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INTRODUCTION

This paper suggests the utility and desirability of basing game and research scenarios on solid contextual foundations. In developing the arguments, illustrations and examples relating to future problems in the NATO area will be used.

The utility of embedding complex problems in a clearly defined context has long been recognized by the research community. This is particularly true where team efforts are involved and future problems are under study. It is important that members of a research team or game team have a common understanding of the conditions under which the research is being undertaken or the game conducted. A contextual framework helps one to exclude irrelevant materials and permits a concentration on the central problem under analysis. Unless one is dealing with present-day problems and can be assured that all members of game or research teams know precisely what the present situation is--and can agree on it--one needs a context to avoid wasting time in reaching a common approach to the subject. When dealing with future problems, it is even more desirable to have a context to provide a common understanding of what the particular future under consideration is like. Otherwise each man will form his own ideas about the future and these ideas can vary widely, making group research or game efforts difficult. There is an important relationship between a context and a game scenario. The advantages and desirability of basing scenario construction on sound contextual foundations is only now being widely appreciated, Durand (1972).

To the professional practitioners of the art of scenario construction, the crucial relationship between a scenario and its context has always been known. But for a variety of reasons, some scenario writers have seemed to act as if the relationship was only coincidental. The specific demands of research projects and games, at least those in the fields of defense and policy research, often led to the creation of custom-built scenarios. This bypassed the hard work required to prepare a context in depth describing the area in which the problem or the game was to be embedded. The context, the detailed background from which the scenario should have been drawn, was regarded as secondary and the scenario itself as primary.

That this way of producing scenarios for models, games, and simulations was wrong and ought to be changed has been suggested by several researchers in The RAND Corporation, particularly by F. M. Sallagar, who wrote a series of unpublished memoranda emphasizing the over-riding importance of the context in scenario construction. He suggested that the development of alternative future NATO contexts in depth would provide the basis from which to draw more useful and credible scenarios of possible future NATO-Warsaw Pact political-military confrontations. The aim of this paper is to examine and enlarge upon this possibility. Although it is oriented toward the problem of NATO-Warsaw Pact relations, the ideas in this paper can be applied to other areas and problems.

THE DIFFERENCE BETWEEN A CONTEXT AND A SCENARIO

Because confusion exists in some quarters about the distinctions between a context and a scenario, it may be well to set forth these differences at the outset. In the defense and policy research fields a context may be described as the overall background or environment in which political-military problems are considered. The context sets forth the basic facts of life in the area under study. With reference to the NATO area, a context would set forth in depth the conditions that prevail with respect to NATO-Warsaw Pact relations at a given time period. It would deal more with conditions as they have evolved or can be expected to evolve rather than with the immediate chain of events leading to a confrontation or conflict. These conditions should cover the long-term policy objectives of the powers concerned rather than their immediate limited objectives. These conditions would explain the factors which might motivate a given action by one bloc or power. The context is an environmental framework into which many different political-military problems can be embedded for study by other methods of analysis, and from which several scenarios of potential political-military confrontations may be drawn. A context would deal with such matters as the attitude of the powers in the area toward themselves and toward members of the rival bloc. It would answer the question: what is the prevailing economic-political-military situation in this area of the world?

A scenario on the other hand may be described as an oral or written description of the events leading up to a specific crisis, a game situation or a military-political confrontation, DeWeerd (1967). If the latter, the scenario describes the local and regional setting of the crisis and the immediate objectives of the powers concerned. It details the lineup of allies, the military forces available or earmarked for possible employment in the crisis. It outlines the geographical boundaries of the initial confrontation and says who is neutral or noncommitted. It indicates the initial level of violence sought for by the crisis-initiating power.

If designed to be the starting point for a crisis game or a war game, the scenario should provide the players with the necessary basic information about the situation to enable them to develop position papers and plan game moves. It should provide the control team with enough information to enable them to exert the guidance required to focus the game on the problem under investigation and not on some other interesting but irrelevant matters. If designed to embed a specific military problem in its proper framework, it should permit this to be done with a minimum of bias.

EARLIER METHODS OF SCENARIO CONSTRUCTION

The term scenario used to be the exclusive property of the motion picture world. Only recently has it been adopted by the military and research professions. It is now used to cover oral or written descriptions of a developing series of events, a crisis or a hypothetical war. Because scenario construction is a difficult, hazardous, and unrewarding field, most researchers have avoided it. Only a few persons in the United States produce scenarios of professional quality for political-military games. The construction of such scenarios has been described as an art. Attempts made in the Simulation Laboratory of the Systems Development Corporation, at the Computer-Based Center for the Behavioral Studies at the University of California at Los Angeles, and at the Hudson Institute to put scenario construction on a more "scientific" basis have been disappointing.

As indicated earlier, most of the scenarios used in the defense research field in recent years have been custom-built. Because they were tailored to the needs of the user agency, the principal methods of constructing these scenarios were by:

- o The process of reverse decision-tree analysis in which various decision branches were chosen in a backwards fashion, proceeding from the end to the beginning.
- o The process of trend analysis which was used in future-oriented scenarios in getting from the present to the future date required.

