

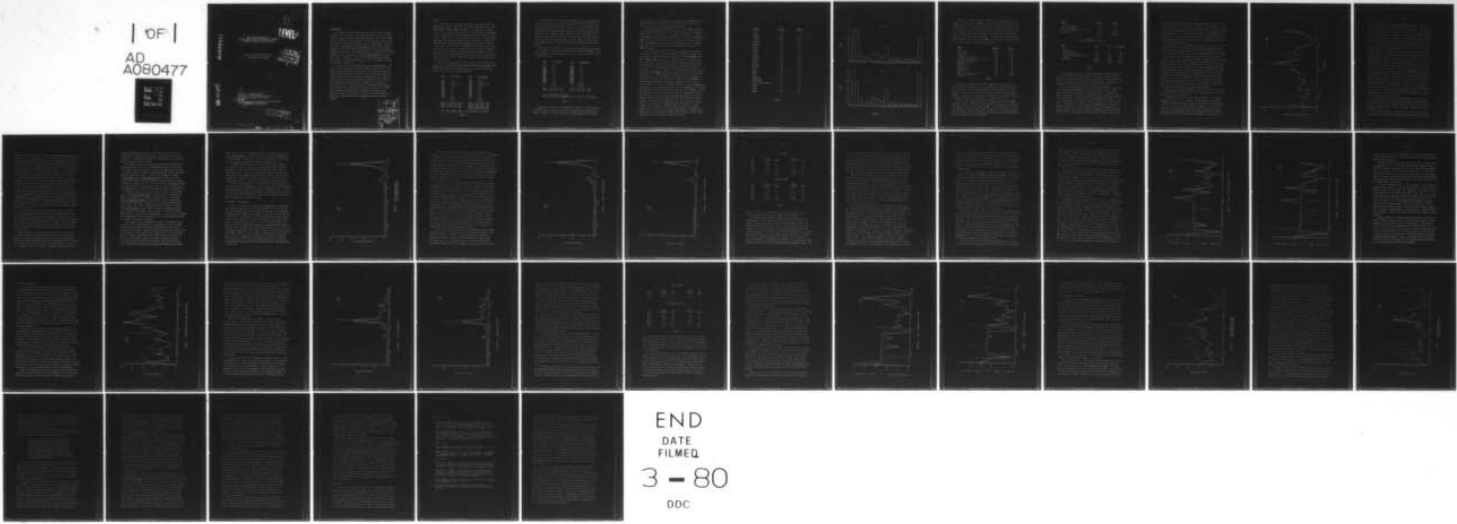
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COMPARING EVENT FLOWS -- THE NEW YORK TIMES AND THE TIMES OF LO--ETC(U)
MAY 72 G HILL, P FENN

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Introduction

This paper discusses

The purpose in writing this paper is to discuss some divergent opinions as to the nature, scope, and problems involved in the area of research commonly referred to as event analysis. There are a number of ways to approach these problems. We have chosen as a vehicle for discussion the comparison of two sources of international event data. They are the New York Times and The Times of London, both prestige newspapers. The World Event/Interaction Survey has been maintaining The Times of London as a secondary source of international events since January 1, 1969, in addition to the main New York Times collection which began on January 1, 1966. The overlapping three-year period from January 1, 1969 through December 31, 1971, constitutes the time span for the comparison.

On the surface, the problem appears quite straightforward. The event records are identical in their codified form and the criteria used in their compilation are the same.¹ All that differs are the substance and details of the events. Thus one need only compare the relative amount of attention given to particular topics, arenas of interaction or episodes in international affairs in order to arrive at conclusions as to the differences between the two sources. Obviously, this is a simplification, but nevertheless it provides a sufficiently complex task to merit further attention. The problem is to compare these two sources noting their differences as to amounts and types of information. From this, we should then be in a position to see what questions are suggested and how they may be answered.

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Part I

To introduce the comparisons, we should first review the basic WEIS format. There are five key variables in the WEIS coding scheme-- ACTOR, EVENT, TARGET, ARENA, and TIME. It is possible to examine each of these variables individually, or in combination. The approach in this comparison is to examine each of these five variables individually. Another point to be noted before we proceed is that the New York Times (NYT) has approximately 7,500 more events recorded over the three-year period than does The Times of London (TOL), 25,900 versus 18,360. We will return to explore this difference more completely later but first, it is important to note that the comparisons are reported in percentages rather than absolute amounts since our main interest is in exploring relative differences in the reporting styles of the two sources. With these points in mind we now proceed to the comparison.

The first comparison deals with the units in the international system which initiate verbal and physical behaviors--the ACTORS. The NYT and TOL report the following ten actors as initiating the most events over the three year period examined.

<u>NYT</u>	<u>% of Events</u>		<u>TOL</u>	<u>% of Events</u>
*USA	19.6	} 40.7%	*USA	10.6
*USR	7.4		UNK	8.6
*VTN	7.3		*USR	7.0
*ISR	6.4		*ISR	6.5
*UAR	4.8		*UAR	4.5
VTS	4.2		GMW	3.7
UNO	3.0		FRN	3.2
*PLO	2.7		*PLO	2.8
CHN	2.6		*VTN	2.7
CAM	2.6		IND	2.7
	<u>60.6%</u>			<u>52.3%</u>
(GMW is 12th with 2.2%)			(UNO is 11th with 2.6%)	
(UNK is 13th with 2.1%)			(CHN is 12th with 2.4%)	
(IND is 16th with 1.6%)			(VTS is 13th with 2.1%)	
			(CAM is 17th with 1.5%)	

*Indicates ACTORS common to both groups of the TOP 10

TABLE 1

The differences between the two newspapers are fairly apparent and it is not necessary to dwell upon them except to point out that if one were to extend the top 10 list to a top 20 list, the differences in the composition of these groups would diminish even further. The general conclusion to be drawn from this comparison is that both papers reflect the bias of their national origin but do not differ significantly in covering the activities of the most active nations, or a major conflict arena in the world--the Middle East. The TOL, however, has more relative emphasis on Western Europe. These are not unexpected observations, however.

While Table 1 presents the output of the major ACTORS in the events record, Table 2 compares the two sources as to intake, or TARGETS. This table designates which system actors are on the receiving end of events initiated by others.

<u>NYT</u>	<u>% of Events</u>	<u>TOL</u>	<u>% of Events</u>
*NSC	20.5	*NSC	17.4
*USA	13.6	*USA	8.2
*VTN	7.2	<u>UNK</u>	7.9
*USR	4.6	*USR	5.0
*ISR	4.6	*MLG	4.4
*MLG	4.2	*ISR	4.4
VTS	4.0	*UAR	3.4
*UNO	3.5	*VTN	3.3
*UAR	3.2	*UNO	3.2
<u>CAM</u>	<u>2.5</u>	<u>GMW</u>	<u>2.6</u>
	67.9%		59.8%
(UNK is 14th with 1.7%)		(VTS is 18th with 1.7%)	
(GMW is 15th with 1.7%)		(CAM is 19th with 1.7%)	

*Top-10 TARGETS in both sources
 Underlined represent TARGETS that are in TOP 10 ACTOR group

TABLE 2

Again, the differences are apparent, but there are two interesting points which may be made. The first is that both sources provide evidence to support the notion that those nations reported as initiating

the major portion of interactions are also the same nations to which those interactions are targeted. In other words interactions occur between a rather limited set of actors and targets.

Another interesting observation evident in the TARGET comparison is that approximately one out of every five records of interaction in both sources is non-directed, i.e., targeted at NSC--999. In terms of the WEIS coding format these "non-directed" events are usually COMMENTS--that is, statements or policy declarations on specific international situations or episodes involving many nations. To explore this point further we must examine the quantity and variety of the EVENT categories.

The proportional distribution for each category of interaction is described in Table 3 for both sources. Of particular interest in this table is the fact that four categories of events--COMMENT, CONSULT, ACCUSE, FORCE-- account for a large proportion of the actions (over 60%). One reason for this is that both sources pay attention to such phenomena as policy declarations, meetings and consultations, as well as to the verbal and physical manifestations of conflict, i.e., accusations and physical violence. The fact that about 20% of the data comes under the "COMMENT" category supports the earlier notion about the character of the non-targeted events which exist in the data. An alternate interpretation of this point, however, is that COMMENT is a miscellaneous category which contains a large element of policy or intent information. Both views appear reasonable. Viewed graphically, as in Figure 1, the similarities between the two newspapers are striking. The types of events reported by the two sources differ markedly in only two categories. The TOL reports relatively more meetings and consultations between national officials and pays less attention to acts of physical violence while the NYT devotes more coverage to military encounters. A reason for this difference is U.S. involvement in Indochina. It is reasonable to suggest that the NYT would devote more coverage to this conflict arena than would a nation's press whose leaders (and citizens) are not central participants. To explore this possibility, it is necessary to examine how each source reports events taking place in major conflict arenas of the world.

<u>CATEGORY</u>	<u>NYT %</u>	<u>TOL %</u>
YIELD	.54	.42
COMMENT	21.59	18.70
CONSULT	13.59	19.81
APPROVE	3.54	3.52
PROMISE	2.00	2.07
GRANT	2.36	2.74
REWARD	1.94	1.31
AGREE	5.36	5.49
REQUEST	3.86	4.65
PROPOSE	3.63	3.04
REJECT	2.32	2.69
ACCUSE	10.15	8.86
PROTEST	.95	1.28
DENY	1.98	2.13
DEMAND	.88	.87
WARN	1.66	1.79
THREATEN	.64	.85
DEMONSTRATE	.93	1.40
REDUCE RELATIONSHIP	1.12	1.52
EXPEL	.33	1.03
SEIZE	.88	1.60
FORCE	19.39	14.18

TABLE 3

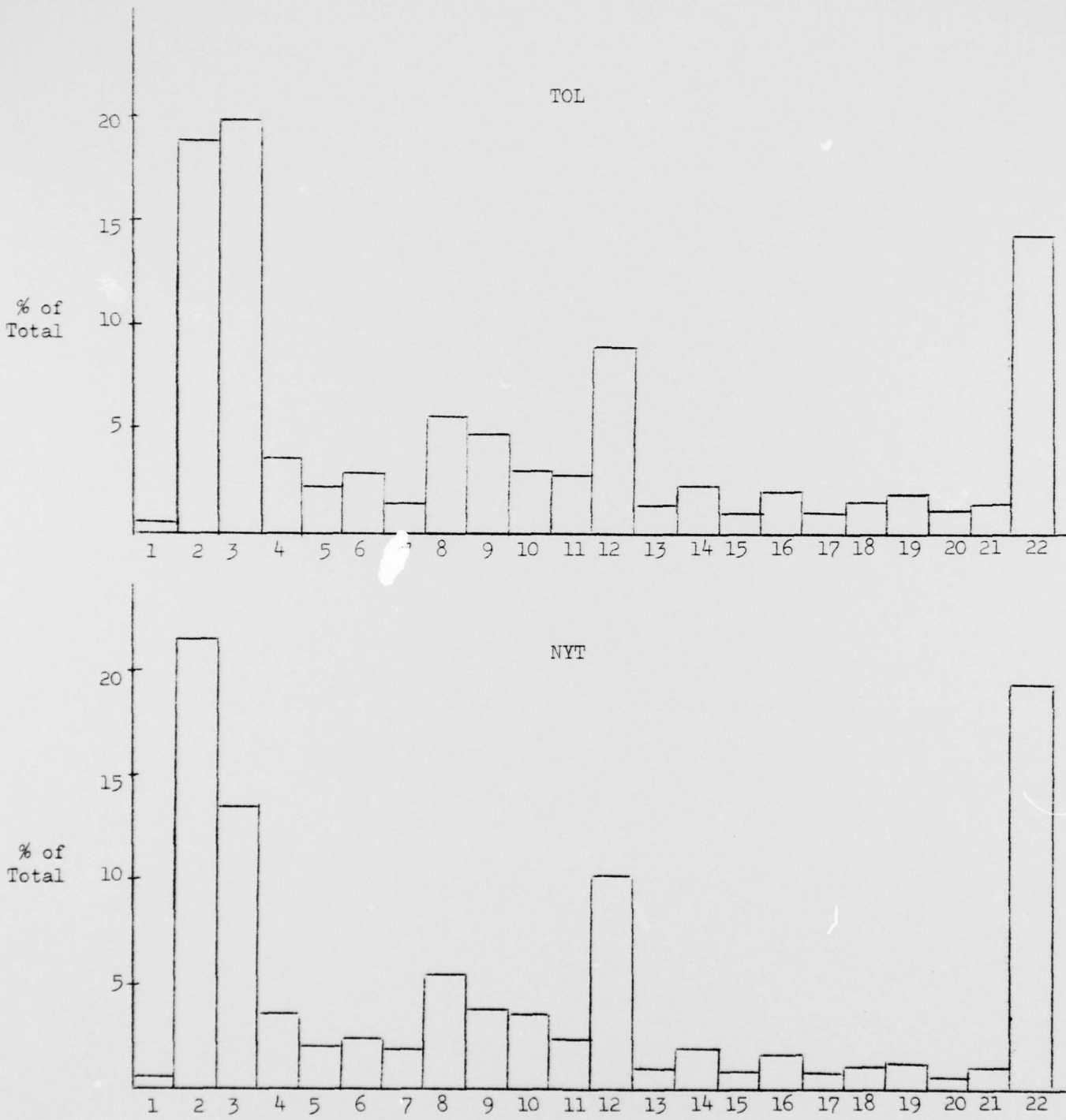


FIGURE 1

There are 13 conflict arenas identified in the three year period examined in this study. "ARENAS," it should be noted, are those international conflicts and issues which have been singled out for some topical or enduring interest. This permits selection of event interaction items from the main undifferentiated body of the collection on the basis of just the arena codes. Table 4 presents the distribution of events for the 13 conflict arenas for both sources. We have also included the non-arena designated event items (OOO ARENA) to illustrate the total composition of the data over the three year period.

