

EXDET II

A Student-Level Experimental Simulation  
on  
Problems of Deterrence

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## Preface

This paper is the report of the second experiment in the so-called EXDET (for "experiments in deterrence") series conducted at the M.I.T. Center for International Studies in 1963-1964 for Project Michelson of the U.S. Naval Ordnance Test Station, China Lake, California. The EXDET series consists of experimental political-military games using university students--both graduates and undergraduates--with at least some formal study in international relations. These experiments are conducted in support of the political-military exercises in the current DETEX ("deterrence exercises") series also under the sponsorship of Project Michelson. This latter series involves the use of senior professional participants.

The first chapter of this report briefly describes the research problem and game design of the EXDET II experiment which took place on 18 and 19 April 1964 in offices of the Center for International Studies. Chapter II outlines the course of play and describes the experimental outcomes. The third and final chapter consists of narratives of the four separate games comprising the experiment. The appendices give statistical summaries of some of the more interesting quantifiable data.

The main responsibility and effort in the design, planning, conduct and analysis of this experimental game was that of Aaron Seidman under the general supervision of Barton Whaley. The game histories were drafted by Mr. Seidman and Joan Barth Urban, one of the members of the game's Control group. This report was drafted by Mr. Seidman and Mr. Whaley.

Lincoln P. Bloomfield  
Director, Arms Control Project



## I. INTRODUCTION

### A. THE RESEARCH PROBLEM

The student experiments in the EXDET series are primarily intended to support the more elaborate professional exercises in the concurrent DEPEX series. The latter games are role-playing simulations of international political-military crises employing expert participants, and involving problems associated with the control and use of various weapons systems of the strategic deterrent type.<sup>1</sup>

In designing the student experiments in support of the professional exercises, three options were apparent: 1) to replicate the professional exercises; 2) to control certain experimental variables identified or thought to be associated with the professional exercises; 3) to pre-test various data collection instruments to be used in the professional exercises; 4) to pre-test one or more of the techniques used in the professional exercises such as communications procedures or scenario design, or 5) some combination of these. This last option was selected, fully recognizing that to do so would jeopardize certain of the other possible options and render still others impossible of achievement.

The basic decision which set the controlling limits was that the student game would hew fairly closely to the role-playing, multiple-team format of the professional exercises. The reason for this decision was that by preserving this format we would be able to use the student games to systematically

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For a general description of the technique employed in the Center's professional crisis-gaming exercises see Lincoln P. Bloomfield and Barton Whaley, The Political-Military Exercise: A Progress Report (Cambridge, Mass.: Center for International Studies, M.I.T. 16 August 1963, multilithed).

pre-test the several questionnaires (pre-game, intra-game and post-game) and communications blanks ("Standard Message Forms" and "Strategy and Contingency Papers") then being considered for introduction in the professional exercises. Furthermore, by adhering to the general format of the DETEX series it was possible to employ either a previously used scenario, or one under consideration for future use in a DETEX exercise.

## B. GAME DESIGN AND INNOVATIONS

Within the constraints mentioned in the previous section, it was possible to design EODET II as a variant of the earlier senior DETEX II game, by isolating and simplifying the major types of problems present in that latter exercise. In this broad sense, then, both games involved these common features: 1) a naval problem, 2) a deterrent weapon system, and 3) communications problems in 4) a crisis, together with 5) an initial situation which would tend to make the participants consider arms control measures.

In briefly describing the techniques used in this game it can be readily seen which features represented technical innovations.

### 1. Scenario and Pre-programmed Event Inputs

Prior to the game, all participants received the usual general briefing on the rules of the game and on certain background papers. These background papers covered details of the Polaris weapons system, Polaris communications, and the Hot-Line. This set of data papers were inconsequentially edited versions of those used in the DETEX II exercise. The general world environment was specified to be as reported in The New York Times through 17 April 1964, i.e., the day before play began.



An entirely new scenario was developed that, while preserving the five broad topical categories specified in the previous section, was quite different in its specific details. In essence, it merely informed the teams of a sequence of developments concerning the disappearance--under deliberately uncertain circumstances--of first one, and later a second U.S. Polaris submarine (SSBN). (Details are given in the game histories).

The scenario itself involved a number of the planned innovations. For example, the most immediately apparent of these was the fact that the scenario was not the usual narrative that simultaneously describes a general future international political and military environment and presents a detailed account of a highly specific incipient or developing crisis. Rather it consisted entirely of a series of separate messages. These were issued to the participants on Standard Message Forms only after play had begun rather than prior to play as in all previous games. They comprised two messages to the U.S. team, one to the Soviet team, and one to both. These informed the teams that the SSBN Nathan Hale was missing in the Barents Sea. The U.S. team was told by the Chief of Naval Operations (CNO) that, although it was probably a Thresher-type accident, they should not rule out a covert Soviet effort to degrade the U.S. sea-based Polaris' deterrent. On the other hand, the Soviets knew it was not a Soviet attack, since they did not have Hale tracked. Therefore, the Soviets were not even necessarily aware of a crisis.

The second major departure from previous DETEX and EXDET games was that all or nearly all essential messages from Control were pre-programmed for the first two move periods, that is, those dealing with U.S.-fleet communications and Soviet-fleet communications, as well as a fair amount of traffic between the teams and the "UN", "China", "NATO", and other political entities simulated by Control.

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<sup>1</sup>This pre-programming technique was used again in the subsequent DETEX III exercise.

Move Period B sought to heighten the crisis by telling the U.S. team that the Ethan Allen, a second SSBN--one of two SSBNs known to be tracked by the Soviets--was missing. This, too, was a key pre-programmed move. The Soviets were to be allowed by Control to drift in complacent ignorance unless they had already decided in Move Period A to pre-empt Control by deliberately initiating attrition of the Polaris fleet, or the U.S. had chosen to inform the Soviets of their knowledge and speculations; Control would not leak any of this information.

Throughout the game, Control also exercised a largely pre-programmed manipulation of all U.S. and Soviet communications to their own navies in order to frustrate team efforts to achieve complete tactical knowledge and mutual understanding. This was carried out along lines which had been considered but, in fact, had not been used in DETEX II because of the overriding focus in that game on policy development.

## 2. Simultaneous Games

On the assumption that the pre-programmed events to be introduced by Control at pre-selected moments in the game would, in fact, free Control from much of its time-consuming task of improvisation, it was decided that as an experiment Control would play more than one game simultaneously for purposes of cross-checking performance and responses by means of simple replication. The scheme used was for Control to play against two pairs of U.S.-Soviet teams on the first day, and to repeat this the following day against two other pairs of U.S.-Soviet teams.