In practice--in order to meet the requirements of his client--the scenario writer started with the war or crisis requested and worked backwards to create the most credible possible explanation for the crisis. After satisfying himself that the scenario thus created would produce a playable game or meet the research needs of his client, the scenario writer then added some world, regional, and local contextual material consistent with the crisis described. This was often for cosmetic effect and to create the illusion of credibility. He then checked details in the various sections of the scenario for internal and external consistency.

When dealing with future situations, the scenario writer generally used the process of trend analysis to get to the future environment indicated. A most important requirement in this connection was to see that no important change was made from the existing situation without accounting for it in a reasonable fashion. For scenarios set in the long-time future, extensions of present trends alone will not suffice. Other methods, plus a detailed knowledge of past history and a disciplined imagination are required. Discontinuities or breaks in trends have to be introduced, in order to reach the future situation required. This calls for political-military judgment of a high order. Where this is lacking, one is often confronted with a bizarre or capricious treatment of the future, for example, Kahn and Wiener (1967).

Under the conditions described above, a good scenario was regarded as one which provided the user as unbiased a framework as possible in

which to embed his problem or start a game which would throw light on the problem under investigation. A good scenario avoided gimmicks and great unexplained leaps. It had external and internal consistency. It recommended itself to the reader or user by reason of its honesty, credibility, and common sense. It bridged the gap between the research director or game designer's objective and the needs of the researchers or game players.

While some miscalculations have to be introduced into a scenario to represent the human failings of decisionmakers, resort to miscalculation as a kind of *deus ex machina* to explain everything should be avoided in order to retain the confidence of the users. When future scenarios were carefully prepared according to the prescriptions described above, a kind of plausible synthetic future history was produced which struck some readers and critics as being fairly convincing. Some readers, however, reject all descriptions of the future except their own and cheerfully accept at the hand of history what they would instantly reject if it appeared in somebody else's scenario in advance of the event. A scenario of the Watergate bugging attempt, written before 1972, would have been held up to scorn by "reasonable" men, as would a scenario written before the Pearl Harbor attack, the Berlin Blockade, the Berlin Wall, or the Cuban Missile crisis.

SHORTCOMINGS OF SOME PAST SCENARIOS

Deficiencies in past research and game scenarios stemmed from a number of factors. Very little attention was given to the improvement of methodology. Scenarios themselves were not highly regarded in the research and academic communities, although persons who try to write one soon recognize the difficulties and hazards of doing so. But in the defense research field the main deficiency was that they were for the most part written for a specific crisis or war designated by the user. Writers were seldom asked to prepare the most credible scenario possible for a war between the United States and its NATO allies and the Soviet Union and its Eastern European satellites. The request was always for a specific war, at a specific time. In the NATO area these

included a low level conventional war in Europe lasting 90 days, a high level conventional war, or a limited nuclear war. There were requests for a war scenario covering the central front, for a war on the northern flank, or for one on the southern flank of NATO.

No matter how well written or convincing these scenarios were, they never were able to challenge the authority of the "canonical" scenarios for an all-out nuclear exchange between the Soviet Union and the United States or for a massive broad front type of war between NATO and the Warsaw Pact countries. These scenarios held the field for years in spite of their incredible assumptions. The war against NATO was foreseen by these scenarios as starting with conventional weapons, escalating to theater nuclear war, and finally to all-out nuclear war. It started on a front which ranged from Norway to Turkey. On the basis of this official scenario, U.S. and NATO policies were formulated, money spent, strategy devised, and forces deployed. As long as this scenario was unchallenged other scenarios for the NATO area were given limited attention.

REVERSING THE PROCESS OF SCENARIO CONSTRUCTION

The main recommendation of this paper is that the process of scenario construction commonly in use ought to be reversed and that a great deal more attention and study should be devoted to context preparation. Instead of starting with the crisis or war specified by a user, detailed contexts should be prepared covering possible world, regional, and local developments with respect to East-West relations in a future time period. After this has been done, one can more credibly deduce the kinds of crises or wars which might occur under such a context. The scenario would emerge from the context, not the context from the scenario. The credibility of the scenario would rest on the credibility of the context, not on gimmicks, miscalculations, verisimilitude, or superficial appearances of reality.

One of the principal advantages of this approach to scenario construction will be that when scenarios are drawn from a detailed context, the problem of defending their credibility will be changed. Those who

object to parts of such a scenario can reasonably be asked to produce their own contextual assumptions in equal detail. They will not be able to do this without an equivalent amount of detailed study, and the lack of an adequate basis for their objections will be revealed.

The construction of alternative future contexts will enable a well-qualified person to write not one scenario--which the reader must either accept or reject--but a series or range of scenarios appropriate to the context, a development recommended by Diebold (1973). This will help to disarm critics who may find the details of one particular scenario not to their liking. It will also extend the coverage given to a particular area in a given time period.