<u>ARENA</u>	<u>NYT %</u>	<u>TOL %</u>
None (OOO)	50.61	61.68
Middle East	20.27	17.54
Vietnam	5.12	3.06
Paris Peace Talks	3.60	1.30
Military Engagements as of 10/69	6.35	2.73
Rhodesian Independence	.35	1.16
Sino-Soviet Conflict	1.19	1.10
India-Pakistan	2.78	2.96
Cyprus	.06	.13
Czech-USSR	.32	.08
Biafra-Nigeria	1.24	2.11
SALT	.68	.38
Non-Gov. Sanctioned Action	1.24	2.82
Cambodian Conflict	6.18	4.04

TABLE 4

The earlier insight that the NYT reports more of the physical violence variety of events due to U.S. involvement in Indochina is sound. The combination of the pertinent arenas for Indochina reveal the difference in the distribution of not only the event interaction categories (Figure 1), but also the 10% difference between the two sources in the non-arena designated events. Table 5 illustrates this point.

A point to be recalled while the discussion centers on the ARENA variable is that the NYT collection contains 7,540 more events than does the TOL collection (25,900 versus 18,360). Is this difference the result of coverage in any particular arena? In Table 6 we have shown the number of recorded events in the major conflict arenas in the international system, Indochina and the Middle East.

<u>ARENA</u>	<u>NYT %</u>	<u>TOL %</u>
General Vietnam	5.12	3.06
Paris Peace Talks	3.60	1.30
Military Engagements as of 10/69	6.35	2.73
Cambodia	6.18	4.04
	<u>21.5%</u>	<u>11.13%</u>

TABLE 5
Events Pertaining to Indochina

<u>ARENA</u>	<u>NYT</u>	<u>TOL</u>	<u>DIFFERENCE</u>
Indochina:			
General Vietnam	1327	562	765
Paris Peace Talks	932	239	693
Military Engagements (10/69)	1644	502	1142
Cambodia	1601	741	860
Middle East	<u>5251</u>	<u>3221</u>	<u>2030</u>
	10,755	5,265	5,490

TABLE 6

The reporting selections in these two arenas do indeed appear critical. The 5490 event difference between the 2 sources in these arenas account for nearly 73% of the 7500 event difference. In relative terms, 42% of all the events contained in the NYT collection is devoted to these two arenas, while the TOL collection devotes but 30%.

This is an interesting comparison and raises a number of questions about the "reality structures" in different sources of news events. Again, however, the discussion of these questions will be momentarily deferred in order to present the comparison of the final major variable in the WEIS coding scheme--TIME. In this comparison we examine the volume of reporting in each source over the time span. The primary question to be asked in the volume over time comparison has to do with the general ebb and tide of news reporting over the three year period. This is no more than a gross indication of whether or not both sources exhibit high or low volumes of events in similar months. This is best

illustrated graphically by comparing the proportional distribution of events over the 36 months. Figure 2 represents this information. There do not appear to be any significant patterns in the plot other than that both sources provided a great deal of coverage to the PLO guerrillas in the Middle East crisis of September 1970, and the India-Pakistan war in December 1971. The two sources generally follow the same pattern with volumes peaking as conflict arenas erupt into military encounters and subside as tensions decrease.

The general picture portrayed in the comparison of the five main variables is that the major difference between the two sources lies in the number of events reported in the Middle East and Indochina conflict arenas. Apart from these, however, the differences appear quite slight.

As we have seen, this comparison is, in itself, an interesting exercise. It provides a number of insights into what could be described as "two windows on the world." However, this characterization is perhaps misleading in that one must remember that this picture presents a rather gross view of the two sources, one that is imbued with subtle questions as to validity, reliability, reality structures, etc. Thus, it does not take into account a critical second level of questions, questions which are being asked in event analysis that surround the concept of an event and its source. What is an event record? What type of reality is reflected in the collection of event reports over time? What is a valid source of these event records? How reliable are they as representatives of international phenomena?

These are not trivial questions. They have received a great deal of attention over the past few years in the papers, panels, and workshops related to event analysis.

The meaning of the term "event" has been specific in the WEIS procedures. In the initial usage by the WEIS Project it described "a deed or utterance which was single and discrete of an international character," that is, it crossed national boundaries. It was emphasized that "event" data was a particular type of information, representing in part something called "the external behavior of nations." Clearly, data of this character were not capable of supplying all the

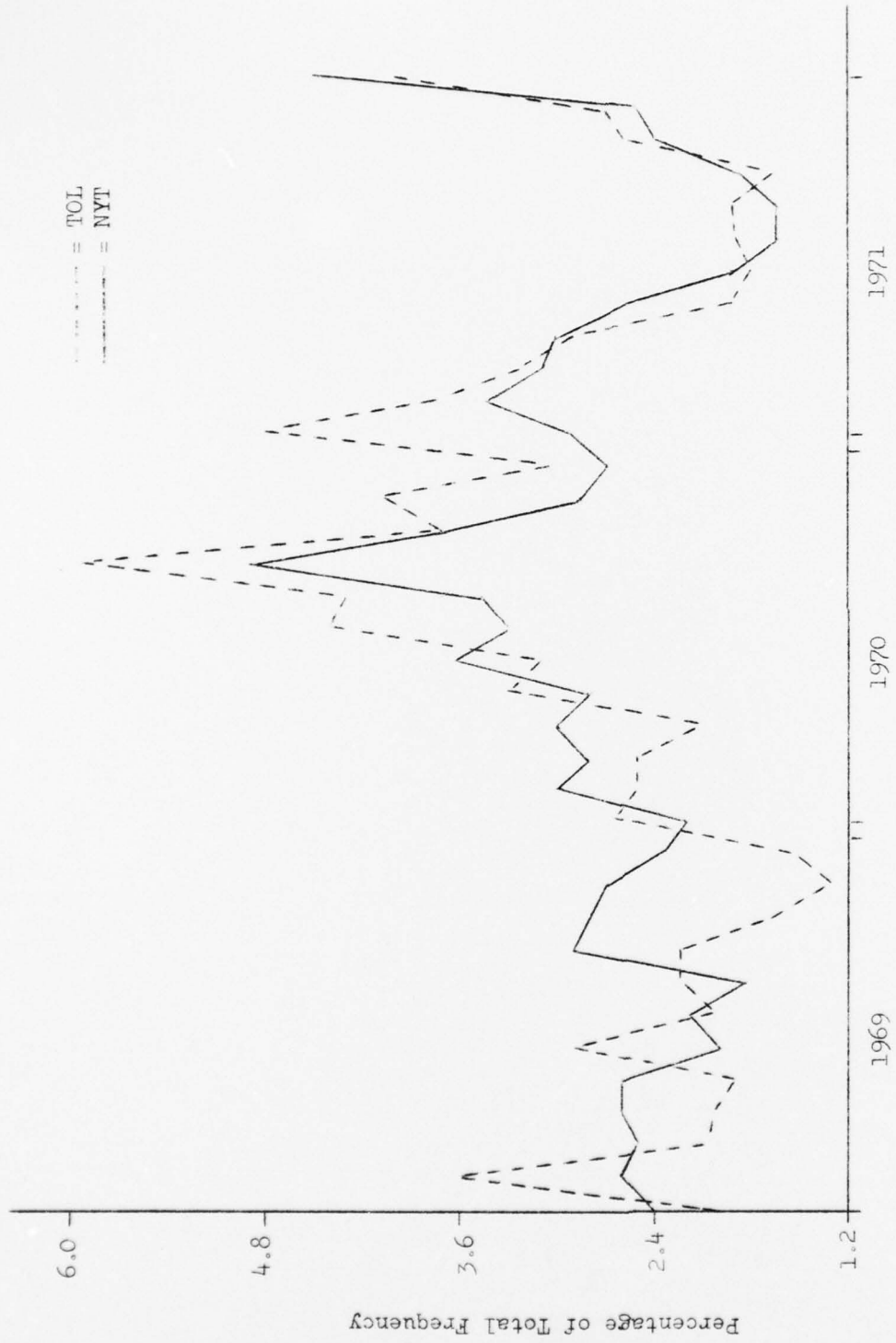


FIGURE 2

required information to examine international phenomena. Rather, event data, and more specifically, the WEIS data, was a set of indicators of international behavior, a sample of action and response, not the entire universe. The purpose in raising this point is not to suggest that anyone is misrepresenting or overstating the case for event data, rather, we feel it is easy to lose sight of the advantages of simple, straightforward formulations which characterize a concept such as event data.

It is not unreasonable to engage in research based on the belief that indicators may contain certain sequences of events or may exhibit recurring patterns of interaction. Such a notion is supportable by current insight into the character of event data. Present thinking suggests that event records collected from newspapers are essentially conflict indicators. The basic point in this argument is that the normal day-to-day interactions of nations constitute activities of little interest to the press or the world public in general. Such events are printed most commonly by the press who can identify a regional or national interest in the story. These events comprise a sort of base level of reporting. At times, certain events may command a great deal of attention by the entire world's press or may serve as catalysts to a whole series of future interactions on the same issue, or within the same situational context. In effect, the data seem to intermittently reach some threshold value and emerge into public focus as a crisis. This is an empirical question which can be examined more closely by testing it with data from the sources at hand. Before undertaking this, however, let us first discuss a second prominent question in event analysis which is also amenable to empirical investigation. This problem concerns the source of the data.

Source bias is a particularly thorny problem. It has been the focus of attention for many researchers and thus pre-empted valuable time from efforts directed towards empirical research. Why this has happened is not altogether clear, but there are a number of speculations to be made.

First, event analysis in international politics involves a continuous effort at collecting, coding and validating data. The great

amount of time and resources spent on transforming and processing information is designed to produce a more complete explanation of the relationships between nations and the processes by which those relationships change. Whether or not the analysis of assembled data achieves that objective rests largely with the quality of the information itself which, in turn, depends very heavily on the source. If the source of the data is faulty or if there are better places to collect the data, then the analyst's conclusions are open to serious re-evaluation.

Other factors besides the source are also involved. The completeness of the collection or coding scheme is certainly important. The applicability of the data to the analysis of the problem is also an important consideration. In addition, the value of the data is clearly a function of the coders' competence and their inter-coder reliability. Beyond these immediate questions of data validity are the critical problems of data analysis--how is the information applied, what assumptions are made about it, and which statistical techniques, if any, "fit" properly? Thus, the question of data applicability and validity can be approached in a number of different ways. The concern here, however, will be primarily with the source of information rather than the other factors.

The event interaction movement has been particularly concerned with this question of the quality of the source from which the data were extracted. Event data conferences are replete with papers on the problems of differential source coverage, the use of public sources, and the value of one particular source over another. Most discussions center around the questions of regional or ideological bias, multiple source coverage, and the newspaper as an adequate source for international events.

Robert Burrowes and Bert Specter stress the need for more than one source in analyzing contemporary international politics, particularly if a regional subsystem or crisis is the focus of attention.² They also maintain that newspapers tend to exaggerate periods of intense activity and de-emphasize the normal or routine behavior.³ However if, as Hoggard points out, events are viewed as "indicators of inter-

national interaction" then there is less of a need to explain the total universe or population of events.⁴ Thus, the data will be more sensitive to changes over time given the characteristics of reporting that Burrowes and Specter describe.

