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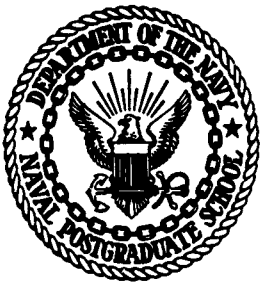

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Donald C. Daniel

November 1976

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ABSTRACT

This report focusses on perceptions of the US-Soviet military balances as these were contained in the 1955 through 1974 issues of Defense Nationale, a highly authoritative French journal. It illustrates how quantitative techniques can be utilized to deal with the problem of ascertaining trends in perceptions. It is an NPS research effort in support of the ARPA/TAO Perceptions Program.

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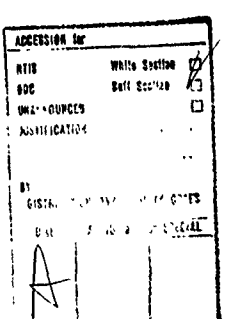

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This report focusses on perceptions of the US-Soviet military balances as these were contained in the 1955 through 1974 issues of Défense Nationale, a highly authoritative French journal. It illustrates how quantitative techniques can be utilized to deal with the problem of ascertaining trends in perceptions. It is an NPS research effort in support of the ARPA/TAO Perceptions Program.

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DÉFENSE NATIONALE PERCEPTIONS OF THE US-SOVIET MILITARY BALANCES

By

DONALD C. DANIEL

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EXECUTIVE SUMMARY

The Problem

The upsurge in Soviet military capabilities in the last decade or so has caused increased concern that the United States must not only balance Soviet military power in fact but must also be perceived as doing so both by the Soviets themselves and also by third-country observers. There are a number of ways available for structuring inquiry into perceptions and related questions, and this study illustrates one of them. The conclusions to be presented are the product of coding twenty years (1955-1974) of selected articles and "Chronicle" items from a highly respected French journal: Défense Nationale.

Methodology

Défense Nationale appeared 219 times from 1955 through 1974, and the writer looked at each issue except a missing 1964 number. Individual journals were read selectively in line with criteria which aimed at "bringing to the surface" articles or "Chronicle" items which contained comparisons of US-Soviet and East-West military capabilities. While the main concern of this study is with US-USSR balances, East-West conventional military power balances were also coded so as to obtain some understanding of the context within which these balances were most often viewed, i.e., whether in a US-Soviet or East-West context. In all, 258 articles and 77 "Chronicle" items were sources for the data presented in this report.

Coding Défense Nationale meant answering as many of the following questions as possible relative to the military capabilities being compared therein:

(1) What military capabilities are being compared?

(2) Whose capabilities (i.e., US-USSR or Western-Soviet bloc) are being compared?

(3) Which side does the DN author see as superior at the time of writing?

(4) Does the DN author qualify his conclusion by bringing out contrasting information?

(5) What justifications does the author provide for his conclusions?

(6) What sources does the author indicate provided him information about the balance or the capabilities being compared?

(7) What events does he acknowledge as triggering his thinking about the balance?

(8) What recommendations does he make in view of the state of the balance as he perceives it?

Questions 5 through 8 applied to US-USSR comparisons only.

Conclusions

The first group of conclusions relates to the frequency of comparisons:

(1) Comparisons of the strategic nuclear balance occurred most frequently by far.

(2) Of the US-Soviet conventional balances, the naval balance elicited the largest number of comparisons. In contrast, the US-Soviet conventional or ground forces balance and the air balance were the least frequently compared of all US-Soviet balances.

(3) There were no large-scale increases or decreases in the attention paid to any of the balances - as measured by frequency of comparisons - when one contrasts the number of comparisons for each balance in 1965-1969 with those for 1970-1974.

(4) There was a strong trend over the twenty years to view the naval balance in US-Soviet terms and the conventional or ground forces balance in East-West terms. (Air balance comparisons were too few to allow for conclusions in this regard.)

The next group of conclusions concerns Défense Nationale perceptions about the state of each balance:

(1) Over the twenty years, the US was perceived as superior in strategic nuclear bombs and warheads, ballistic-missile submarines, strategic bombers/strategic aviation, SLBMs, and naval power-in-general. Recent trends indicate no significant change in perceptions for the first three, increased perceptions of US superiority for the fourth, and increased perceptions of equality coupled with decreased perceptions of US superiority for the fifth. (While the US was also perceived as superior in the general air balance, number totals seemed too small to be statistically significant.)