A series of questionnaires was administered to all participants in an effort to obtain data on various social-psychological variables. One of these, adapted from a questionnaire developed by Philip A. Beach (for Northwestern University's Inter-Nation Simulation) was used to assign members of the various teams. They were scaled on the basis of their responses to questions A, B, C, D and F (see Appendix B) and distributed in such a way as to make each team as

homogeneous as possible. Where feasible, the highest or lowest scoring member was made team chairman.

On the first day of play, the pairs of teams were matched and on the second day they were cross-matched. The expectation was that those teams composed of members who shared one view of the manner in which nations interacted would, because of greater difficulties in mutual understanding, tend to escalate faster and further toward overt hostilities when pitted against a team whose members shared a markedly different view, than when opposed by a team holding similar views to themselves.

Given the fact that the identical Control group, identical scenario, and identical pre-programming of moves were used, this permitted an only moderate deviation from the requirements of rigorous experimental replication.

### 3. Continuous Play

As in the previous experimental game, EXDET I, this game involved the use of continuous play with Control functioning in the same real-world time as the teams, in contrast to the senior DETEX series in which Control's portion of any given Move Period preceded that of the teams. This approach, which had proved rather chaotic in the EXDET I attempt, was retried on the grounds that the present game's pre-programming of much of Control's output would free Control sufficiently to supply immediate responses to the teams.

Furthermore, the schedule called for the first two move periods to proceed without jump from S + 0 hours through S + 3 hours. It was planned that Move Period C would jump nine hours ahead to S + 12 hours, and D jump the same interval to S + 22 hours.

### 4. Hot-Line

Following up the successful innovation in DETEX II of making available simulated Hot-Line procedures (expedited Standard Message Forms which the teams flagged for direct and immediate communication between the U.S. and

Soviet leaders ), it was decided that part of the pre-programming of the game would involve alternately opening and closing this unique channel of communications. The procedure adopted was to start play with the Hot-Line open and continue until Move Period C during which it was cut, to be restored in Move Period C and kept open thereafter. The purpose of this manipulation was to investigate the effect on decision-making in crisis of the presence or absence of rapid and direct communications.

5. Organization of the Control Group and Teams

The Control Group for EXDET II consisted of a Game Director and four members. The Game Director was responsible for supplying the pre-programmed game inputs from Control. The members of Control alternated as a committee under the Game Director to discuss and decide matters of common policy, and as two two-man sub-groups, each with the primary responsibility of monitoring and responding to one of the two concurrently-playing pairs of teams. Specifically, one of these Control sub-groups monitored the Blue-Pink game on Saturday as well as the Blue-Pink game on Sunday while the other sub-group monitored the two Green-Salmon games, one on Saturday, the other on Sunday.

As indicated above, the game involved four pairs of teams. Each team was assigned three members: a Chairman, a Secretary of Defense (or Defense Minister), and a Secretary of State (or Foreign Minister). As in the DETEX games, they were instructed to simulate the senior policy-making echelon of the states to which they were assigned.

The entire operation was supported by an Executive Secretary who managed the Message Center and the two messengers and two typists assigned to it, (one messenger and one typist covering only the Blue-Pink game and the others the Green-Salmon game on any one day, to compartmentalize the two concurrent games and prevent any passage of messages between them.)

## II. FINDINGS AND RECOMMENDATIONS

### Briefing Materials

Briefing materials, which were the same as those provided the professional participants in DETEX II, turned out not to prove completely adequate for a student game, as the student players were found to lack the familiarity with much of the terminology and governmental lines of command that were assumed in the professional exercise. While there is nothing difficult and complex about this aspect of the game there is no point in wasting game time while the players try to decipher a message from Control. The addition of a kit of government charts and perhaps a glossary to the usual briefing materials might be useful in facilitating play involving non-professionals.

### Questionnaires

The attempt to use the Beach-based questionnaire as a basis for membership distribution proved to be of limited value. The Cambridge, Massachusetts, graduate students did not respond in the same way as the Evanston, Illinois high school students who served for the development of the Beach version. While no clearcut correlations were observed between questions, there was one set of answers (A2, C4, D5, and F5) which did seem to show a high degree of positive correlation and which appeared to correlate negatively with answers B2 and C5. All of the questionnaires were scored against this pattern and scaled, and members were then assigned to teams in such a way as to get high-scoring and low-scoring teams. Unfortunately, a more detailed examination suggests that there is no significant correlation between the questions. The main conclusion to be drawn from the use of the Beach questionnaire seems to be that it may have some answers

which are selected more frequently than others, but that for graduate students and college seniors in political science there is not a very impressive correlation between answers given by any one individual.

Other questionnaires were directed at various attitudinal and relational aspects of the game situation. The EXDET exercise provided an opportunity for the collection of considerable data peripheral to the major objectives of the game, but nevertheless of potential value. Since the participants were paid subjects they were quite willing to comply with all requests for information; observations of game behavior and study of the game histories indicate no disruptive effects resulting from the use of these data collection instruments.

#### Comparability of Games

All four games had Soviet offers of help at some point and U.S. SAC alerts at one stage or another. U.S. teams generated considerably more messages and in general the pattern of messages seemed to shift from inquiries to military hardware moves as the game progressed (i.e., for the U.S. there seemed to be more emphasis on hardware in all the games, although the Soviets tended to emphasize propaganda). The similarities in play and outcomes suggest that the structure of the game (or, possibly, some unknown Control bias) was much more important than the differences in their beliefs about the nature of international relations that were built into the teams. It is also worth noting that both Pink-Blue games were broadly similar as were both Green-Salmon games. As each of these pairs was as previously noted monitored by a separate pair of Control members, this suggests that the most important single factor affecting the variability among the games was the unconsciously different biases introduced by these Control members.

### Scenario and Pre-programming

The innovation in the scenario was a marked success. The use of a game scenario which can use the current real world as general background--e.g., telling the players that the international environment is the current issue of The New York Times--and introduce them to the game's political-military crisis situation solely by means of incoming messages from Control, was demonstrated to be clearly feasible, at least for the specific type of scenario used in this particular game.

### Simultaneous Games

EXDEF II was only partially successful in providing a situation for experimental replication. The predetermined inputs of Control messages and Hot-Line manipulation were achieved without difficulty. However, Control failed to provide complete replication of its own inputs in two ways. First, coordination between the two sub-groups in Control was far from complete, because the number of messages from teams requiring individual responses from Control was greater than anticipated and consequently took away from the time available to Control for closer coordination among the separate games necessary to insure full replication. Second, the ubiquitous learning process was--as the Control members conceded after the game--working to produce differences in Control responses as between the two separate days of play, that is, the Control members acquired certain knowledge and experience from the first set of games which produced differences in their approach to the replays.