In contrast to Burrowes and Specter, both McClelland and Raymond Smith make the point that an all-encompassing, objective source for event data is out of the question, at least for the present, and that the emphasis should be placed on examining just how a particular source covers a particular universe.⁵ Thus, in his comparative study of the NYT Index and the Indian White Papers Smith finds the two universes to be different but, nevertheless, finds the events to be good indicators of change over time. He concludes that "the Times apparently does not over-select events which are rare or unexpected, nor does it over-emphasize events which are more negative in their consequences."⁶

Smith also points out that the concept of "bias" is a two edged sword. The New York Times might be criticized for its attention to American interests at the expense of Indian actions. On the other hand the Indian White Papers contain reports of activities that are of particular importance to India but not necessarily significant to other nations. In fact, he suggests that much of what is contained in the White Papers reflects India's concern for propaganda and was put in just for that purpose. Thus, material included in the White Papers could be a function of an Indian bias. In that sense, an analysis of the NYT might be more representative of a consistent reporting style even though it contained less events.

One encounters severe problems in trying to determine the nature of a bias in the reporting style of a news source. It does not take a great deal of research to discover that newspapers reflect their location, that national newspapers will give more space to events within that country, or that the most active countries will receive the most press. A question that has not been raised, however, is whether or not two or more "biased" sources represent an "unbiased universe." It is a more difficult task to find the most stable and consistent elite newspapers, discover their strengths and weaknesses, and compare

them. Does one source overemphasize visits (as was the case with the Indian White Papers)? Does one paper tend to report more aggressive or hostile behavior than another? Does reporting across crises differ from the regular reporting when compared to another paper?

To examine these questions, and the ones raised with regard to the concept of the event record, we have included in this study the analysis of conflict episodes in the international arena. Each of these case studies we hope will provide some insight into source comparability for the analysis of international affairs. The problem is to determine if the same or similar conclusions are drawn as to the nature of the conflict in the case studies given two sources of data.

The first case examines the India-Pakistan conflict and the emergence of the state of Bangladesh; the second examines events surrounding the PLO guerrilla and Jordan confrontation in September 1970. In addition, the Vietnam and Middle East arenas are examined in order to determine if their long term character reveals similar analytical possibilities as the shorter, more acute variety.

Case Study: India-Pakistan

In order to examine the history of Indian-Pakistani interactions and the more recent war which occurred in December 1971, we compiled the events through the use of the conflict arena code. This code was designated when the WEIS project began its collection of event data and it includes all interactions by all countries which are related specifically to the conflict between these two nations. The plots in Figure 3 represent the total number of events for both the NYT and the TOL for the thirty-eight months beginning in January 1969 and including February 1972. The sudden and rapid escalatory nature of the conflict is clearly demonstrated in this figure. Aside from a few events reported by the NYT in 1969, very little attention was focused on the conflict until late 1970. Beginning in February 1971 the number of reported events begins to increase for both newspapers with the imprisonment of Bangladesh Premier Rahman and the ensuing Pakistani refugee problem in April 1971.

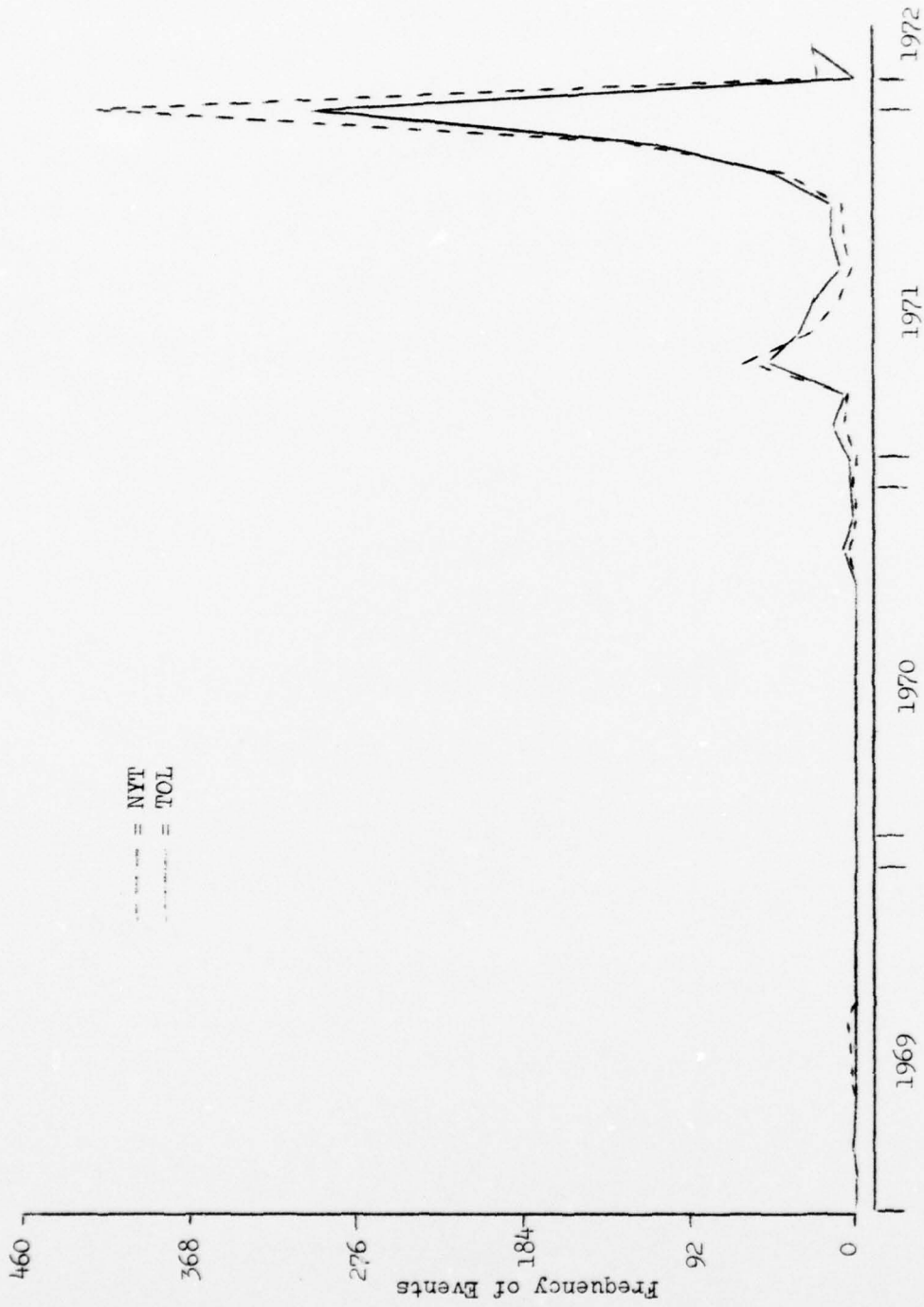


FIGURE 3 -- INDIA-PAKISTAN ARENA
TOTAL NUMBER OF EVENTS

The activities during April indicate a possible warning for the potential increase in the level of activity and tension. It is interesting to note that the NYT reports a greater number of events during the two peaks in April and December, while the TOL reports more during the "non-crisis" months. One problem with this interpretation, however, is that the NYT publishes daily editions of its newspaper, while the TOL does not issue a Sunday edition nor do they publish from December 24th through December 26th. This affects the number of events reported, particularly for the India-Pakistan dispute which peaked during December. Nevertheless, the "peaks" and "valleys" of the conflict are apparent for both sources' reporting in the arena.

An alternate view of the arena activity is afforded if the interactions between India and Pakistan are isolated. Figures 4 and 5 show the dyadic interaction and illustrate some similarities. The same initial crisis peak is evident in April with the NYT reporting more events for India as actor. However, the situation is quite different in the reporting of Pakistan's output behavior. NYT reports almost twice as many events for April as TOL. The TOL is strong in the non-peak months and reports a flurry of activity in February for India. This could be a reflection of a closer relationship between Great Britain and India from Colonial days, although Pakistan was a part of British India also. Further, it could indicate a number of correspondents in India and continuing interest in the coverage of that nation's problems. In contrast, the closer association that has developed between the United States and Pakistan may be reflected in the NYT reporting as compared to the TOL. However, the important observation to be made about the three graphs is the tendency of the NYT reporting to dominate the two peak periods, especially with Pakistan's output.

Another way to view the difference or similarities between the two papers' reporting of the conflict is to compare the standardized scores over time (z-scores). Table 7 gives the z-scores that exceed 2.0 standard deviations for India's output and Pakistan's output across both papers for 1971. A standard score of 2.0 would indicate that approximately 95% of the time the number of events would be below that



FIGURE 4 -- INDIA ---> PAKISTAN DYAD

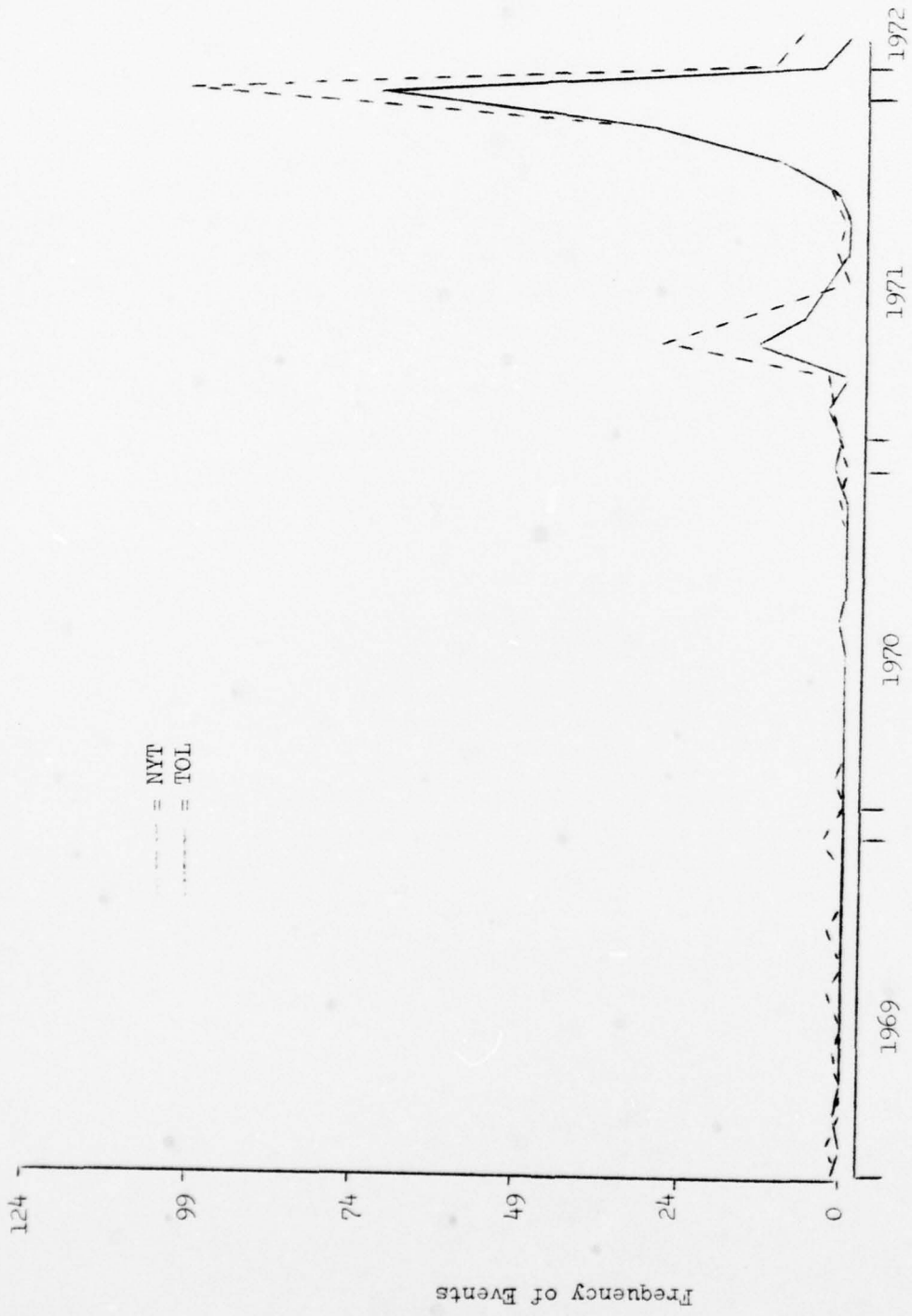


FIGURE 5 -- PAKISTAN ---> INDIA DYAD

INDIA OUTPUT

DATE	TOL Z-SCORE	FREQ	NYT Z-SCORE	FREQ
7101	7.25	31	--	1
7102	2.66	17	--	4
7104	3.34	22	3.63	25
7105	2.77	20	--	9
7110	3.69	28	2.62	21
7111	8.28	63	7.85	52
7112	13.41	138	22.47	184

PAKISTAN OUTPUT

DATE	TOL Z-SCORE	FREQ	NYT Z-SCORE	FREQ
7101	4.41	6	--	3
7102	2.37	4	--	5
7104	15.47	23	11.54	39
7105	2.53	9	4.45	28
7110	4.74	17	--	21
7111	9.41	37	6.18	42
7112	15.28	88	18.86	146

TABLE 7

threshold. Thus, as an artificial cutoff point, a z-score of 2.0 would be indicative of a notable change from past behavior.