(2) There were two USSR dominated balances over the twenty years: strategic missiles-in-general/ICBMs and the conventional or ground forces. Recent trends indicate increased perceptions of Soviet superiority with a decrease in perceptions of US superiority in the former and no significant change in the latter.

(3) The overall strategic nuclear balance was overwhelmingly seen as in equality over the twenty years with recent trends reflecting increased perceptions of equality at the expense of perceptions of US superiority.

(4) When one aggregates all strategic missile comparisons for the twenty years, one finds an almost equal number of comparisons favoring one or the other superpower. Recent trends, however, favor the Soviets with the US experiencing an accompanying decrease in superiority perceptions. As already mentioned, the USSR was viewed as ahead in strategic missiles-in-general and ICBMs while the US was viewed as ahead in SLBMs.

(5) Perceptions of Soviet superiority over the twenty years in the US-Soviet conventional or ground forces balance were matched by perceptions of Soviet bloc superiority in the East-West balance. Similarly, perceptions of US superiority in the US-Soviet Naval balance were matched by perceptions of Western superiority in the East-West balance. Recent trends, furthermore, reflect continued perceptions of both Soviet Union and Soviet bloc superiority in conventional or ground capabilities. In contrast, while recent trends show continued perceptions of Western superiority in the East-West naval balance, they do not show continued perceptions of U.S. superiority in the US-Soviet balance, where perceptions are trending toward equality.

Justifications presented by Défense Nationale authors for their perceptions were too varied, multi-faceted, and tied to individual balance areas to allow for general conclusions here.

There are four general conclusions about the sources of information acknowledged by the Défense Nationale authors:

(1) Most frequently acknowledged were sources associated with the U.S. Government's executive or legislative branches (particularly the former).

(2) Non-governmental annuals devoted to military/naval affairs (e.g., IISS's Military Balance, Flottes de Combat) were the second most acknowledged sources.

(3) French Government sources were mentioned in surprisingly few instances.

(4) References to books or periodicals were infrequent but not as rare as references to newspapers.

As with justifications, triggering events acknowledged by Défense Nationale authors were too varied and multi-faceted to allow for generalizations here.

Of Défense Nationale recommendations which had some general applicability by being made in connection with more than one balance area, three recurred most frequently and another three recurred less often than one might have expected:

(1) In connection with strategic balance comparisons, many Défense Nationale authors encouraged French or Western European development of a force de frappe and/or related delivery systems. This recommendation was usually made in connection with equality references but also occurred with a small number of both "pro-U.S." and "pro-S.U." comparisons. It was not unusual for this recommendation to be associated (in instances of perceived equality or Soviet superiority) with the thought that the U.S. could no longer, due to increases in Soviet strategic power, be counted on to go to nuclear war in response to Soviet aggression in Europe. It was also not unusual, regardless of the perceived state of a balance, to have this suggestion justified by claims that France must develop her deterrent either to avoid a superpower condominium or to assure herself a strong voice in NATO circles.

(2) Recurring almost as frequently were admonitions that the U.S. and/or the West should increase their flexible response capabilities. These recommendations occurred especially with strategic comparisons that had both sides equal. They also arose with "pro-S.U." conventional or ground forces comparisons (3 times) and "pro-U.S." naval comparisons (once, possibly twice).

(3) Third in frequency - and occurring in almost all cases in connection with strategic balances - were suggestions to the effect that the West must act to counter Soviet politico-psychological advances in the Third World. These were made most often in the late fifties and early sixties when Khrushchev was strongly wooing the underdeveloped and verbally supporting "wars of national liberation." They were particularly associated with the Soviet's reaching equality in the strategic areas (hence assuring themselves a modicum of security vis-a-vis the U.S.) or with Soviet space activities viewed as particularly impressive to Third World states.

(4) Other than with the strategic nuclear balance, there were no recommendations that supported arms controls measures (even with MBFR).

(5) Surprisingly, on only one occasion did an author call upon France, exclusive of the West or the U.S., to build up her conventional force capabilities (in this case, naval).