### Continuous Play

The planned advances of game-time worked successfully. One feature which distinguishes this game from the previous one was that only one day of game-time was covered. Furthermore, the first two move periods were played in real (i.e., clock) time, advancing only with "time-out" for coffee from S + 0 hours to S + 3 hours. Move Periods C and D each jumped nine hours, so that Move Period D began at S + 22 hours. However there was a general post-game consensus that participants tended to have pressed events to fruition somewhat faster than might be realistic in less than a day.

### Hot-Line

The innovation in this game of having the Hot-Line break at some point in mid-game proved interesting. From observation of the teams, from the desperate queries they sent to their communications centers (simulated, of course, by Control), and from the ready admissions of the participants in the post-game critique session, it was abundantly clear that the unexpected loss of a hitherto depended-on channel of communications led to both deep frustration and, indeed, certain panic symptoms on the part of the team decision-makers. What is not known is what effect this frustration or near panic may have had on the further course of play. To determine the nature and extent of such an effect, if any, it would be necessary to replicate a number of games, some of which involved breaking of the Hot-Line while others allowed the Hot-Line to remain open.



### Organization of the Control Group and Teams

In general the size and organization of the two types of groups-- Control and teams--was appropriate to the type of scenario-problem used. However, the key to the relatively effective performance of Control was the fact that the pre-programmed decisions and messages did, in fact, sufficiently free Control from attending to these otherwise time-consuming duties to enable it to cope with the special events and queries generated by the teams without having either a larger Control Group or requiring those frequent or lengthy time-out periods required to maintain step with the teams that have characterized the previous professional exercises.

### Conclusion

This type of gaming appears to be valuable for certain purposes. As an educational experience, it makes a strong impact on the participants who seem to identify quite closely with their assigned role. It is potentially valuable in the design of games to be used in policy research, for even if their own policy contributions are negligible, students can help to pretest the scenarios and questionnaires intended for professional exercises.

As far as gaming research is concerned, however, it must be conceded that the present game has severe limitations. The most probable returns of any significant value would come from a detailed content analysis, and thought should be given to the possibility of encoding each message's essential characteristics on a punched card and analyzing the four EXDET II games in terms of

content frequency. Some such attempt has been made already and this is summarized in the game histories, but the next step would require considerably more time than anything so far attempted.

In further research on gaming qua gaming, as a partial attempt to isolate social from psychological variables consideration should be given to the idea of having one-man teams.<sup>1</sup> Further, in order to eliminate Control bias, the games should attempt to cover an even more limited segment of the research problem. It seems reasonable to expect that if a game were limited to a single move period, it should be possible to program all control moves beforehand. Probably the best way to construct such a research game would be to try it out serially on about six or eight individuals, modifying it between each game as required, and only then experiment with a small group of two or three persons. Once the game has been "de-bugged" and has begun to present evidence of revealing something about the psychological variables involved in gaming, it becomes relatively simple to test a large number of people and obtain a sufficiently large sample to be of statistical significance. In our opinion a better understanding of the psychology of the individual in gaming is fundamental to the understanding of the behavior of decision-making groups.

#### A. HIGHLIGHTS OF TEAM PLAY

The EXDET II experiment was conducted over a two-day weekend, 18 and 19 April 1964 on the premises of the M.I.T. Center for International Studies.

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<sup>1</sup>See also EXDET III, A Student-Level Experimental Simulation on Problems of Deterrence, pp. 13-16.

On Saturday, two pairs of three-man teams simultaneously played against Control for 4 move periods. On Sunday two other pairs of teams replayed the same game.

The scenario centered around 1) submarines carrying 2) Polaris missiles which failed to 3) make scheduled contact with their bases at a time when technical difficulties rendered the Hot-Line undependable and 4) neither side could account for the "disappearance" of the submarines.

Briefly, the game scenario involved the failure of the U.S. Polaris submarine, SSEN Nathan Hale, to return to its base at Holy Loch as scheduled on S minus 24 days and the inability of the U.S. or USSR to obtain any explanation of why it was missing.

The following additional conditions were--by design--imposed in all four games. Move Period A lasted  $1\frac{1}{2}$  hours and was intended as an opportunity for both teams to acquire information. B started at S +  $1\frac{1}{2}$  hours and lasted till S + 3 hours. At the beginning of Period B the U.S. was informed that a second nuclear-power Polaris sub, the SSEN Ethan Allen, had apparently disappeared en route from Puget Sound to the South China Sea and that there was some evidence that the USSR and possibly the Chinese had been tracking the vessel. Move Period C began with a breakdown of the Hot-Line and the leaking of the Allen news to the Soviets. It represented a jump in time to S + 12 hours and lasted for a little over an hour. Move Period D (S + 22 hours to S + 23) opened with re-establishment of Hot-Line communications.

While there was nothing that could be identified as a "solution" in any of the games, each tended to involve considerable maneuver, with both sides seeking ways to back off without exposing themselves to extreme danger.

1. Comparison of the Two Blue-Pink Team Games

The strategic estimations by the U.S. teams in both games were rather similar. Both U.S. teams strongly suspected the USSR of sinking the Hale and Allen in Period B, although in Move Period C this assumption was already questioned by the Saturday U.S. team and in Period D by Sunday U.S. as well. Both Soviet teams were essentially on the defensive. They were unsure of what was taking place; nevertheless, they wanted simultaneously to avoid military escalation of the conflict and to win a propaganda advantage. However, the tactical similarities between the two games were fairly limited. In both games the USSR offered to aid the U.S. in its search efforts; it also tried to undermine the prestige of the Polaris system vis-a-vis world-wide public opinion. Both U.S. teams considered utilizing the submarine crisis to further U.S. national interests in Cuba.

In general, the major contrast between the two games can be summarized as follows: The Saturday antagonists were more militant in terms of "hard-ware" yet more conciliatory in their communications; the end result was an agreement to establish a joint U.S.- Soviet search effort under UN auspices. Conversely, the Sunday antagonists made fewer and less dramatic military moves while indulging in rocket-rattling verbal communications; the outcome was an impasse.