It should be noted that with respect to the differences in the reporting styles of the two sources the TOL reports more months as having z-scores greater than 2.0 during 1970 than does the NYT. The TOL reports more Indian events than does the NYT except in April and December, the two peak periods. The z-scores for Indian output also illustrate this point, especially for 1971 when the NYT was not covering Indian interactions in the same proportion as was the TOL. It appears that by April the NYT was doing a more complete job of covering the crisis. The graph of the IND-PAK arena (Figure 3) illustrates the added similarity between the NYT and the TOL from April through December. The

z-scores demonstrate the steady increase in the number of events from the summer lull for both countries as reported in the TOL and the NYT. It is interesting to note that for the monitoring of behavior patterns the TOL would have picked up the drastic changes in output earlier in 1971 than the NYT and would have also continued to report that change. The Pakistani output is quite different from the Indian; where the TOL holds an edge in early warning signs, the NYT does report higher values for April through December but the z-scores are higher for the TOL.

Thus the z-scores reinforce the conclusion that the NYT and the TOL have similar crisis reporting styles yet differ in a number of ways. The NYT does report the significant crisis peaks more extensively than does the TOL. In turn, the TOL appears better suited in this case for monitoring the data to signal significant deviations from past behavior, especially in the case of India's output where a z-score of 7.25 is calculated for January 1971. However, both papers do show the similar peak in April and the proportionately increasing z-scores from October to December. Thus, in terms of changing behavior patterns, both papers cover the increasing and decreasing quantities of event records in a similar fashion.

Another method which is useful in illustrating the comparison is the scaling of the India-Pakistan data on a hostile-friendly continuum. The scaling operation also brings with it another set of criticisms surrounding event data concerning its statistical characteristics. The argument has been that the data are "soft," "nominal," or "just a series of simple category schemes." This argument has proven to be particularly troublesome. McClelland has maintained for some time that the data in the WEIS collection are indeed interval, and that arguments to the contrary, forwarded on the basis of narrowly viewed statistical conventions, are incorrect. The basic contention of the WEIS project is that the data are of more than a nominal or purely classificatory nature. The interaction categories represent recordable behavior types. As the data are gathered over time and behavior is categorized and counted, this information represents an interval scale. The thinking behind this closely parallels how a psychologist counts the

number of left or right turns a rat makes as it proceeds through a maze. Different trials and different rats have different scores which represent their behavior patterns and these scores are indeed interval. Thus, the 27th accusation of the People's Republic of China directed toward the Soviet Union concerning border violations is an interval score, in the same fashion as is the 27th right turn of a rat running through a maze.

It is particularly important to emphasize the point that our concern is with tracing the change in patterns of behavior. This involves a very important distinction between a static concept and a dynamic process. The single event most clearly represents a static bit of information, whereas the on-going collection of events involves a dynamic element. This is most clearly illustrated when nations' outputs are compared over time or dyadic relationships are evaluated in terms of their becoming more or less conflictful or cooperative. This mode of analysis has been utilized by Sherwin in his testing of structural balance notions with the WEIS data.⁷ One may also point to Calhoun's efforts at a multi-dimensional scaling of WEIS data designed to establish continua that assist in the analysis of international interactions. Calhoun developed a scale which succeeds in attaching individual values to the events in an interval manner.⁸

Viewed in this light, notions as to the events being nothing more than individual, discrete occurrences should be discredited. Basically, the point is that the meaning of the data emerges with its usage, and efforts to protect the integrity of the event movement through myopic assessments of the data is a particularly fruitless exercise. In any case, the coding and analysis of event data are considerably more than nominal. The ordered discrimination between event types and their placement on a time continuum succeeds in removing the data from the purely individual, discrete event category that led to its nominal classification. In turn this leads to a more sophisticated examination of the processes by which nations change.

A second criticism of the statistical characteristics of some event type data that has persisted concerns the practice of regarding

each event as having a value of "one." The complaint is usually forwarded that the U.S. protests directed toward North Korea as to the seizure of the Pueblo are far more important than similar protests directed at Ecuador for fishing boat seizures. Rather than follow the WEIS practice of assigning equal significance, the suggestion has been to devise a weighting scheme to note the importance of certain situational contexts.

The counter to this plea is that concepts such as "importance" and "intensity," while useful in assessing the significance of certain discrete events, are nearly impossible to operationalize when one is dealing with the ongoing flow of events. In lieu of this, one must be content in recognizing that the more important events may not require exterior tagging to signal their importance, rather their importance is signaled by increased numbers of events. Thus the increase in the amount of interaction serves as its own weighting scheme. However crude or rudimentary it might be, experience and knowledge in dealing with concepts such as "importance" and "intensity" are so limited as to require the more conservative posture.

The reader may or may not be willing to accept these arguments on such prima facie grounds, in either case we can examine the scaled data to see if analysis supports our contentions about the statistical characteristics of the data. Figures 6 and 7 give an indication of the different reporting styles as reflected in each data source. At first glance the reporting appears quite random, as if there was little correlation between the two papers. However, upon closer examination this is not quite the case. The Calhoun scale operates so that each type of event is weighted along a scale from "-4" to "+4", as seen in the graphs. Months in which only a few interactions take place are not distinguished from those in which there occur many events. Thus, the TOL dip in March 1969 (Figure 6) was due to one "force" act on the part of India. It is proposed that when analyzing scaled data in this manner, both the numerically scaled value and the frequency of events be examined. In this manner, the TOL March 1969 India-Pakistan valence of "-4" is seen in the proper perspective of representing one force

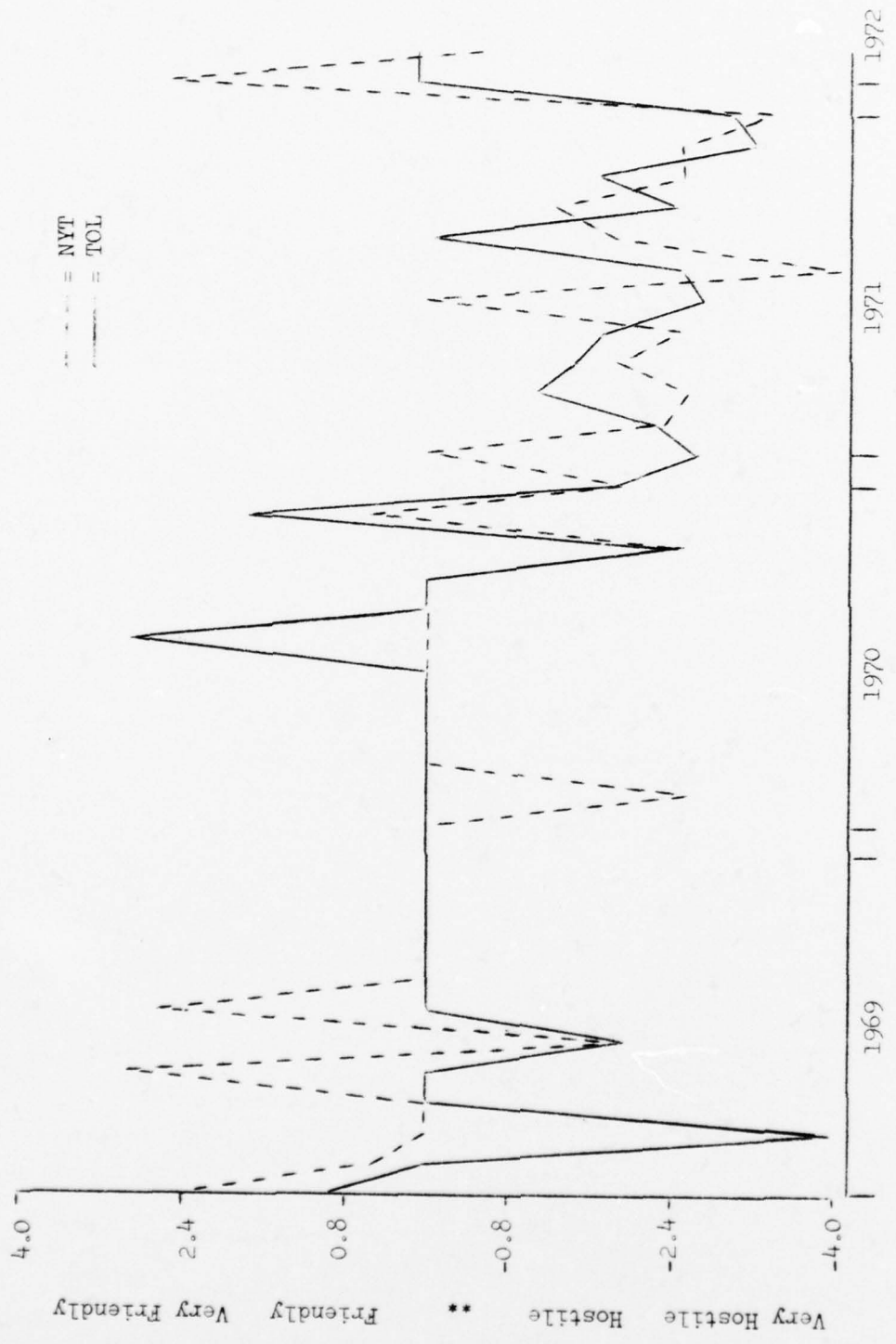


FIGURE 6 --- INDIA ---> PAKISTAN DYAD, SCALED

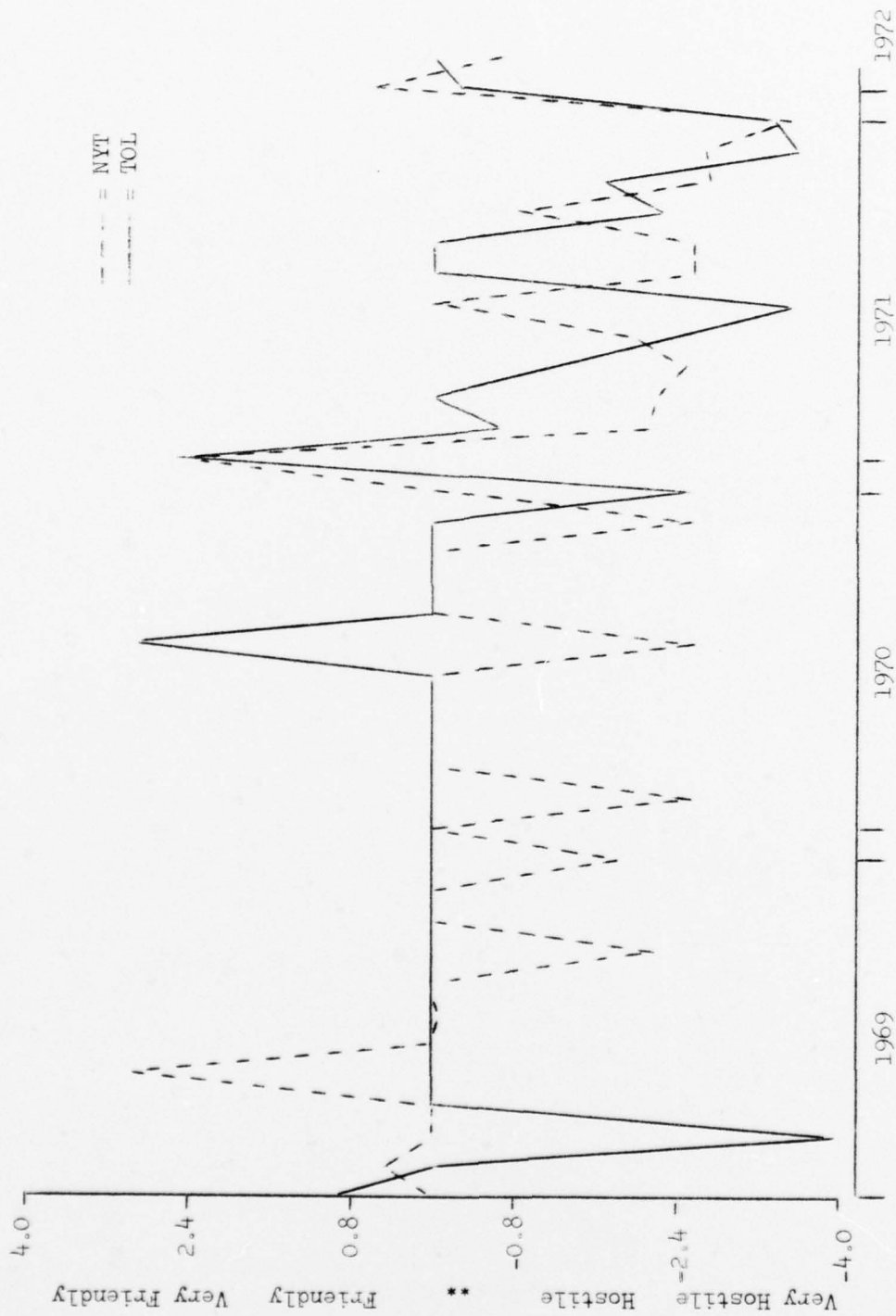


FIGURE 7 -- PAKISTAN --> INDIA DYAD, SCALED

event, whereas the value in December 1970 of "-3" represents 88 events. Clearly, in this context, December's activity would be a good deal more conflictful than March's.

