1721: Impose curfew
 - 1722: Impose censorship
- 173: Arrest and detention
- 174: Expel, not specified below
 - 1741: Expel diplomat(s)
 - 1742: Expel group(s)

18: USE UNCONVENTIONAL VIOLENCE

- 180: Use of unconventional violence, not specified below
- 181: Abduct, hijack
- 182: Non-lethal physical assault, not specified below
 - 1821: Sexual assault
 - 1822: Torture
- 183: Suicide, car, and other bombing
- 184: Murder or political assassination

19: USE CONVENTIONAL FORCE

- 190: Use of conventional force, not specified below
- 191: Military closure or blockade
- 192: Military occupation of territory
- 193: Small arms and light weapons attack
- 194: Artillery and tank attack
- 195: Aerial attack

20: USE MASSIVE UNCONVENTIONAL FORCE

- 200: Massive unconventional force, not specified below
- 201: CBR attack
- 202: Nuclear attack

Appendix II: World Event Interaction Survey (WEIS)

<i>Cue code</i>	<i>Secondary code</i>	<i>Goldstein scale value</i>
01	YIELD	
	011 Surrender, yield to order, submit to arrest, etc.	0.6
	012 Yield position; arrest; evacuate; involves actual physical movement	0.6
	013 Admit wrongdoing; retract statement	2.0
02	COMMENT	
	021 Explicit decline to comment	-0.1
	022 Comment on situation-pessimistic	-0.4
	023 Comment on situation-neutral	-0.2
	024 Comment on situation-optimistic	0.4
	025 Explain policy or future position	0.0
03	CONSULT	
	031 Meet with at neutral site; or send note	1.0
	032 Visit; go to	1.9
	033 Receive visit; host	2.8
04	APPROVE	
	041 Praise, hail, applaud, condolences, ceremonial salutations	3.4
	042 Endorse other's policy or position; give verbal support	3.6
05	PROMISE	
	051 Promise own policy support	4.5
	052 Promise material support; human or resourcer aid forthcoming	5.2
	053 Promise other future support action	4.5
	054 Assure; reassure; expressions/reiterations of promise of earlier pledges	2.8
06	GRANT	
	061 Express regret; apologize	1.8
	062 Give state invitation	2.5
	063 Grant asylum; announcement of a policy and reports of granting of refuge	-1.1
	064 Grant privilege, diplomatic recognition; etc	5.4
	065 Suspend negative sanctions; truce	2.9
	066 Release and/or return persons or property	1.9
07	REWARD	
	071 Extend economic aid (as gift and/or loan)	7.4
	072 Extend military assistance; men, material, joint military training exercises	8.3
	073 Give other assistance	6.5
08	AGREE	
	081 Make substantive agreement	6.5
	082 Agree to future action or procedure; agree to meet, to negotiate	3.0
09	REQUEST	
	091 Ask for information	0.1
	092 Ask for policy assistance	3.4
	093 Ask for material assistance	3.4
	094 Request action; call for	-0.1
	095 Entreat; plead; appeal to; help me; requests from a distinctly suppliant position	1.2

10	PROPOSE		
	101	Offer proposal	1.5
	102	Urge or suggest action or policy	-0.1
11	REJECT		
	111	Turn down proposal; reject protest, threat, etc.	-4.0
	112	Refuse; oppose; refuse to allow	-4.0
12	ACCUSE		
	121	Charge; criticize; blame; disapprove	-2.2
	122	Denounce; denigrate; abuse	-3.4
13	PROTEST		
	131	Make complaint (not formal)	-1.9
	132	Make formal complaint or protest	-2.4
14	DENY		
	141	Deny an accusation	-0.9
	142	Deny an attributed policy, action, or position	-1.1
15	DEMAND		
	151	Issue order or command, insist; demand compliance, etc.	-4.0
16	WARN		
	161	Give warning	-3.0
17	THREATEN		
	171	Threat without specific negative sanctions	-4.4
	172	Threat with specific nonmilitary sanctions	-5.8
	173	Threat with force specified	-7.0
	174	Ultimatum; threat with negative sanctions and time limit specified	-6.9
18	DEMONSTRATE		
	181	Nonmilitary demonstration; to walk-out on; marching, picketing, stoning, etc.	-5.2
	182	Armed force mobilization, exercise and/or displays not included here	-7.6
19	REDUCE RELATIONSHIP (as negative sanctions)		
	191	Cancel or postpone planned event	-2.2
	192	Reduce routine international activity; recall officials; embargos, bans, etc.	-4.1
	193	Reduce or cut off aid or assistance	-5.6
	194	Halt negotiations	-3.8
	195	Break diplomatic relations	-7.0
20	EXPEL		
	201	Order personnel out of country	-5.0
	202	Expel organization or group	-4.9
21	SEIZE		
	211	Seize position or possessions; also military occupation	-9.2
	212	Detain or arrest person(s)	-4.4
22	FORCE		
	221	Non-injury destructive act, including demonstrations with physical destruction	-8.3
	222	Nonmilitary injury; destruction; terrorist bombings	-8.7
	223	Military engagement	-10.0