More specifically, in Saturday's game the U.S. called for a SAC alert and strategic maneuvers as early as Move Period A, a maximum alert with intensive tracking of Soviet subs for possible selective sinking in Period B, and CIA-instigated sabotage in Cuba, military reinforcement of Berlin, and civil defense

preparations at home in Period C. The Soviets meanwhile devised a detailed strategic deployment plan (complete with map) in Period A and went on 100 per cent alert status by Period C, albeit as defensive measures in both cases. On the other hand, in Period A the U.S. already speculated on possible recourse to the UN and proposed such a step in Period B, incorporating thereby the Soviet suggestion of joint search efforts. More importantly, the U.S.-Soviet diplomatic and Hot-Line communications were largely utilized for conciliatory proposals and declarations of peaceful intentions.

In Sunday's game the USSR went on a precautionary alert in Period A, whereas the U.S. assumed a partial alert status only in Period B and a maximum alert in Period C. Aside from weighing the possibility of knocking out Cuban missile sites, there was little U.S. consideration of retaliatory or diversionary measures such as occurred in Saturday's game. On the other hand, the hostile, threatening tone of the U.S. President's letter in Period C infected the subsequent Hot-Line messages: the verbal aggressiveness of the first U.S. overture left little room for "peace-mongering" on the Soviet side. But in any case, the tactics of the Sunday Soviet team were somewhat incoherent. It wished at all costs to dampen the crisis and ward off a U.S. provocation; yet it unwittingly exacerbated the situation with its intensified tracking of U.S. subs as well as with its Zanzibar move and submarine surfacing proposal.

The timing of recourse to the Hot-Line in each game bears out the above pattern. In Saturday's game the Hot-Line was first used by the USSR in Period B in order to offer assistance in the search for Hale. The U.S. replied via the Hot-Line in the same period with its UN proposal. However, in Sunday's game the use of the Hot-Line was not contemplated until Period C; in Period D it was in constant use but to no avail.

As for the technical operations of the games, the major activity occurred in the last two periods in both games. In the first two periods, the Saturday U.S. team was the most active while the Saturday Soviet team was the least active; the Sunday teams fell in between. Control was more active Sunday than Saturday, injecting more substantive items.

## 2. Comparison of the Two Green-Salmon Team Games

There are certain obvious similarities between the two Green-Salmon games: no team regarded the disappearance of the SSBN Nathan Hale as anything but an accident, although this was not necessarily their publicly stated assessment; both U.S. teams responded to threat situations by pairing submarines and by declaring SAC alerts; both Soviet teams seemed to regard military hardware as their weakest point and propaganda and diplomatic moves as the sectors of their greatest opportunity to benefit from the crisis.

Typically, it was the U.S. teams which showed most activity in the first period, and this activity included a considerable amount of search for further information. The Soviet teams generally took the position that they would offer to help search for the submarine(s); and the U.S. took this with mixed feelings, being unsure of how much was simply cover for spying.

The Saturday U.S. team was most suspicious of all Soviet moves, and yet it was the Saturday Soviet team that seemed to play the more open game. On Sunday the U.S. team behaved in a relatively much more trusting manner, while the Sunday Soviets played a bold and deceptive strategy compared to their Saturday counterparts.

### III. GAME HISTORIES

#### A. BLUE-PINK (SATURDAY) GAME

During the course of this game each team was uncertain of the intentions of the other. Accordingly, both assumed a defensive posture of maximum alert, while communicating their peaceful intentions directly to the other side and also calling for an emergency session of the UN Security Council. On the level of politico-strategic moves, the U.S. prepared for possible action in Cuba and Berlin and attempted (via France) to offer support to Communist China in case of any heightened Sino-Soviet tension. The USSR tried to implicate France in the SSBN Hale disaster as a means of breaking up NATO. Both sides resorted to appeals to world public opinion.

During A and B Move Periods, the USSR was rather inactive, allegedly due to the lack both of information and of interaction with the U.S. team and Control. Its only moves were to order a selective stand-by alert and to send a Hot-Line as well as a diplomatic message to the U.S. offering assistance in the search for Hale and requesting the technical information necessary for such a search. Meanwhile, the Soviets learned of the increased SAC alert.

The U.S., on the other hand, was active from the outset, although in period A it dealt primarily with internal communications. It intensified the search for Hale, activated unassigned Polaris subs, directed the Minuteman force to cover Hale's strategic targets, increased its SAC and general defense alert, cancelled leaves, and sought intelligence reports on Soviet actions. In period B it ordered all-out efforts to locate the SSBN Allen while calling for a maximum alert, including both increased tracking and stand-by readiness to knock out Soviet subs and reconnaissance flights to check

Soviet ASW bases and sub traffic under the guise of search efforts for Hale. Following receipt of the Soviet Hot-Line message, the U.S. requested an emergency meeting of the UN Security Council to consider the loss of the two U.S. subs and to sponsor an international search team including Soviet representation. It suggested the same in a Hot-Line message to the USSR. Meanwhile, a U.S. diplomatic note had been dispatched which requested Soviet aid in search and clarification of the losses but also warned of the U.S. "superior submarine attack force." The U.S. also asked France to indicate to the Chinese that the U.S. would support any "show of force on the Soviet-Chinese border."

In Period C Control called a Security Council meeting for one hour after the beginning of Period D. The USSR now became active. Regarding the Allen, it attempted to contact its own nuclear attack-sub H-12. Upon learning of the U.S. reconnaissance flights, sub tracking and military readiness, it moved to full general alert. However, it cautioned its forces not to interfere with U.S. search planes close to Soviet air space. Meanwhile, the USSR repeated its request to the U.S. for technical information on Hale and Allen to aid in their search and sent a diplomatic note which expressed Soviet apprehension of U.S. intentions --in view of the U.S. reference to its "superior submarine attack force"--and declared its concern for peace as well as its noninvolvement in the disappearance of the subs. It dispatched a message to its UN delegate for the next day's Security Council meeting. It also sent a Hot-Line message to the U.S.--carried by the world press in Period D--deploring the growing danger of nuclear conflagration and calling for a mutual return to the state of military readiness of April 16th and a joint non-military search for the missing subs. On the other hand, wishing to exploit the propaganda value of the incident, the USSR issued a press release



on the suspicious nature of the U.S. sub "losses" and military maneuvers close to the USSR, sent an urgent message to the U.S. declaring the disappearances of the subs a U.S. provocation, and planted a press story in the West alleging a collision between the Hale and the French nuclear sub Surcouf.