Comparing the two sources must therefore be done in terms of quantity and type of events. The first month of major change in India-Pakistani relations, as defined by the z-score measure for both papers, was in April of 1971. The scale values show rather close scores for both the NYT and the TOL, -1.8 and -1.6, respectively. Along the same lines, the values for November and December were also similar with TOL indicating the more hostile behavior output for India in November, and NYT doing likewise for December.

In terms of Pakistan's output to India (Figure 7), a similar interpretation may be offered. April obtains output of a strongly negative valence for both the NYT and the TOL, though it is not nearly as close as the previous case of Indian output (NYT = -2.65, TOL = -1.4). Upon closer examination, Pakistan's output for November reveals a more negative valence for the TOL than for the NYT, although both are close (TOL = -3.6, NYT = -2.9). For December, both the NYT and the TOL report valences of approximately -3.55, extreme hostility. Thus in examining both Pakistan's output to India and India's output to Pakistan, the highest consistency for reporting patterns, using the Calhoun scale, appears in times of high stress and with large amounts of events reported.

Another important observation that should be made is that we can find no evidence of any consistent bias across the two papers in their reporting of the countries' actions. There seems to be no coherent pattern of the NYT viewing Pakistan as less hostile to India or vice-versa. In turn, the TOL does not seem to report more events that indicate their "favoritism" to one or the other country. The tendency of one paper to report a more hostile or cooperative pattern of behavior in general does not appear to exist. Only during times of few event interactions does there appear to be any significant scaled difference in the reporting styles of these two newspapers.

Case Study: Jordan-PLO

The comparison of the ongoing conflicts between Jordan-PLO and India-Pakistan exhibit many similarities, not the least of which is the existence of an acute crisis period. Both the situations in September of 1970 and December of 1971 conform to the pattern of a rapid, intense escalation and an equally rapid return to more "normal" behavior patterns, although not without significant systemic disruption. Thus, the previous discussion of the India-Pakistan crisis will be useful in providing insights into a comparison of similar reporting styles. We follow the same procedure in the PLO-JOR comparison as we did in the India-Pakistan case. First, the gross level of behavior for all nations in that time period is examined, second the dyadic interactions for the PLO and Jordan are compared and then we report on their standardized scores and scaled values. Throughout the discussion of the PLO-Jordan conflict, points will be made on its similarity to the India-Pakistan case.

One difficulty in an analysis of the PLO-Jordan conflict, not present with the India-Pakistan case, is the absence of an arena code for the dispute. Although this makes it impossible to view the total interaction between all nations over the conflict, we have utilized the option of deleting all events with arena codes which then leaves the PLO-Jordan confrontation and the invasion of Laos as the only major conflict episodes remaining in the data without an arena code.

A central point in the paper is that event data are of a consistent and comparable nature over different sources, particularly when they are of a conflict orientation. Thus, the data are of major utility when they are considered indicators of conflict rather than when viewed as indicators of normal relations between nations. The fact that this "delete arena" category contains the PLO-Jordan conflict and the Laos invasion, along with the less topical or conflict information, makes for an interesting comparison of the two newspapers.

Figure 8 illustrates the disjointed, almost random quality of the data between 1969 and Summer 1970. The JOR-PLO conflict of September marks the highest peak in the 38 months of data and also points up

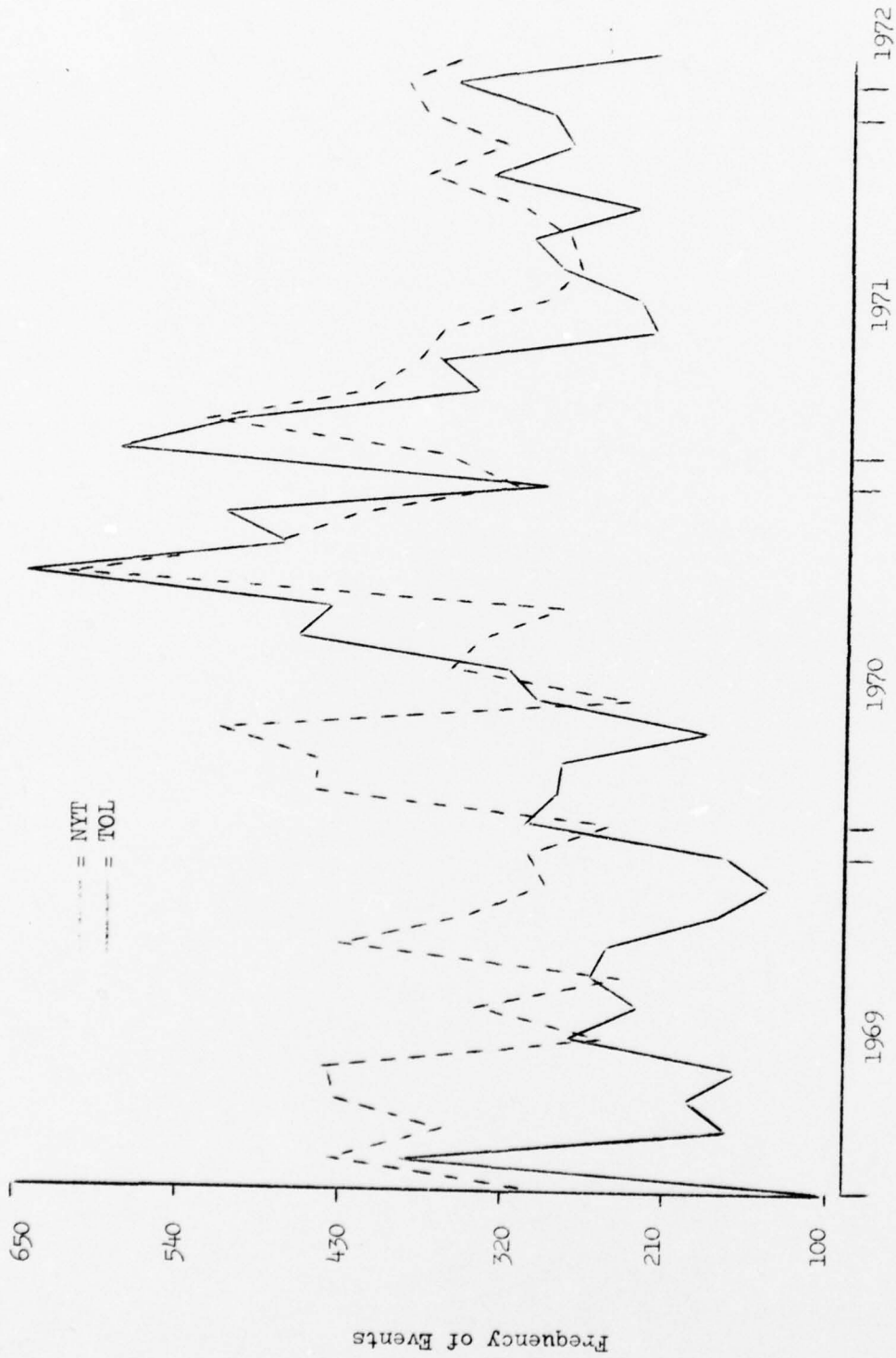


FIGURE 8 -- TOTAL EVENTS WITH ARENA CODES DELETED

the complementary reporting styles of the TOL and NYT. Interestingly, the TOL reports more events than the NYT during the height of the crisis. This is probably due to the involvement of Great Britain in the airplane hijackings by the PLO and the large number of interactions which resulted. The TOL also reports a great deal more interactions before and after the crisis in September than does the NYT (in contrast to the almost exact amount for September). Another interesting observation concerning this graph is the similarity in "peaks" and "valleys" which appear over time and in the reporting styles for the two months before and after the crisis in September. It should be emphasized that this graph represents a rather limited view of the PLO-JOR interactions, yet the few intense months of the crisis period during July-November are remarkably clear, especially for the TOL.

Apart from the PLO-JOR conflict, Figure 8 illustrates quite a drastic change in reporting styles after September 1970. Prior to the PLO-JOR conflict there was relatively little similarity between the number of events which the two papers reported. After September 1970 there appears a closer relationship. To test this notion, a Pearson correlation coefficient was computed for the number of non-arena events for each paper before the September crisis. The coefficient was $-.12$. We also correlated the non-arena events after September 1970 and obtained a coefficient of approximately $.63$. It could be concluded that this occurred because of the PLO-JOR conflict and the Laos incursions, which add "conflict arena" events to "non-conflict arena" data. This appears to confirm our beliefs that conflict indicator data are consistently more convergent across the two sources than are the normal, day-to-day interactions.

A closer examination of the PLO-JOR dyad (Figures 9 and 10) reveals similar patterns of interaction and reporting styles as the India-Pakistan dispute. The events of September 1970 stand out for both papers in the same manner as the India-Pakistan crisis of December 1971. In addition to the crisis peak in September, the reporting of the month to month events beginning in February 1970 and extending through 1971 are also similar across both the TOL and NYT. The NYT reports more