(6) As already noted, while many Défense Nationale authors desired that France/Western Europe build a nuclear deterrent due to some lack of confidence in the U.S., there were--again, surprisingly--no recommendations to the effect that, since one or another balance was shifting in favor of the U.S.S.R., France/Western Europe should move to build up political fences with the Soviets. Indeed, recommendations that the U.S. or Western countries as a group increase their flexible response capabilities signified willingness to continue working within the American/Western alliance context.

Implications for future research:

(1) Other perception studies should be undertaken focusing on different countries and guided by similar questions as asked herein. These should complement one another, and they should provide the basis for making applicable generalizations about perceptions. Based on these generalizations, policy-makers might then be better able to take into account the reaction of other countries to U.S.-S.U. military balance developments.

(2) Some future studies should deal with sources similar to Défense Nationale but others should focus on different sources to ascertain the relative utility of each.

(3) Some future studies should definitely involve experimentation with machine-reading of foreign materials. There should also be experimentation with computer-coding, -tabulation, and -correlation of data whether or not it is machine-read.

(4) Unless materials are to be machine-read, I recommend that any one future investigator restrict his focus to a smaller number of balance areas than I did. "Jumping" from one balance area to another was more disruptive to my thought processes than I would have predicted. Also, the sheer volume of reading, coding, tabulation, and problem-solving can be handled much more efficiently the narrower one's focus.

(5) It may be that the focus on comparisons per se is too narrow. Consideration should be given to coding not only balance comparisons but also, on a thematic basis, everything said about U.S. or Soviet endeavors in a particular area of military concern.

(6) A particularly important problem requiring attention is how to make the coding process as replicable as possible without having to adopt a morass of coding

rules or rules which force one to leave out relevant materials. It would be particularly good in future studies to have at least two investigators work together reading the same materials independently and consulting on ambiguous cases. It also would be interesting to have someone attempt to duplicate what I have done to see to what extent their coding replicates mine.

(7) If time had allowed, I could have done a good deal more with my data, particularly as regards providing explanations, making correlations, pointing out policy implications, and tying in the "sub-balance" data contained in the appendixes with the balance-in-general data presented in the body of the study. I strongly believe efforts should be made in those directions, and I would be pleased to cooperate with any investigators willing or assigned to perform such tasks.

Preface

The enclosed is written in pursuance of ARPA order 3117. To some extent it complements two earlier ARPA studies by Herbert Goldhammer.*

I am happy to acknowledge the aid and support of Mr. Andrew Marshall, Director of Net Assessment for OSD; Professor Patrick J. Parker, presently chairman of the Department of National Security Affairs at the Naval Postgraduate School; Professor Boyd Huff, who preceded Professor Parker as chairman; Mr. Herbert Goldhammer of RAND; Mr. Gerald Sullivan of ARPA; and Dan and Lora Caldwell of Stanford University for their invaluable aid as I gathered data at the Hoover Library.

* The Economist's Perception of the US-Soviet Strategic Balance, 1948-1973 (WN-8991-ARPA) and Le Monde's Perception of the U.S. Strategic Balance, 1948-1973 (WN-9318-ARPA).

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CHAPTER I

SCOPE OF THIS STUDY

Introduction

The upsurge in Soviet military capabilities in the last decade or so has caused increased concern that the United States must not only balance Soviet military power but must also be perceived as doing so. A recent Secretary of Defense, e.g., in writing about the strategic nuclear balance, called upon the United States to:

> ...maintain capabilities such that everyone--friend, foe, and domestic audience alike--will perceive that we are the equal of our strongest competitors. We should not take the chance that, in this most hazardous of areas, misperceptions could lead to miscalculation, confrontation, and crisis.

He reiterated the same theme again when writing about the naval balance:

> ...the naval forces of the Soviet Union and its allies are not generally superior to those of the United States and its allies, and...this should be perceived by well-informed observers.*

There are a number of ways available for structuring inquiry into perceptions and related questions,** and this paper illustrates one of them. It is the product of coding twenty years (1955 through 1974) of selected articles and "Chronicle" items from the French journal Défense Nationale.