During the same Move Period, the U.S. received the Soviet diplomatic note of Period B, expressing concern and non-involvement in the Hale incident and sent the Soviets a diplomatic note declaring its concern to avoid war at all costs and its desire to keep communications with the USSR open. But the U.S. also ordered CIA to manufacture Cuban hostility at Guantanamo and to create civil disturbances in Berlin, dispatched three tank companies to Berlin via the Autobahn, and called for increased Civil Defense readiness.

In Period D, the world's press (i.e., Control) announced France's denial of Surcouf involvement, the appearance of the Massachusetts Governor at a state Civil Defense center, sabotage at Guantanamo, demonstrations in Berlin, and Communist Chinese assertions of solidarity with the USSR in the face of the latest U.S. imperialist provocation. The U.S. received the Soviet Hot-Line messages of the previous period and replied via the Hot-Line, concurring that the world situation was indeed critical and emphasizing that the U.S. military stance was purely defensive in reaction to the mysterious loss of two subs. Meanwhile, the Soviets planted press reports in the West about the unreliability of the U.S. Polaris system. They exerted all efforts to contact their H-12. They also ordered the closing of the Autobahn on the pretext of shutting down the Elbe River Bridge for repairs in this case and issued a press release that the U.S. reinforcement of Berlin was an unnecessary provocation.

At the end of Move Period D, the Soviet message was read at the Security Council. They disclaimed any responsibility for the loss of the U.S. submarines, requested UN supervision of a joint U.S.- Soviet search effort, expressed concern for U.S. fleet maneuvers and possible French intervention, and reemphasized their peaceful intentions. The U.S. then ordered a press release which stated that its advanced military readiness would be maintained pending further investigation and included the message of the U.S. delegate to the Security Council meeting. The U.S. Delegate presented a detailed report of the whole sub incident, including the facts that Soviet ASW's were out of port at the time of the incident and that a Soviet sub had been located in early March very close to the anticipated position of the Allen. Finally, the U.S. agreed to a joint non-military investigation regarding the subs. (It also expressed concern over a Control-injected report of Chinese bracketing of a Polaris sub).

As for the strategic assumptions or estimations underlying the foregoing actions, the Soviet team remained essentially on the defensive. In Period B they felt so uncertain of what was going on that they even speculated on the possibility of their own responsibility for the disappearance of Hale due to "individual irresponsibility on a low level." Hence their proposal for joint U.S.- Soviet search efforts. Their concluding estimate was that the U.S. was trying to resolve the crisis through "rocket-rattling" and "position of strength" politics. The Soviets, on the other hand tried to exploit the situation for its inherent propaganda value by stressing the unreliability of the Polaris subs, the provocative stance of the U.S., etc.

Initially, the U.S. team also was uncertain of the cause of the Hale's disappearance. Yet it expected the loss of a second sub and was prepared to go to the UN should this occur. With the news of the Allen's disappearance, the U.S. became certain that the USSR was "trying to knock out the Polaris force one by one" and considered retaliating either directly against Soviet subs or with a limited counterforce first-strike (unspecified). By Period C the U.S. was again considering the possibility of a series of accidents. In any case, they decided to take measures for the overthrow of Castro if given a sufficient propaganda opening by the loss of the subs. Meanwhile, their general approach was to maintain the status quo, for fear of starting war as a kind of "self-fulfilling prophesy," but to destroy two Soviet subs should there be good evidence that either Hale or Allen was sunk by the USSR.

## B. BLUE-PINK (SUNDAY) GAME

In this game the U.S. team became fairly convinced in Periods B and C that Hale and Allen were sunk by the USSR. This led to a maximum alert and "aggressive diplomatic representations" which, in turn, induced Soviet speculation that the disappearances of the two subs were merely U.S. provocations in order to wrest political concessions from the Soviet Union. The USSR remained throughout the game unsure of U.S. intentions; nevertheless, it was determined to prevent military escalation, to refuse concessions, and to win a propaganda victory by arousing world antagonism against the U.S. nuclear submarine deterrent fleet.

In Move Period A, the U.S. started on a low key, requesting further information on Hale as well as intelligence reports on current Soviet political and military developments. A press release stated that Hale was still missing but that there was no evidence of aggression. The Soviets, on the other hand, immediately dispatched a diplomatic note to the U.S. disclaiming any involvement in the Hale incident and offering to aid in the search with Soviet fishing boats equipped with tracking devices. As a precautionary measure, the Soviets ordered a stand-by alert and warned their subs to prepare for possible provocative actions on the part of Western subs. In the meantime, a "peace campaign" was launched in the Soviet-controlled press, with Pravda reiterating the non-inevitability of war and East European media emphasizing the "need for Peace".

With the loss of Allen in Period B, the U.S. went on a 15-minute alert, attempted to take an inventory of its SSBNs, and consulted with its major allies on the situation. Upon receiving the Soviet offer of search assistance, it replied that all necessary steps had already been taken. The Soviets,

meanwhile, ordered increased tracking of U.S. subs in the Barents Sea area. They also sent a diplomatic note to Zanzibar offering a \$5 million trade credit in exchange for a naval station with sub-servicing capacity. This information was leaked to the U.S. during the same period, B.

With the beginning of Period C, both sides became more active. The U.S. learned of the increased concentration of Soviet ASW forces in the North Atlantic and Barents Sea and feared that the efforts to take an inventory of U.S. subs in that area might jeopardize their safety. At this point the President sent a letter to the Soviet Premier claiming to have evidence of "definite Russian involvement" in the disappearances of Hale and Allen and warning that any further moves would be considered a "grave threat" and would be met with the appropriate response to safeguard U.S. national interests. Concurrently, the U.S. ordered the preparation of measures for the destruction of the Cuban missile sites as swiftly and secretly as possible as a "retaliatory club" vis-à-vis the USSR.

Meanwhile, the USSR learned of the U.S. maximum alert status. It began to exert all possible efforts to contact its submarine H-12 as well as to get fixes on U.S. subs. More important, it dispatched a diplomatic note to the U.S.--by the "fastest possible" route--in which it proposed that all subs of all nations should surface within 24 hours and begin constant transmissions for location; furthermore, U.S. failure to agree to this would be construed "as an act prejudicial to international peace." In order to allay fear of Soviet intentions, TASS announced that the Soviet Premier would depart for his vacation in the Crimea on April 19, and called for a discussion of the unreliability of sub deterrents at the Geneva disarmament conference.