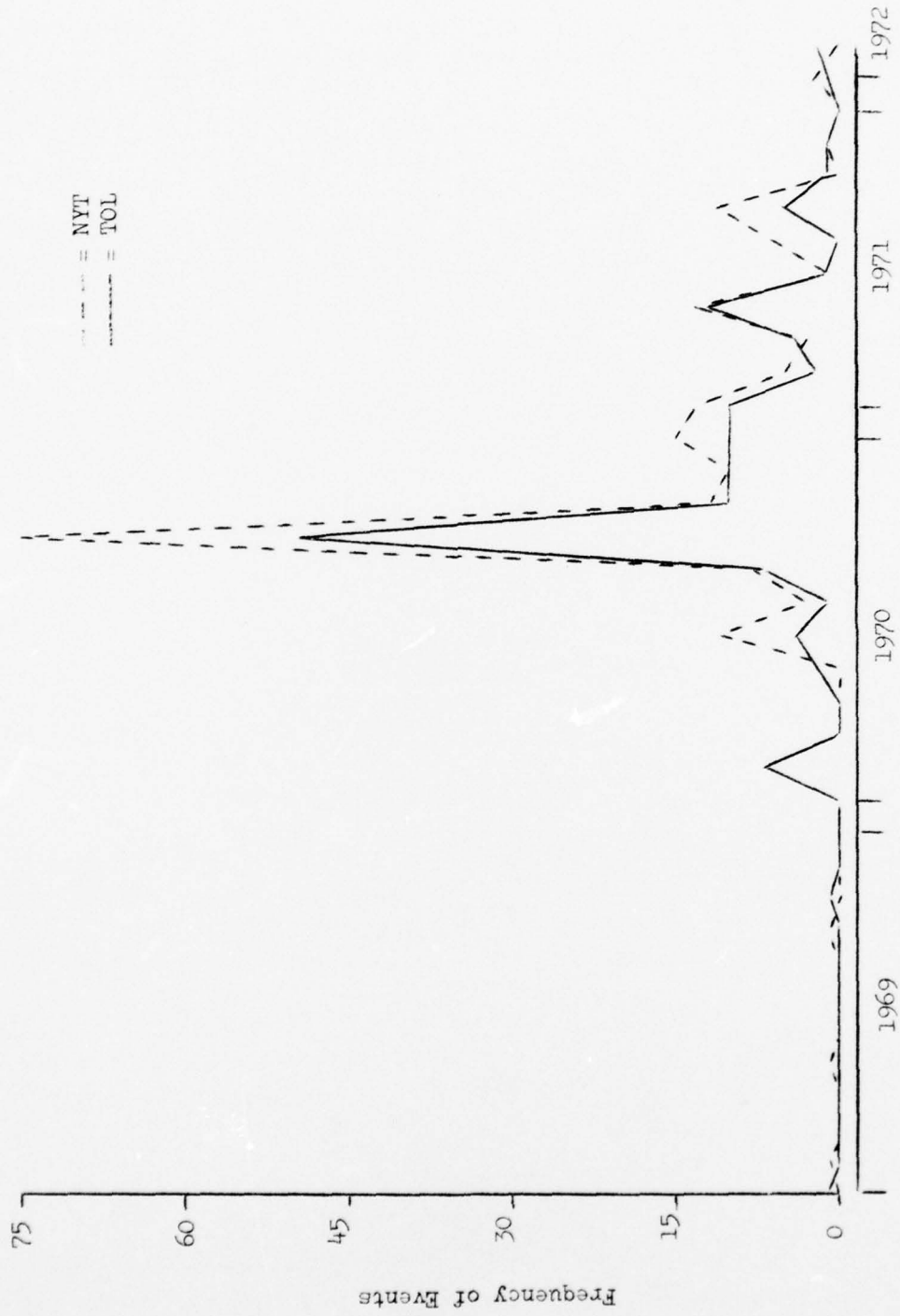


FIGURE 9 -- PLO --> JORDAN DYAD

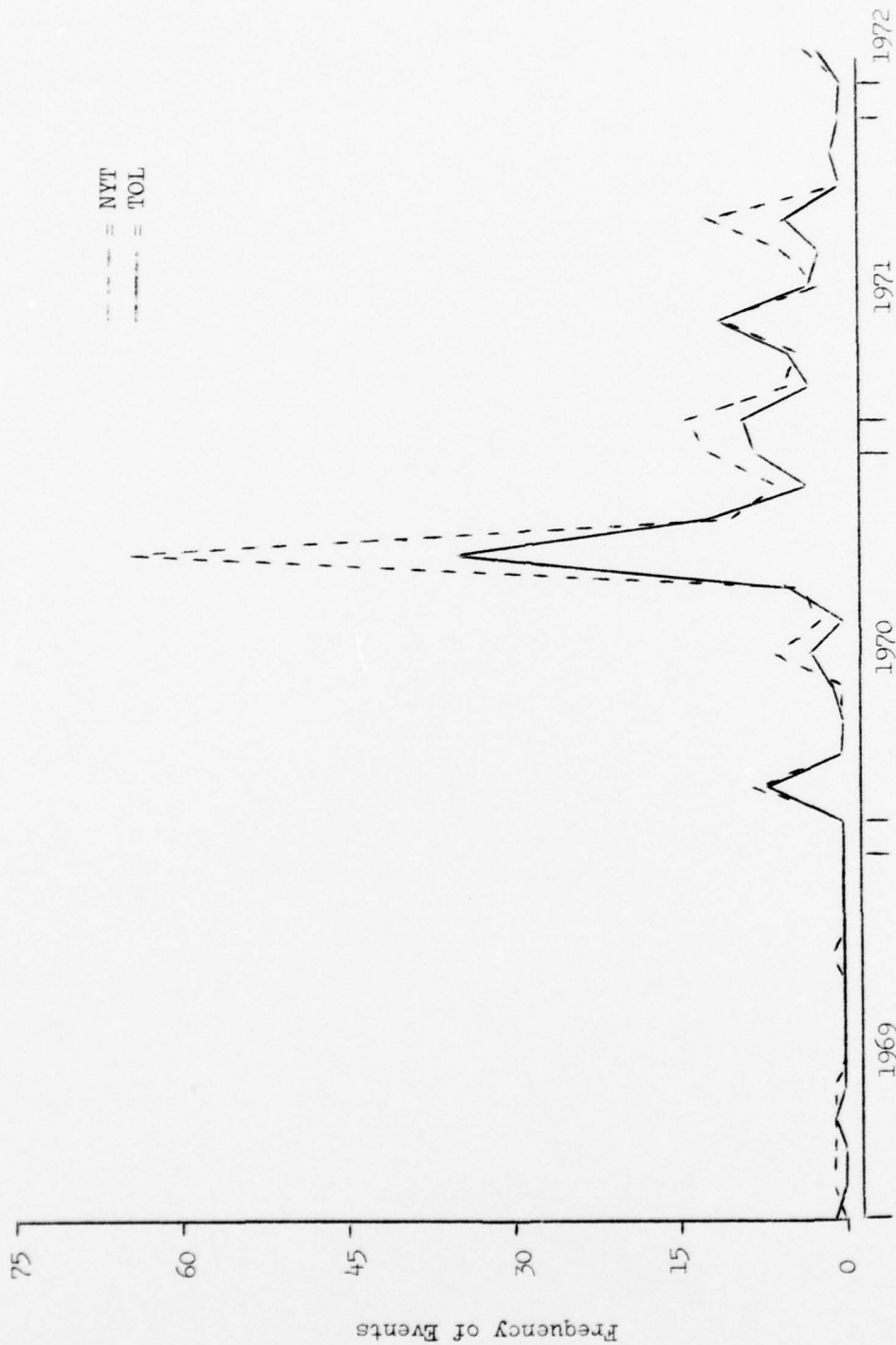


FIGURE 10 -- JORDAN --> PIO DYAD

events in many of the months where there are differences, to a greater degree than was the case with the India-Pakistan dyad. The similarity across peaks and valleys exhibited for India-Pakistan, however, is also evident for both Jordan's output to the PLO and the PLO's output to Jordan. The NYT reports many more events for the peak periods than TOL, in a similar manner as with India-Pakistan. Another case of similar reporting styles for both conflicts is the propensity for both papers to report about the same number of events for the months just preceding and following crisis periods (see the India-Pakistan dyad, Figures 4 and 5). This is interesting given the rather large reporting difference that is evident during the crisis month.

Figures 9 and 10, then, represent similar attention latitudes for both papers over the entire time period, leading to the conclusion that both reporting efforts describe similar processes. Also, the papers' accounts of the India-Pakistan dispute and the PLO-JOR conflict indicate a great deal of similarity in reporting styles, both in terms of the ratios between the number of NYT and the TOL events, and the escalatory and de-escalatory periods reported.

Table 8 presents the z-scores for PLO and Jordan output in 1970, and reveals their similarity across time. Jordanian output goes above the z-score threshold of 2.0 in the months of August and September for both papers, with the TOL having larger z-scores for the two months. The NYT reports more events, however, both during the crisis and consistently over time. This fact accounts for the large frequency and the low z-score when compared to TOL. This same situation existed, it will be recalled, for the conflict between India and Pakistan. Again, however, the ratios of both the z-scores and frequencies are about the same for the TOL and the NYT (5:1 for z-scores in September over August and a bit over 4:1 and 3:1 for the corresponding frequencies).

For PLO output to Jordan, the z-scores are a bit more varied. The NYT reporting dominates the frequency counts in seven of nine months while the TOL reveals greater z-scores in all but one month. Probably the most remarkable deviation in reporting styles occurs from May to

JORDAN OUTPUT

DATE	TOL Z-SCORE	FREQ	NYT Z-SCORE	FREQ
7008	3.58	17	2.31	30
7009	15.35	72	9.59	96

PLO GUERRILLA OUTPUT

DATE	TOL Z-SCORE	FREQ	NYT Z-SCORE	FREQ
7001	3.07	17	--	5
7002	3.56	21	2.37	24
7003	2.26	16	2.22	24
7005	2.84	20	--	4
7006	--	15	4.47	44
7008	5.69	40	4.32	50
7009	15.56	128	13.10	157

TABLE 8

June, when the NYT triples its reporting of events (14 to 44) and the TOL decreases its by 25% (20 to 15). The z-scores reflect this behavior change for both papers. July is reported as "the lull before the storm" also for both papers, followed by a rapid increase in interactions in August and the crisis in September (see Figures 9 and 10 for the interactions).

It is interesting to note that the discrepancies during selected months occur in much the same fashion as in the India-Pakistan crisis. The TOL reports an earlier "warning signal" than NYT (January 1971), and the NYT is more extensive in its coverage of peak periods (March, August and September). However, the two papers' coverage of both crises also indicates the tendency to report similar behavior trends. The relationship between z-scores reveals the existence of sudden, escalatory processes that are almost equivalent across both papers' reporting styles.

The scaled data for the PLO-JOR dyadic interactions indicate the advent of hostile behavior in 1970 and reflect the general level of intensity of that behavior during the crisis in September (Figures 11 and 12). The plots appear to fluctuate radically as was the case for the IND-PAK data, but this is again due almost exclusively to the effect single events have on the determination of the valences. Until February 1970, there were no more than five events per month directed from one nation to another, resulting in the existence of "erratic" months such as February and May, 1969.

At the height of the crisis during September 1970 both sources revealed scale values on the borderline between "hostile" and "extremely hostile." Both papers reported events for the PLO output to Jordan as being close to -2.4, with the TOL at -2.5 and the NYT at -2.35. A greater divergence is found with the reporting of Jordan output to PLO in September when the NYT reports obtain a value of -1.6 (hostile) and the TOL value is -2.6 (extremely hostile). This is an important difference and deserves further comment. One possible explanation may involve the trend toward the reporting of less hostile behavior from August to September for both sources, indicating a possible movement to both "negotiate and fight." This supports the contention that the belligerents will engage in behavior of both a cooperative and conflict nature during a crisis period. The NYT appears to report more of this less hostile behavior than does the TOL.

As a further example of what appears to be the avoidance of conflict reporting, both Figures 11 and 12 show a sharp rise for the TOL and the NYT in less hostile behavior for July. It is interesting to note that this was a period of decreased activity for both nations and that the month before, which shows up as a rather high peak in earlier Figures 9 and 10, was much more conflictful, especially as reported in the NYT. The period after the crisis of September follows a general trend toward greater hostility, more so for the NYT than the TOL.

Despite a few radical departures, the overall trend of behavior follows a similar pattern for the TOL and the NYT. The coverage of