Défense Nationale

According to its masthead, Défense Nationale (referred to herein as DN) inquires into the "great national and international

---

* Secretary of Defense James R. Schlesinger, Annual Defense Department Report, FY 1976 and FY 197T, pp. I-14 and I-21.

**See Appendix I for a review of some of the ways of approaching the perceptions problem.

questions", be they "military, economic, political, [or] scientific." It was originally published under the longer title: Revue De Défense Nationale. Those familiar with French periodicals dealing with foreign or defense affairs view it as a highly respected journal. It is published by the Comité d'études de défense nationale, an organization akin to the U.S.'s Council on Foreign Relations. Comité membership reflects France's military, governmental, and industrial elite. From a poll taken in 1970, DN editors estimated that active duty military personnel accounted at that time for approximately one-half the regular readership.

Except for specifying military or governmental titles when appropriate, it was usual DN practice to identify authors by name only. Hence, it is not possible to generalize about their professions, other than that they often consisted of governmental and military officials, including ministers and military chiefs-of-staff.

The journal appeared 11 times a year, and a total of 219 were published from 1955 through 1974. In 1968 one normally expected issue failed publication, but the editors made up for it by increasing the content of several published companion issues. The only year for which statistical totals (to be presented below) are not fully comparable with those of other years is 1964. The reason is that the July number was missing from the serial collection to which the writer had access.

Each journal numbered approximately 175 pages and contained about 10 articles and 25 to 30 "Chronicle" items (referred to herein as "c.i.'s"). Articles accounted for approximately two-thirds of any one journal. As suggested by the masthead, they did not necessarily deal with military or defense questions but also with a

wide variety of other topics such as syndicalism, the UAR after Nasser, meteorological satellites, or the relation between salaries, prices and unemployment. Items found in the "Chronique" section took up about one-fourth of each journal. Their purpose was to keep readers informed of current developments in national and international military, naval, maritime, and aeronautical affairs as well as NATO, international organization, and French overseas matters. Most were moderate in length though some were no longer than one paragraph while others were equivalent to or approached full-length articles. The remainder of each DN issue was devoted to advertisements and a section entitled "Bibliography", which briefly described recent books of interest.

Reading Défense Nationale

The writer read DN selectively and scrutinized an article or c.i. only if it concerned itself with one or more of the following topics:

(1) French policy toward the United States, the Soviet Union, NATO, or the Soviet Bloc;

(2) U.S., Soviet, NATO, or Soviet bloc policy vis-a-vis one another or France;

(3) French weapons developments, defense policy, military capabilities, or military activities but not as these related to French colonies or Third World nations;

(4) U.S. and/or Soviet weapons developments, defense policies, military capabilities, or military activities but not as these were inspired by purposes other than keeping the other superpower's military in check;*

*In contrast, excluded from consideration were articles that, e.g., dealt with U.S. activities aimed at checking rebel, guerilla, or insurgent activities in Third World countries or with U.S. aid intended to help Israel check or balance the Arabs.

(5) the defense of Western Europe as a whole, or Central Europe/West Germany, or of France;

(6) control of or hegemony in the various seas or oceans of the world;

(7) deterrence, war, military strategy or tactics (as, e.g., articles dealing with strategy in the nuclear age) but excluding articles dealing with guerilla war.

The above criteria were intended to guide the selection process so that only relevant articles or c.i.'s - relevant in the sense of containing military comparisons - would "surface" for investigation. I started with criteria which were very vague and refined them in the process of almost cover-to-cover reading of the journals for 1955-56 and 1965-66. That reading, plus further sampling, made it clear that, because of consistently low utility, one could eliminate from further consideration the "Bibliography" section, the "Overseas" section of the Chronicle, and articles published under the recurring rubrics: "Science and Technology" and "Economic Facts".

The process of selecting articles or c.i.'s for scrutiny began with a review of titles. On that basis alone, some seemed obviously worthy of investigation while others seemed just as obviously irrelevant--the latter being immediately dropped from consideration. Titles on a third group were sufficiently tantalizing or ambiguous to rate reading the introductory and closing paragraphs as well as scanning the material in between. All articles or c.i.'s deemed worthy of investigation were then read to see if they actually did contain balance comparisons. In all, 258 articles and 77 c.i.'s were sources for the data presented in this report.