The Soviet proposal on the surfacing of all subs for inventory was leaked to the world press in a West German news agency (DPA) dispatch during Period C. Control then warned the U.S. that this report, if true, should be considered a "hostile" proposal. The U.S. reacted by requesting NATO forces to improve their defense posture in view of the strong indications of overt Soviet aggression against Hale and Allen. It also dispatched a message to the UN (a meeting of the Security Council was thereupon called for post-game) expressing U.S. concern over the projected Soviet naval base on Zanzibar and stating U.S. readiness to protect the interests of the free world vis-à-vis the step-up in Soviet military activity.

In Period D, the USSR learned of the NATO top alert. It ordered a second-stage alert of all Soviet and Warsaw Pact forces, while issuing a TASS announcement that the latter were engaged merely in regular maneuvers planned for April. Efforts to contact H-12 were intensified. Upon receipt of the U.S. President's letter of Period C, the USSR replied with a categorical denial of complicity in the loss of the subs; it charged the U.S. with provocative actions against the USSR to cover up its own technical failures. (The contents of the Soviet reply were leaked in Period D by Control) The Soviets also sent a message to the British, via the Soviet Embassy in London, denying any involvement in the sub incidents and requesting HMG to use its influence with the U.S. government to prevent further escalation of the crisis. (This set off a Control-inspired three-way flap between the USSR, UK, and US over how the Soviets learned of the loss of Allen -- all within the brief span of Period D.) Finally, the USSR summoned a meeting of the Security Council to deal with the U.S. accusation of Soviet involvement in the loss of the subs.

Meanwhile, at the beginning of Period D, the U.S. received official word of the Soviet sub-surfacing proposal. The NSC was advised by the CNO (Control) to view the proposal as a ruse and to categorically reject it. Thus, the U.S. replied in a Hot-Line message that it would agree to the Soviet proposal only if the USSR would agree to disclose the location of all its military bases and nuclear test-sites. The Soviets answered via the Hot-Line that it could not accept the U.S. terms and that other channels existed for arms control negotiations. The U.S. then retorted, also via the Hot-Line, that it was willing to take any steps which would lead to peace but that the USSR had given no indication that "its own intentions were to further peace." Thus concluded the game.

In general, it appeared that the strategic evaluations of both sides were not in keeping with their actions. The U.S. assumed a more hostile, unbending posture than was warranted by its stated estimation of Soviet involvement, i.e., highly likely but insufficient evidence for retaliation. Indeed, the President's letter of Period C which directly accused the Soviets of sinking the U.S. subs could only be termed highly provocative. Similarly, the USSR aggravated U.S. suspicions with its Zanzibar play as well as with its well-intended but rather unreasonable proposal for the surfacing of all subs within a 24 hour period. Thus, while both sides wanted to avoid escalation of the crisis, each merely further aroused the other. As a result, the game ended in a highly volatile impasse.

Partial responsibility for the course of this game rested with Control. Not only was an unrealistic series of moves injected in Period D when the British panicked over Soviet knowledge of the loss of Allen; but pre-game Control document B-25--recommending "maximum alert and aggressive diplomatic

representations" regarding the disappearance of the Allen--as well as the Control documents denouncing the Soviet proposal on sub surfacing as a "hostile ruse" clearly prejudiced the reactions of the U.S. team.



C. GREEN-SALMON (SATURDAY) GAME

The Soviets did not regard the world situation as critical at the beginning of the game; in fact little effort was made to elicit new information in the absence of any pressure. The U.S., on the other hand, generated several inquiries about the nature and extent of U.S. and Soviet submarine technology. Considerable effort was put into the formulation of contingency plans dealing with several possible outcomes that might result from full investigation of the disappearance of the Nathan Hale. To prevent rumors from getting out of hand, a public statement was released by the U.S. which admitted that the sub was missing.

By Move Period B, the U.S. had decided that the ability to maintain constant check on the whereabouts of Polaris submarines was a very high priority goal and began to order appropriate measures to achieve this capacity. Loss of Hale was disturbing to the U.S., but official circles viewed it as a probable Thresher-type accident--tragic, but not threatening the peace. However, when news arrived that Ethan Allen also was missing, there was considerable concern that the Soviet Union might be carrying on some kind of sabotage. The NSC ordered a change in deployment of Polaris subs presently on station, withdrawing 1000 miles from their forward positions. Simultaneously, orders were prepared to launch punitive retaliatory attacks on Soviet trawlers if it should be thought appropriate.

Meanwhile, the Soviets had decided that the best strategy for them was to be wary of anything that looked like an attempt to catch them off base and to concentrate on mobilizing world opinion against the U.S. It appeared

to them that the situation provided some excellent propaganda material. Thus, the USSR ordered its naval forces to search for the Nathan Hale and watch the operations carried on by the United States and its allies. Simultaneously, it began to prepare diplomatic notes to many countries and to write press releases.

At the beginning of Move Period C, the Hot-Line broke down, and, although no one had tried to use it before, both sides became very interested in having it repaired. The U.S., in particular, became very concerned with the breakdown. The Soviets, meanwhile, were distracted somewhat by the receipt of information about the disappearance of the Allen and the fact that it had been tracked by the Soviet attack sub H-12. While trying to fix the Hot-Line and tell the U.S. that their own search for the Hale was completely non-hostile, the Soviets were busy trying to locate the H-12 and determine what was happening.

Tension reached a peak in this move period as both sides prepared for the possibility of violence. The U.S. prepared to blockade Soviet ports and destroy some Soviet subs at sea if it should turn out that the USSR was responsible for the loss of the U.S. submarines. The Soviet Union began to fear the possibility of individual action by irresponsible officials in the U.S. and ordered all its ICBMs to half-hour alert.

By Move Period D there were still some areas of tension, and the U.S. ordered a SAC air alert (the Soviets responding with standard defense measures-- a "Stage A" alert), but the USSR returned half its ICBM force to standby and began to relax. The Hot-Line had been reopened at the beginning of the period and both sides seemed to feel that the greatest danger came from accidents-- which the Hot-Line could prevent or alleviate. The U.S. lost none of its suspicions, but did seem to feel that it could control the situation, while the USSR felt that the U.S. was not likely to initiate war and was getting a tighter grip on its own forces.

D. GREEN-SALMON (SUNDAY) GAME

The United States initially thought the disappearance of the Nathan Hale to be the result of some technical failure and began by making an effort to counter anti-Soviet propaganda that might develop. The NSC sought information on U.S. and Soviet capabilities and also ordered a reserve submarine to fill in for the Hale to maintain the fleet at full on-station strength. The USSR also sought information on the reliability of its intelligence and its naval personnel. The Soviets found themselves concerned with the possibility that the disappearance might be connected with unauthorized behavior on the part of U.S. officials, but they did not seem to view the situation as a deliberate U.S. provocation.