Source: McClelland 1976; Goldstein 1993

Appendix 3: Examples from the CAMEO codebook

Note: In the online version of the codebook, actors, verb phrases, and targets (here shown underlined, italicized, and bold) are each a different color so it is clear exactly what TABARI has identified and coded. A web-based version of the codebook can be found at <http://www.ukans.edu/~keds/CAMEO.html>

CAMEO Code	010
Name	Comment, not specified below
Description	Event narration and all comments not otherwise specified.
Usage Notes	This residual category is not coded except when distinctions among CAMEO codes 011 to 018 cannot be made. Comments are remarks or observations that explain or express something. Note that comments are subordinate events; they are used only if no other events are found.
Example	<u>U.S. military chief General Colin Powell</u> <i>said</i> on Wednesday NATO would <i>need to remain strong</i> and American forces would have to stay in Europe despite the changes in the Warsaw Pact.

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CAMEO Code	022
Name	Make a visit
Description	Travel to another location for a meeting or other event.
Usage Notes	All visits and travels, including returning trips from visits, should be coded under this category. Note that this event category is typically accompanied by the linked event 'host a visit.'
Example	<u>Taiwan's Vice Foreign Minister</u> <i>visited</i> Russia today, becoming the island's highest ranking government official to go there.
Example Notes	This example contains a linked event: 'make a visit' is linked to 'host a visit.' Thus, in the first coding, 'Taiwan's Vice Foreign Minister' is the source actor (the visitor) and 'Russia' is the target actor (the host) for this event. In the second linked event coding, 'Russia' is the source actor (the host) that is hosting 'Taiwan's Vice Foreign Minister' (the visitor).
Example	<u>Iraqi President Saddam Hussein</u> <i>arrived</i> in Amman on a previously unannounced visit on Wednesday and went straight into talks with King Hussein.
Example Notes	This example contains a linked event: 'make a visit' is linked to 'host a visit.' Thus, in the first coding, 'Iraqi President Saddam Hussein' is the source actor (the visitor) and 'Amman,' or Jordan, is the target actor (the host) for this event. In the second, linked, event coding, Jordan is the source actor (the host) that is hosting 'Iraqi President Saddam Hussein' (the visitor). Note that the second half of the lead will be coded as a separate event ('engage in negotiation'), with King Hussein as the target.

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CAMEO Code	065
Name	Agree to mediation
Description	Accept an offer, display willingness or commitment to accept mediation.
Usage Notes	This event code is typically accompanied by the linked event 'agree to mediate,' CAMEO code 066. Note that in leads involving mediation activities, the code for mediation takes precedence over other events such as 'make a visit,' 'host a visit,' and 'meet in a third location.' This category refers to the approval by adversaries of mediation activities by third parties. For agreements by third parties to mediate refer to CAMEO code 066.