Reversing the process of scenario construction and drawing them from alternative future contexts will inevitably be connected in the minds of some people with the process of forecasting. The great difference, however, will be that one will not be predicting single specific events, but offering a range of future scenarios.

ALTERNATIVE FUTURE NATO CONTEXTS AND SCENARIOS

In connection with the preparation of alternative future NATO contexts, questions of the following kind arise:

- o What are going to be the key variables in the development of such a context?
- o What are the possible political-economic-military changes in Western Europe which may affect relations with the United States and with the Warsaw Pact?
- o In what way might such changes affect the use of European military bases and facilities by the U.S.?
- o What are the possible changes in Eastern Europe which may affect the Warsaw Pact and its relations to NATO?
- o What are the possible changes in the Soviet Union which may affect its relation to the Warsaw Pact powers and to NATO?
- o What are the possible changes in Sino-Soviet relations which may affect a NATO-Warsaw Pact confrontation?
- o What are the possible changes in the United States which may affect relations with the NATO powers and decisions about the presence of American troops in Europe?

Answers to the above question will importantly affect the nature of future NATO contexts and scenarios.

Based on Soviet behavior one may envisage four major future NATO-Warsaw Pact contexts:

(1) a real détente between East and West involving radical changes in Soviet doctrine and behavior at home and abroad, (2) a détente carried on for tactical reasons by the Soviet Union, (3) a possible return to cold war tactics on the part of the Soviet Union, and (4) possible military confrontations between NATO and the Warsaw Pact countries brought on by the initiative of the latter. In view of the post-Vietnam disillusionment with military matters among Western countries, it would be hard to envisage NATO countries taking the initiative with respect to 3 or 4 above.

Naturally, the character of future NATO contexts will be determined by the assumption made at various decision branch points. Among the important questions to be decided for a future time period would be:

- o Do the Western European states form a strong political, economic, and military community?
- o Do the Western European states develop isolationist political, economic, and military policies?
- o Do Sino-Soviet antagonisms continue in this period?
- o Do Soviet-Western steps toward negotiation of outstanding differences succeed and continue?
- o Does East-West trade continue to increase?
- o Does anti-militarism increase in Western Europe?
- o Does the United States develop isolationist political and economic policies?
- o Do Soviet controls over the Eastern European satellite states decrease?

Depending on the responses made to questions of this kind, the nature of future NATO contexts would be determined.

If most of the above questions were answered by a "yes", then one future NATO-Warsaw Pact context might portray a situation of relaxed tensions, an increased East-West détente, a reduced military confrontation in Europe, including withdrawal of some Soviet and

American forces, a greater Western European self-reliance in defense matters, the emergence of a combined Franco-British nuclear force, a reduced American profile in Europe, an increase in the "Swedenization of Europe"--a new form of neutralism, some reduction in the Soviet control over Eastern European satellite states, an increased importance attached to the conditions of East-West trade, an increased concern on the part of Western Europe and the United States over an assured supply of Middle East oil, and a period in which Soviet strategic attention is focused on the continued Sino-Soviet confrontation.

Scenarios drawn from such a context might deal with political-economic matters more than with NATO-Warsaw Pact military confrontations. The crisis described or the games conducted might be diplomatic, propagandistic, and trade oriented. They might portray Soviet or East bloc attempts to gain trade advantages over European states, rather than a direct military threat against any part of the European community. They might describe Soviet efforts to convince Western Europe and the United States, that a continued American military presence in Europe would be against the best interests of all. It would be hard to envisage a big broadfront war in Europe emerging as a likely possibility in such an environment.

If, on the other hand, a number of "no" answers were to be given to some of the above questions, a quite different NATO-Warsaw Pact context might emerge. That would be the case if Western European states failed to form a strong political-economic-military community, if steps toward negotiating outstanding East-West differences failed, if East-West trade wars developed and the détente was undermined, and most important of all, if the Sino-Soviet split should be healed by new regimes in Peking and Moscow, permitting the Soviet Union a new freedom of action with regard to Western Europe. These assumptions plus an isolationist trend in the United States, might justify the drawing up of a context in which cold war conditions might return and Soviet-Warsaw Pact military-political-economic probes against parts of NATO might again be considered credible.

Under these conditions, a quite different range of NATO-Warsaw Pact scenarios might well emerge. These might include Soviet efforts

to extend the ice free area in which to base its missile-firing submarines at the expense of Norway, Soviet efforts to split the unity of NATO, Soviet-Arab efforts to increase the price of oil to Western Europe and the United States, or Soviet-Arab efforts to cut off sea-borne shipments of oil from the Persian Gulf. Trade wars might pit old friends against each other and result in the formation of economic rather than military blocs.

It is hoped that this brief examination of the relationship of alternative future NATO contexts to a new generation of relevant scenarios will encourage the construction of these much needed scenarios.

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