The U.S. decided that Communications with submerged submarines were of major importance and, under the circumstances, of higher priority than complete secrecy with respect to location. Both sides made a particular effort to watch each other's behavior. When the USSR offered to aid in the search for the Hale, the U.S. President accepted the offer, but arranged to have the Secretary of Defense alert the armed forces for possible use.

When, in Move Period B, Ethan Allen was reported missing as well, the U.S. began to regard the entire situation more suspiciously, although it still did not think the Soviets had any direct connection with the non-appearance of the submarines. Nevertheless, SAC was ordered to increased air alert and all nuclear submarines were ordered to operate in pairs in order to facilitate contact. The USSR began to take the diplomatic offensive, sending a note to the UK demanding withdrawal of U.S. Polaris submarines and demanding elimination of all missile-firing subs in a message to the Geneva

Disarmament Conference. The Soviets seemed to feel that the loss of Hale was due to U.S. mistakes, and that the greatest danger was that the USSR might be connected with the situation. To prevent this, the USSR began to take the propaganda initiative.

Both the U.S. and USSR showed some concern over the failure of the Hot-Line, but neither seemed to regard the situation as one of prime concern. Through Move Period C, the USSR seemed most concerned about the whereabouts and behavior of its nuclear attack sub H-12, which had been tracking Ethan Allen. The U.S. concentrated on trying to fully inform the UK of the situation of its missing subs and on meeting the expected Soviet propaganda barrage. Probably the greatest concern over the status of the Hot-Line came toward the end of the move period, when the Soviets seemed anxious to launch propaganda by every means possible.

The boldest move by the Soviets was to order the surfacing and return to port of all its missile-launching submarines which were either at least half-way through their tours or had reason to think themselves being tracked by U.S. Navy ASW forces. This was accompanied by a major publicity fanfare. In the absence of the Hot-Line, it was not possible for the Soviets to inform the U.S. immediately of this situation (and of course the fact that subs other than those specified were to lay low was secret), but within a few hours American reconnaissance aircraft were reporting this behavior. Simultaneously with the display of her subs, the USSR recalled all strategic bomber and tanker crews to base and ordered an alert and buildup of all ground forces, northern bomber staging fields, and missile crews. (By this time it was Move Period D.)

The U.S. responded to the Soviet sub move by talking in a conciliatory manner and preparing for possible suspension of alert status, but partially intercepted messages (VLF to Soviet sub fleet) resulted in considerable caution. The U.S. was however, prepared to meet the Soviet challenge with correspondingly conciliatory moves. As the game ended, the Soviets accelerated their propaganda barrage and saw themselves as ahead; while the U.S. felt that tension had subsided and it could deal with the situation.



APPENDIX A

NUMBER OF MESSAGES

EXDET II

	S A T U R D A Y					S U N D A Y				
	Move Period					Move Period				
	A	B	C	D	Total	A	B	C	D	Total
CONTROL										
to Both	1	1	1	1	4	1	0	0	2	3
to Green	10	5	9	10	34	13	11	10	11	45
to Salmon	4	0	10	7	21	5	2	13	8	28
Total	16	7	21	19	63	20	13	23	23	79
Green Total	6	9	15	13	42	12	10	10	13	45
INT:	5	8	12	9	33	10	7	7	7	31
EXT:	1	1	3	4	9	2	3	3	6	14
HARD	2	4	5	6	17	3	5	2	3	13
SOFT	4	5	10	7	26	9	5	8	10	32
Salmon Total	2	5	7	7	21	5	6	14	18	43
INT:	2	4	5	4	15	4	2	7	6	19
EXT:	0	1	2	3	6	1	4	7	12	24
HARD	1	2	3	3	9	2	0	4	2	8
SOFT	1	3	4	4	12	3	6	10	15	34
CONTROL										
to Both	1	0	2	8	11	1	2	2	5	10
to Blue	10	6	9	8	33	11	4	10	15	40
to Pink	3	1	6	7	17	4	3	13	7	27
Total	15	7	19	31	72	17	9	27	32	87
Blue Total	9	13	11	4	37	4	5	14	5	28
INT:	8	6	10	2	26	3	4	11	1	19
EXT:	1	7	1	1	10	1	1	3	4	9
HARD	3	4	4	1	12	0	1	6	0	7
SOFT	6	9	7	3	25	4	4	8	5	21
Pink total	3	2	14	9	28	6	8	13	14	41
INT:	3	0	7	5	15	2	6	8	6	22
EXT:	0	2	7	5	14	4	2	4	8	18
HARD	2	0	2	2	6	1	1	1	1	4
SOFT	1	2	12	7	22	5	7	12	13	37

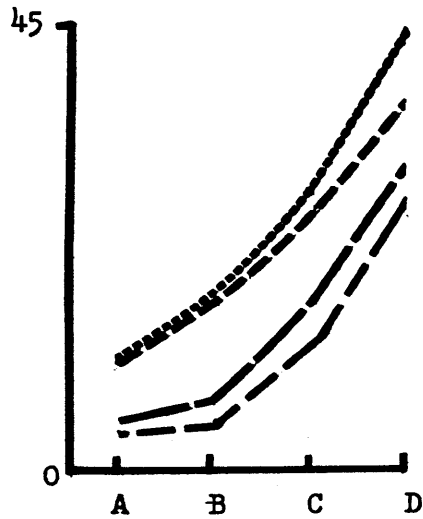
KEY TO CHARTS

- INT: Domestic queries and orders, communications with allies, etc.--including information later leaked by Control.
- EXT: Communications with other team, press releases, etc.
- HARD: Orders to alert or move military equipment or to survey specific military moves of other side with the intent of possible military action; CIA provocations (e.g., sabotage); etc.
- SOFT: All others, including intelligence queries regarding the general military stands of the other side.
- TOTAL: Number of messages generated; INT: + EXT: = HARD: + SOFT = TOTAL