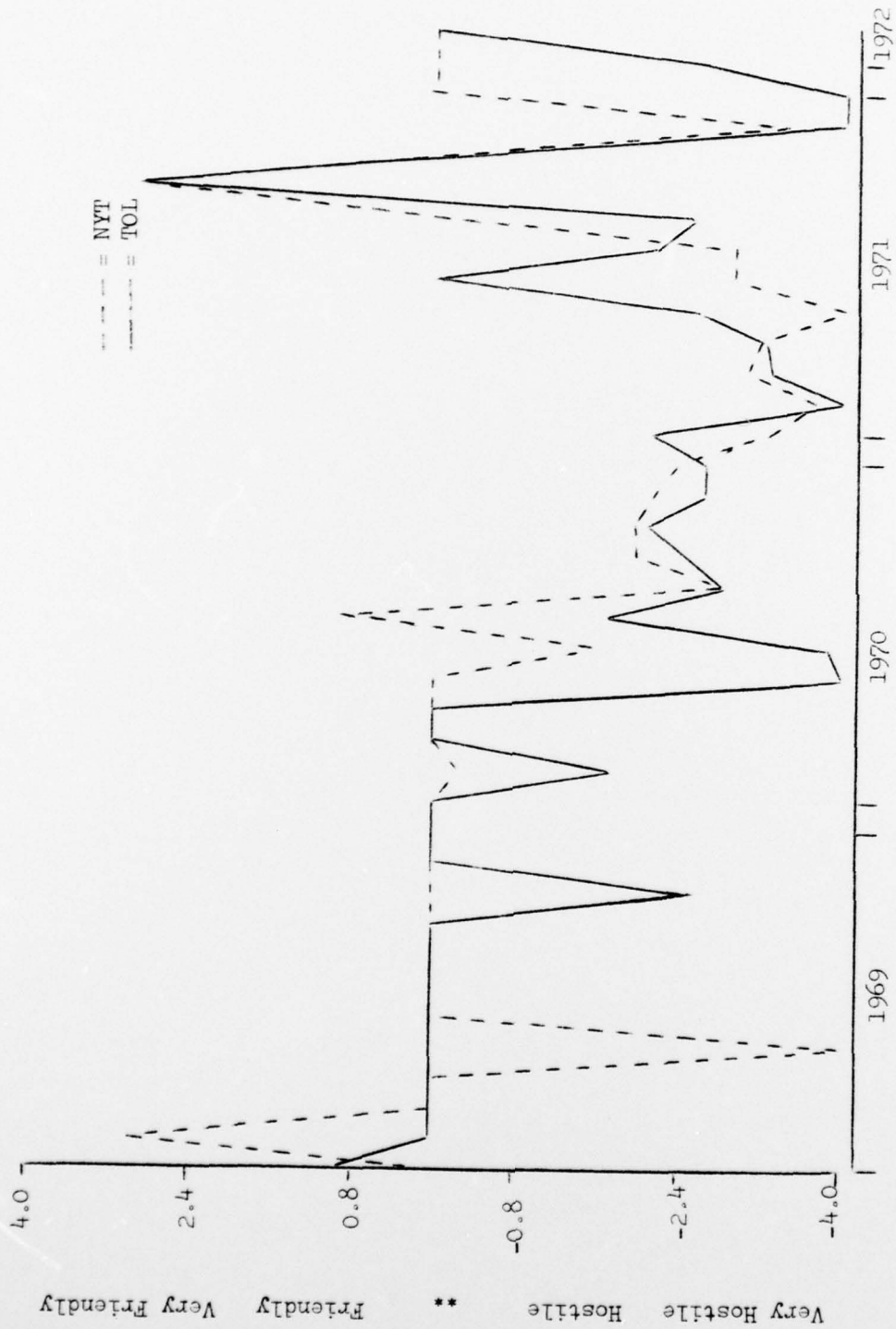


FIGURE 11 -- PLO ---> JORDAN DYAD, SCALED

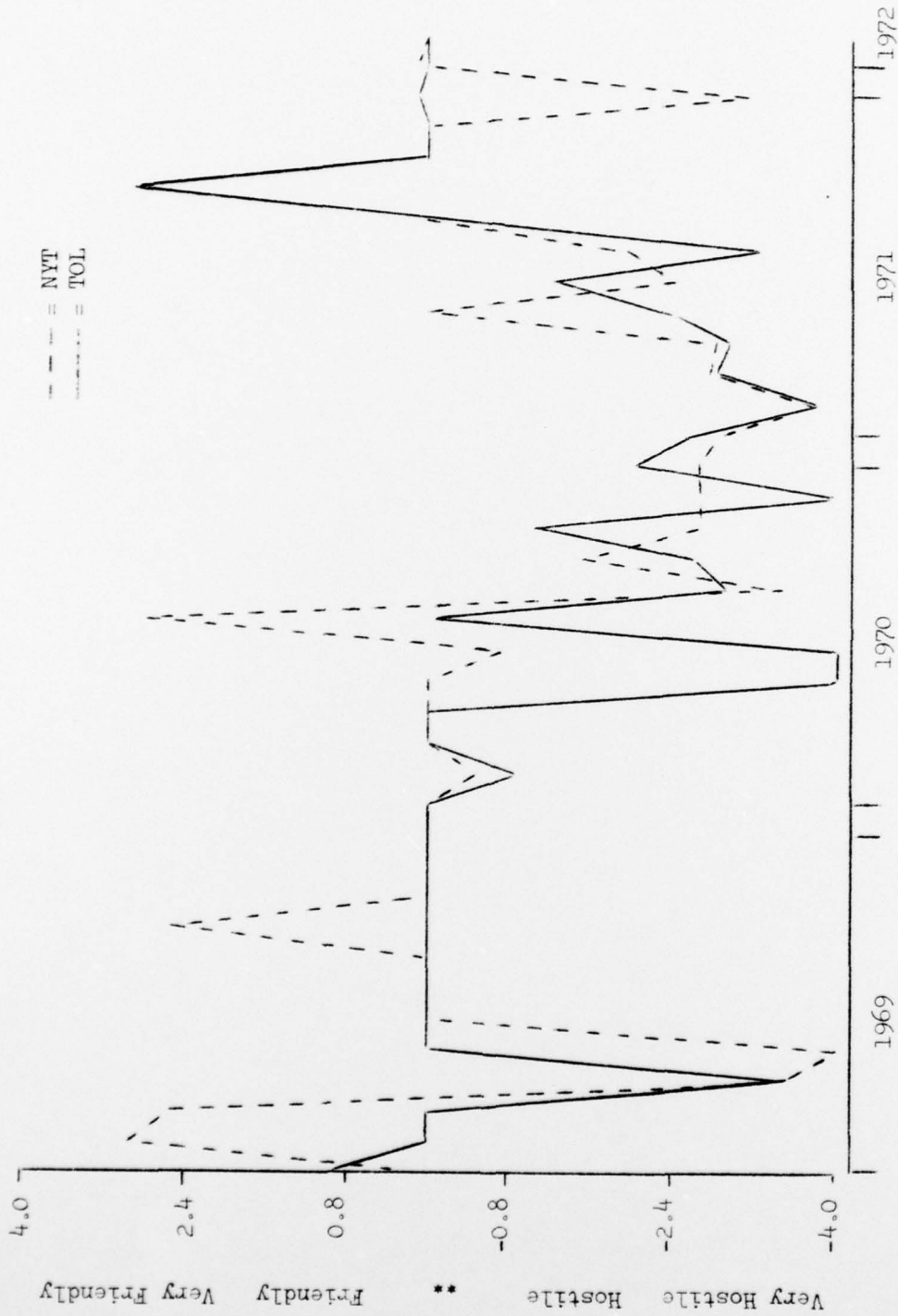


FIGURE 12 -- JORDAN ---> PLO DYAD, SCALED

the PLO's output to Jordan appears to be closer for both sources than Jordan's actions directed toward the PLO. However, for both the NYT and the TOL, the downward trend (hostile) for 1970 and the upward trend (less hostile) for 1971 is apparent in both figures.

The Middle East and Vietnam

In addition to the examination of the crises between PLO and Jordan, and India and Pakistan, two ongoing conflict arenas were chosen for analysis. The Middle East arena contains all events that involve the conflict between Israel and the Arabs excluding those pertaining to the June War of 1967, which are under a separate arena code. The Vietnam arena involves all events related to the war except military actions, the Cambodian invasion, and the Paris peace talks, which all have their own arena codes. The activity in Laos is also excluded but it does not have an arena of its own.

Figure 13 shows the NYT and the TOL coverage of the Middle East conflict from January of 1969 through February of 1972. The NYT reports more events than the TOL in every month except two--November of 1970 and January of 1971. November involved a series of visits of British dignitaries to Israel and a special concern on the part of the United Kingdom for resolution of the border problem through the United Nations. January includes a flare up of border activity with Lebanon, PLO and Israel, a visit from United Nation's mediator Jarring to the Middle East and pays particular attention to the British and French concern for a pacific settlement to the Middle East problem. In any case, the graph illustrates the almost total similarity between monthly changes for each paper. At first glance, the reporting by the TOL and the NYT appear to be almost mirror images of one another.

The large upsurge in events reported for both papers in the summer of 1970 is due to the PLO-Jordan conflict and its ramifications, as well as the cease fire in the Middle East during August. The rapid drop in interaction for the fall is countered with the concern in early 1971 for the resumption of hostilities and the renewal of PLO-Jordan confrontations. Nasser's death, as well, may have caused a "wait and

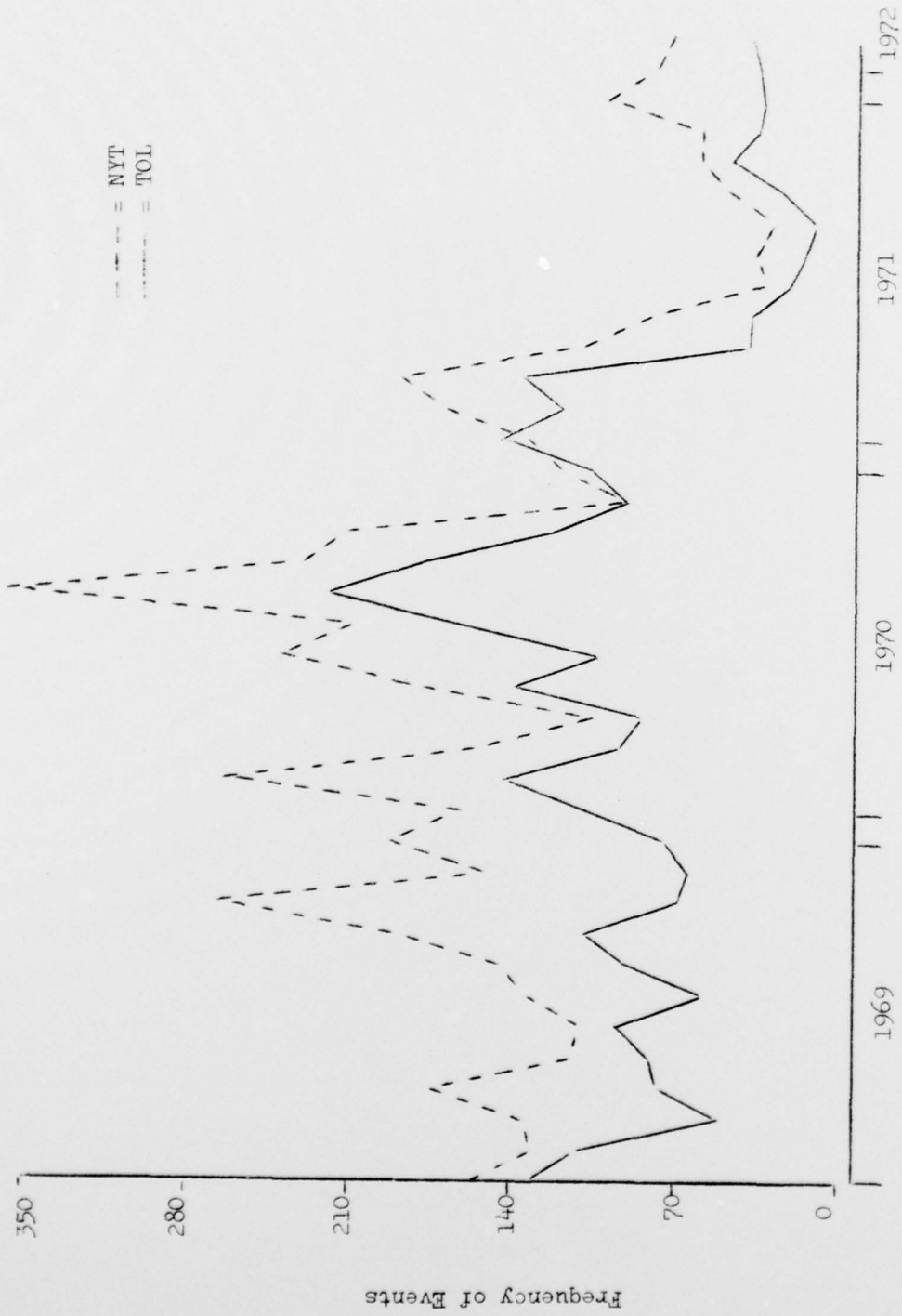


FIGURE 13 -- THE MIDDLE EAST ARENA
TOTAL NUMBER OF EVENTS

see" attitude among many countries and contributed to the lack of activity in the fall of 1970. Since early 1971 both papers report a steady decline in activity until the last few months when border tensions have been increasing and Arab demands are also on the rise.

The Vietnam arena illustrates a similar pattern for the TOL and the NYT, although not to the same extent as in the Middle East (Figure 14). This is hardly unexpected, however, since the concern for the conflict is acknowledged to lie particularly within the United States. Nevertheless, the trends over time are quite complementary, even if particular periods of Times of London reporting do not cover the events as thoroughly as the NYT. The fall of 1969 appears to be particularly obvious in this case. The months of October, November and December include large-scale demonstrations in the United States against the war. Such domestic events are not coded but they tend to elicit a great deal of comments and policy statements from the administration, in defense of their positions. One conceptual problem here, however, is that these events cannot readily be coupled to domestic criticism since the comments point to external situations. The one month in which the TOL reported more events than the NYT (November 1970) contains extensive coverage by the TOL of a meeting in Paris at which the Soviet Union and others made numerous comments about Vietnam. In addition, the TOL covered Vietcong representatives' visit to the Soviet Union and the interchange that followed. The major event of the month, however, was the United States' raid on the POW camp and that was given unusually complete coverage in the TOL.

Apart from these differences, the general pattern of the two data sources' coverage of Vietnam indicates that both report a similar trend of behavior. The reporting of the Middle East arena is more in line across both papers but this is to be expected considering the United States pre-occupation with Indochina.