Example	<u>Afghan rebel leaders</u> said on Wednesday they <i>would meet</i> U.N. mediator Diego Cordovez if he gave them a veto over any settlement reached in peace talks.
Example	<u>Israeli Prime Minister Ehud Barak</u> has <i>agreed</i> to US mediation in the final status talks with the Palestinians, a senior Israeli official said.
CAMEO Code	066
Name	Agree to mediate
Description	Accept a request, display willingness or commitment to mediate among adversaries.
Usage Notes	This event code is typically accompanied by the linked event ‘agree to mediation,’ CAMEO code 065. Note that in leads involving mediation activities, the code for mediation takes precedence over other codes such as ‘make a visit,’ ‘host a visit,’ and ‘meet in a third location.’ This is not unlike how other events typically supersede comments. This category refers to agreements by parties other than the adversaries themselves. For agreements of adversaries to accept mediation by third parties refer to CAMEO code 065.
Example	<u>Gambian President Dawda Jawara</u> <i>will visit</i> Mauritania and Senegal <i>to mediate</i> in a border dispute between the two West African neighbours, diplomatic sources said on Wednesday.
Example Notes	‘Agree to mediate’ is linked to ‘agree to mediation.’ In coding for ‘agree to mediate,’ two events are coded since the example contains a compound target actor: Gambian President Dawda Jawara as the source and Mauritania as the target in the first one, and Gambian President Dawda Jawara as the source and Senegal as the target in the second one. Similarly in coding for ‘agree to mediation,’ two events are coded: Mauritania as the source and Gambian President Dawda Jawara as the target in the first one, and Senegal as the source and Gambian President Dawda Jawara as the target actor in the second one.
Example	The leaders of <u>Guinea</u> and <u>Gambia</u> <i>are expected</i> here next week <i>to mediate</i> in a border dispute between Mauritania and Senegal , official sources said.
Example Notes	Note that eight different events are present in this example.

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CAMEO Code	125
Name	Defy norms, law
Description	Disobey, challenge laws or norms.
Usage Notes	This event category covers both civilian disobedience and official defiance.
Example	A <u>newspaper based in Christian east Beirut</u> has <i>defied</i> a <i>ban</i> by General Michel Aoun and described his rival Elias Hrawi as president.
Example Notes	Note that this example contains two separate events: Defiance of a ban and the description by the newspaper, which is a comment (CAMEO 010).

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CAMEO Code **160**
Name **Reduce relations, not specified below**
Description All reductions in normal, routine relations not otherwise specified.
Usage Notes This residual category is not coded except when distinctions among CAMEO codes 161 through 166 cannot be made. Note that CAMEO event category 16 is distinct from event forms under CAMEO 131 as the latter refers merely to threats, while the first refers to reported reductions in threats.

Example Italy announced a *suspension* of air links with **Yugoslavia** on Wednesday, one day after a Yugoslav army jet shot down a helicopter carrying EC truce monitors.

CAMEO Code **161**
Name **Reduce or break diplomatic relations**
Description Curtail, decrease, break, or terminate diplomatic exchange.
Usage Notes Cancellation of meetings, withdrawal of ambassadors and termination of other similar diplomatic activities should be coded under this event category.

Example Italy's Prime Minister Giulio Andreotti postponed a meeting with **Spanish Prime Minister Felipe Gonzalez** after a parliamentary vote of confidence due on Wednesday was delayed by an opposition protest.

Example Notes Postponement of a meeting is a form of disruption of the routine, and therefore, it is coded as a form of reducing relations.

Example A French minister has cancelled a planned *visit* to **Haiti** after a state of siege was declared in the one-time French colony, the Foreign Affairs Ministry said on Sunday.

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CAMEO Code **182**
Name **Non-lethal physical assault, not specified below**
Description Attack physical well-being of individual(s) without causing death, not otherwise specified.
Usage Notes This event form category contains sub-forms for more detailed coding whenever possible. Note that political assassinations are coded under CAMEO 184 instead.

Example Israeli soldiers routinely *beat up* **Palestinian** detainees on the occupied West Bank with the knowledge of senior officers, a court martial was told today.

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CAMEO Code **191**
Name **Military closure or blockade**
Description Prevent entry into and/or exit from a territory using armed forces.
Usage Notes Note that this event form is different from CAMEO code 144 'physical obstruction,' which refers to civilian protest activities that seek to disrupt routine and normal proceedings.

Example Soviet troops sealed the **Azerbaijani** border with Iran on Monday, preventing Soviet Azeris from crossing into Iran, Tehran Radio reported.

Example Israel Friday reimposed blockades in the **West Bank** following the shooting deaths of two Israelis a day earlier, a military spokesman announced.