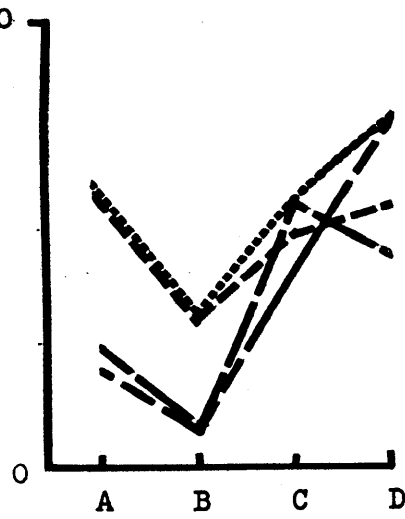
EXDET II  
MESSAGE STATISTICS

Soviet PINK BLUE United States  
SALMON GREEN

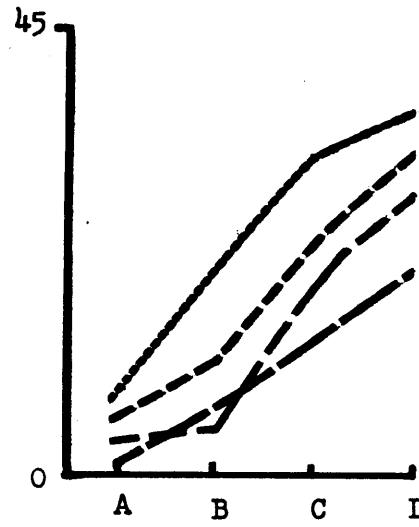
Message Output: Saturday



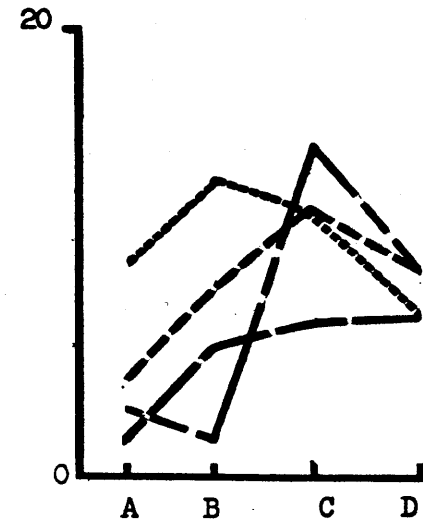
From Control to  
Teams - Cumulative



From Control to  
Teams - by Period



From Teams  
Cumulative

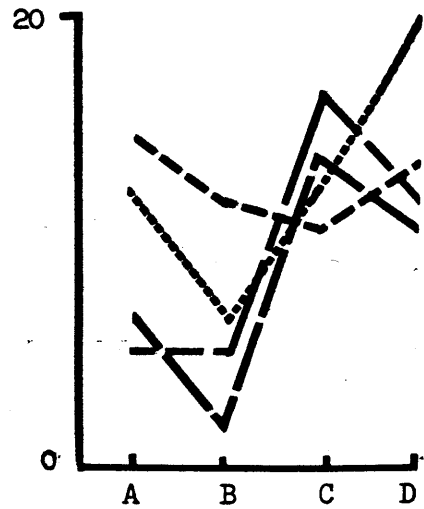


From Teams  
by Period

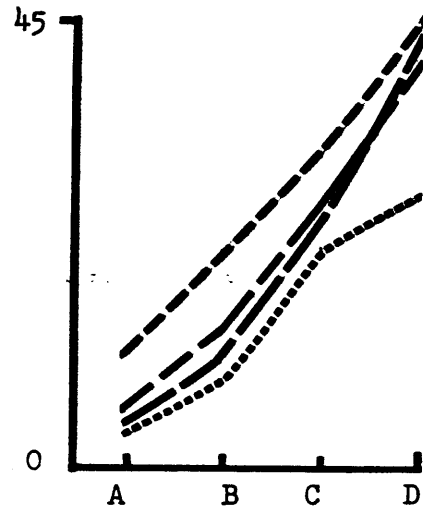
Message Output: Sunday



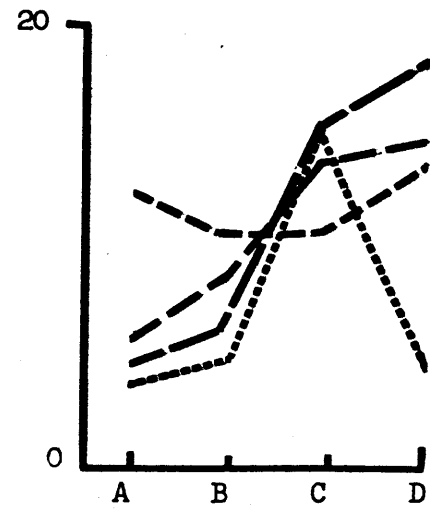
From Control to  
Teams - Cumulative



From Control to  
Teams-- by Period



From Teams  
Cumulative



From Teams  
by Period



## APPENDIX B

## PRE-GAME QUESTIONNAIRE

Instructions: Check the two items you believe best represent your ideas about each of the following questions in international politics.

A. When a nation is sovereign it is said to be politically independent of, and unlimited by, any other nation or nations. How does sovereignty work in the relations among nations?

1.  Complete sovereignty just does not exist
2.  Sovereignty is partially given up or restricted when a nation enters into international agreements.
3.  Interfering with another nation's sovereignty leads to tension and sometimes to war.
4.  The existence of sovereignty hinders better relations among nations.
5.  Sovereign nations make their own decisions and act for themselves.

B. What are the causes of war?

1.  Desire for power and world leadership.
2.  Interference in the internal affairs of a nation by another nation.
3.  Lack of trust and understanding among nations.
4.  An arms race.
5.  Alliances.

C. What are the causes of peace?

1.  Trust and understanding among nations.
2.  A balance of power among nations.
3.  An effective world organization.
4.  Economic cooperation among nations
5.  Realization of the destructive nature of war.

D. How does military force, either threatened or actual, play its part in international relations?

1.  Military force protects a nation and is a deterrent to war.
2.  Military force enhances the possibility of war.
3.  Military force increases world tensions but does not necessarily lead to war.
4.  Military force causes or leads to an arms race.
5.  Security treaties are made as a result of the existence of military force.

E. In what ways do world organizations affect international relations?

1.  They enhance the possibilities of understanding and compromise among nations.
2.  They aid in the maintenance of peace.
3.  They provide a place where useful discussions and an airing of grievances can take place.
4.  They are not very effective.
5.  They will be effective only to the degree that the members want them to be effective.

F. How does the existence of other nations influence a single nation in the making of its foreign policy?

1.  A nation must seek friends and allies among other nations.
2.  A nation must consider the opinions and goals of other nations.
3.  A nation must not cause itself to be distrusted by other nations.
4.  A nation must consider the strength of other nations.
5.  A nation must consider the economic interests of other nations.

G. What characteristics of a nation influence the making of its foreign policy?

1.  The military power of the nation.
2.  The governmental organization of the nation.
3.  Desire for survival.
4.  Desires and attitudes of the people of the nation.
5.  The economic resources and potentials of the nation.