Thus far, we have viewed the problem of source coverage and event data from both a gross descriptive level and the more detailed case study approach. In addition, we have discussed some of the criticisms surrounding event data and attempted to support our views through the

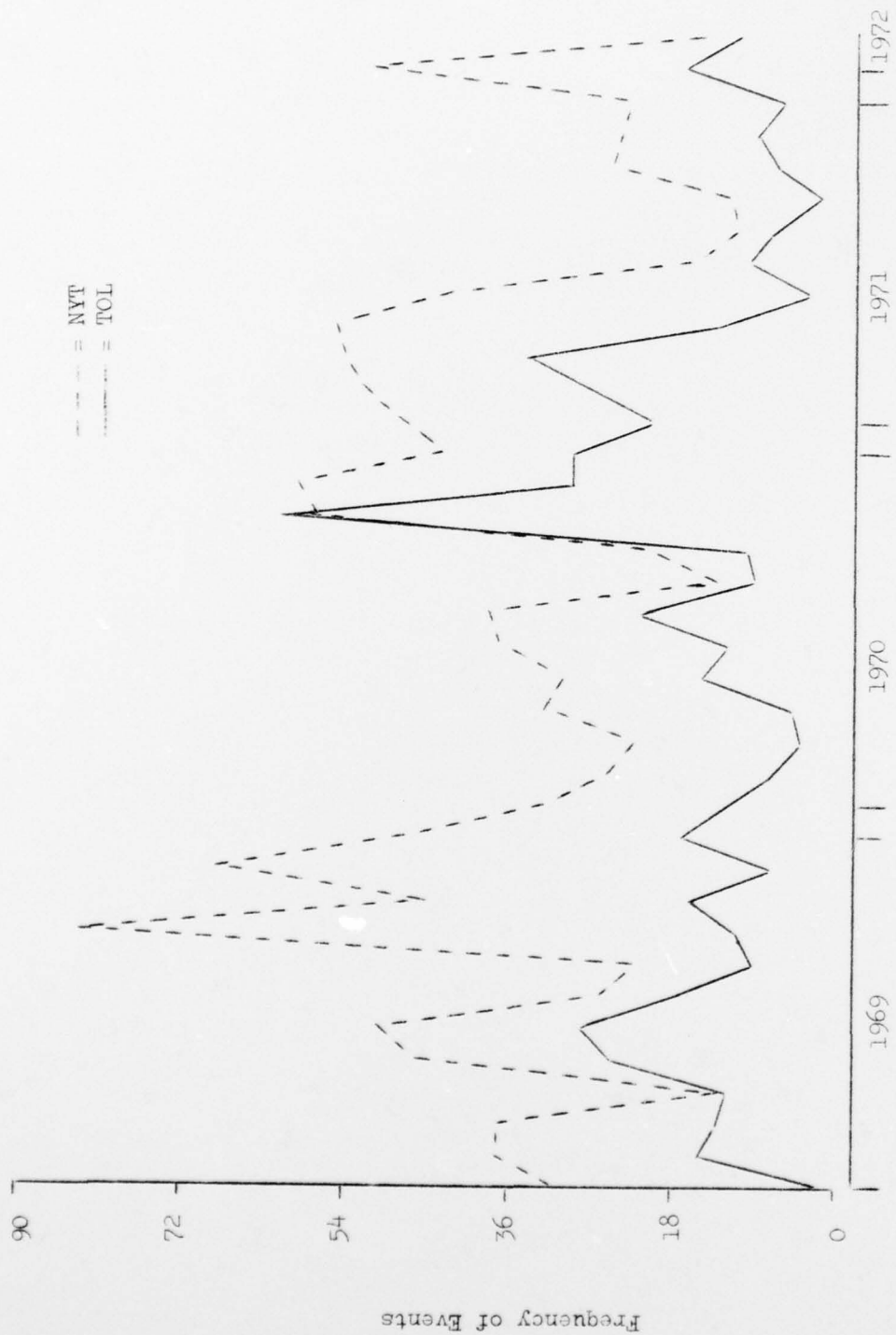


FIGURE 14 -- THE VIETNAM ARENA
TOTAL NUMBER OF EVENTS

analysis of case studies. There are, however, additional topical concerns in event analysis which at present cannot be verified empirically although they too deserve consideration. The most obvious of these concerns centers around the field of journalism and the dilemma in using newspapers as sources of "reality."

One result of increased attention to these problems was the emergence of an interdisciplinary approach combining the notions of journalism and politics. Einar Ostgaard points out that:

The news media do not often occupy the attention of those studying international relations, or even of those engaged in peace research, except when the output of the information channels is used as sources for research on topics other than the news media per se. . . . And even then the chief attention must first be focused on what can be called the negative factors: namely, those which cause the "picture of the world" as it is presented through the news media to differ from "what really happened."⁹

There is little doubt that when we venture into speculations as to the mechanics of reporting and journalism in general, we leave behind any illusions as to expertise. This is simply not within the normal range or scope of our knowledge. Familiarity, however, with much of the literature and experience in working with the newspaper as a source of data have left us with some rather vivid impressions which we feel obligated to discuss.

The first point concerns the purpose of the newspaper as a medium of information. Theories as to the nature of the press do exist and there are numerous explanations as to what responsibility a newspaper has to the public. Our concern, however, is not so much with what a newspaper is, as with what it is not. McClelland makes the point that the newspaper is not designed for the purpose of aiding event analysts. The press has broader interests in presenting the news and is less concerned with tracing the flow of events to explain conflict processes in systemic terms. This does not mean that the correspondent lacks historical or systematic insight into international

phenomena, or that the interests of the press and event analysts do not overlap. Rather, it is, for the most part, a matter of methodology, economics and psychology. If the newspaper were a scientific enterprise, research attitudes and inquiries would be quite different. Since this is not the case, the analyst must turn to the more reliable public sources available. A source that is "of the record" such as the New York Times, is an obvious choice.

This point immediately raises the issue of the difference between public and classified (or private) information. It was (and still is) argued that the most important interactions between leaders are behind the scenes and that the newspaper does not report those events. The contention is that the "real" source of information is very often classified and is only available for public consumption years later. Clearly, a more complete record of events would exist if it were not for the propensity to classify so much information. The Pentagon Papers controversy gave much-needed publicity to international relations scholars' calls for a more open and accessible information system. Despite these criticisms, and others, which are expressed concerning news distortion and faulty reporting,¹⁰ the daily newspaper is looked upon as a steady, ongoing source of events which can be used as an effective data base.

The reasons for stating this revolve around a few central points. The first harkens back to an earlier point that our interest rests in establishing indicators of interaction processes, not the entire account of behavior and exchanges. Second, one should examine the pervasive effect of some extraordinary event, be it of a local, national, foreign, or international variety. This type of event is of such a character that it commands the primary attention of the press. On the surface it would appear that it acts as a blanket on the rest of the news, but does it? It may indeed push important news off the front page, or require the economizing of space for other less important events, but it does not altogether blanket out the news. In fact this attribute may in one sense recommend the newspaper over the cables received by government agencies and bureaus. It has been pointed out that

during periods of crisis, cables are restricted to use by a few agencies and only on subjects which are related to the crisis. Daily reports from embassies are not filed during these periods, and more significantly, as the crisis wanes, the backlog is not processed. Thus, the longer a particular episode commands the exclusive attention of decision makers, the more information that is lost on the day to day events and interactions of other actors in the system. The newspaper, however, is possessed by a more generalist and competitive spirit which demands that while front page coverage will probably be focused on such crises, there remain other items of interest which will still be printed. There should be little doubt that an editor would never entertain the thought of scratching all other news in order to cover one prominent story.

In addition, the collection and coding of event records as they are received by the State Department should be regarded more as a study of foreign policy than as international relations. Hoggard points out in a recent paper the immense contrast between the data on less active countries' relations with the United States as reported by the State Department's Foreign Relations Indicators Project (FRIP) and the NYT. However, in many ways this is an improper comparison. FRIP, understandably, reports only nations' interactions with the United States and involving, in most cases, the incoming messages and telegrams. This approach cannot really be compared accurately to international interaction data since it involves the creation of a foreign policy profile and does not encompass the systemic view. Projects like FRIP, however, are useful in illustrating the wealth of incoming messages into a large polity like the United States and can be a major step forward in the analysis of the changing foreign relations between countries. But equating the two kinds of data presents a faulty impression of the objectives.

The collection of incoming and outgoing messages by the State Department is designed to present an added appreciation of the foreign policy input and output flows, particularly on a normal day-to-day basis. As mentioned earlier, this system does not work particularly

well in conflict situations or in moments of crisis when messages are rerouted to higher level decision makers or special operations centers. The use of the newspaper, as envisioned by the WEIS project, involves the collection of reported interactions between all the nations, without particular attention to any one country. In contrast to FRIP, the WEIS data is of particular interest to the study of conflict processes. There simply is not enough of the transactional or normal type of events in the event data base.

This point raises the issue of what we could call the "attention latitude" of newspapers. Perhaps by its nature, the press is attracted to events of a conflict or crisis variety. In international affairs, western press sees the reality of the world in terms of super-power interactions. Support for this notion is evidenced by noting the placement of foreign bureaus--how many newspapers have bureaus in Tierra del Fuego? Obviously the interest of the press centers around the more highly developed and industrialized centers of the world, or in conflict arenas where these nations are involved. The impression with which the average reader is left is that nations in the upper levels of the "international hierarchy" represent the only interactions which take place in the system. Certainly this is not the case; this type of reality is only the reality of the newspaper, but again our claim is not that the newspaper or the data gathered from it reflect the entire population; rather they are indicators of conflict between the actors in the system.

Conclusion

We have covered a number of issues in event analysis throughout the course of this paper. No doubt we have overlooked many points and have been too brief in the discussion of others, but we have tried to emphasize what we identify as the more critical issues that have been raised. Beyond a mere discussion, we have also attempted to anchor our thoughts with empirical tests through the use of the case studies. Obviously, more varied and complex testing is available but such was not within the purview of this paper. Rather, we attempted to engage

FOOTNOTES

1. See the following report for details of the data collection:
"World Event/Interaction Survey Handbook and Codebook, Technical Report #1", compiled and revised by Barbara Fitzsimmons, et al. University of Southern California, January 1969 (mimeo).
2. Robert Burrowes and Bert Specter, "Conflict and Cooperation Within and Among Nations: Enumerative Profiles of Syria and Jordan, and the United Arab Republic, January 1965 to May 1967," a paper presented at the Annual Meeting of the International Studies Association in Pittsburgh, Pennsylvania, April 1970.
3. Ibid., page 5.
4. Gary D. Hoggard, "Indicators of International Interaction," University of Southern California, July 1969 (mimeo).
5. Raymond F. Smith, "On the Structure of Foreign News: A Comparison of the New York Times and the Indian White Papers," Journal of Peace Research (1969,1), pp. 23-36.
6. Ibid., page 34.
7. See Ronald G. Sherwin, "The Notion of Structural Balance and the International System," World Event/Interaction Survey, Support Study #6, University of Southern California, January 1972 (mimeo).
8. See Herbert L. Calhoun, "The Measurement and Scaling of Event Data Using the Semantic Differential," paper presented to the 25th Annual Meeting of the Western Political Science Association, Albuquerque, New Mexico, April 7-10, 1971 (mimeo).
9. Einar Ostgaard, "Factors Influencing the Flow of News," Journal of Peace Research (1965, 1), p. 39.
10. See Ostgaard, op. cit., and Johan Galtung and Mari Ruge, "The Structure of Foreign News," Journal of Peace Research (1965, 1), pp. 64-91.

in some simple analyses which would either support or refute our central ideas about event data. At this point we will try to summarize what we consider as the important results of this enterprise.

The central and most important point in this study is that event data are of a consistent and comparable nature over different sources, particularly when they are of a conflict orientation. Thus, event data gathered from these two public sources of information is essentially conflict-indicator data which represent similar patterns of interaction. This observation is supported by the case studies presented. Significant similarities were found to exist in both sources as to the reporting of escalatory and de-escalatory trends. Although absolute amounts of reported events may differ, the crisis periods are clearly distinguished. To the extent that these data are capable of meeting the requirements of paradigms other than the indicator notion is not the point, nor is the point the extent to which the data reflect any "realities;" rather, the data do lead to similar research conclusions when the analyst operates within the assumptions of event data characteristics.

In light of this conclusion, we therefore revert to our earlier point and stress the need for engaging in research to test quasi-theoretical models by fitting data to those notions. Part of that data collection will be event data, but obviously more varied types of information will be needed if any consolidation of knowledge as to international affairs is to occur. This point is perhaps obvious; what is not obvious, however, is that many research efforts could be redirected away from the concerns of source validity and the building of "reality structures," into the gathering of additional types of information for the testing of conceptual notions. It cannot be overemphasized that the process of collection, coding, and management of event data does not, in itself, represent analysis. The best method of illustrating the quality of the data is to subject it to rigorous examination using the most appropriate analytic techniques.