Admittedly both the criteria for selection and the method described above were by no means foolproof. The selection process is just one of a number of areas in this study where this author had to make judgments and, in a cumulative sense, important judgments as to "what was in" and "what was out" -- in this case what articles or c.i.'s were to be retained as possible sources of data and which were not. It might have been possible to make the selection process both speedier and less subjective by deciding ahead of time, for example, to read thoroughly every third article or c.i. and code only those balance comparisons which by chance were contained therein. I chose not to do that on the conviction that too much relevant data would be lost and that I would be wasting my time in reading articles, for instance, whose titles or scanning indicated a high probability that they had little or no value for the purposes of this study.

Coding Défense Nationale

Coding Défense Nationale meant answering as many of the following questions as possible relative to the military capabilities being compared therein:

(1) What military capabilities are being compared?

(2) Whose capabilities are being compared?

(3) Which side does the DN author see as superior at the time of writing?

(4) Does the DN author qualify his conclusion by bringing out contrasting information?

(5) What justifications does the author provide for his conclusions?

(6) What sources does the author indicate provided him information about the balance or the capabilities being compared?

(7) What events does he acknowledge as triggering his thinking about the balance?

(8) What recommendations does he make in view of the state of the balance as he perceives it?

Each of these will be elaborated on in turn.

Question #1

As with the selection process criteria, this writer had a loose set of military capabilities categories which were refined over time. The categories finally settled on as of primary concern were comparisons of:

- general military power or war-winning capabilities
- overall strategic nuclear capabilities
- strategic nuclear bombs and warheads
- strategic missiles (aggregating references to strategic missiles - in-general, land based ICBMs, and SLBMs)
- ballistic-missile submarines
- strategic aviation/strategic bombers
- overall conventional and ground forces capabilities
- overall naval capabilities
- overall air capabilities*

As appropriate, future chapters contain remarks highlighting salient features of individual categories. For the most part, attempts to define each formally were abandoned since definitions tended to be tautological and not very useful. In the overwhelming majority of cases, there was little difficulty in deciding under

*In the appendices are found some of the data gathered on comparisons of secondary interest. These include subsets of the above - e.g., comparisons of cruisers or fighter aircraft as subsets of the naval and air balances respectively.

which category a comparison belonged. For example, authors would simply come out and say something to the effect that one side had nuclear, conventional, or naval superiority or more and/or better missiles, bombers, ships, and the like. Of course, different authors may have had different conceptions as to what they meant by what they said. Ready examples are comparisons of strategic missiles and of strategic aviation. Some authors seemed to view strategic missiles as strictly meaning land-based ICBMs and SLBMs while others said, implied (or possibly even kept to themselves) that they understood strategic missiles also to include MR and IRBMs. For one group strategic aviation seemed to entail only bombers capable of striking one superpower's homeland by taking off from the other's while a second group seemed to consider European-based U.S. tactical aircraft as strategic bomber assets. In coding, this writer did not control for such differences since attempting to do so turned out to be too complicated and time consuming, especially in light of one multitude of other variables which had to be dealt with in the study.

Partly for the same reasons, some comparisons of more or less different capabilities were grouped together in one category. For example, DN authors, particularly in the early years of the study, would comment on the strategic missile balance but when going into detail would often mention only land-based ICBMs. Were they thinking of SLBMs but simply not mentioning them? Were they equating the land-based ICBM balance with the strategic missile balance in general? Sometimes the answers to these questions were impossible to determine. How then should one code those references: under a "strategic missiles-in-general" or a "land-based ICBM" category? Analogously,

how should one code general assertions about Soviet conventional superiority when the only examples an author gives deal with ground forces capabilities? For the sake of simplicity and expeditiousness, this writer's solution was to form a category aggregating the different capabilities and to code problematic comparisons once underneath it.

Some comparisons were potentially problematic in a similar but yet slightly different fashion. For example, all war-winning comparisons were coded under the "general military power or war-winning capability" heading except those restricted to assessing which side might win in a strategic nuclear exchange. The latter were viewed as overall strategic nuclear balance comparisons. On occasion a DN author would make the point that neither superpower would emerge a winner in a future war against the other since the war would be catastrophic for both. An implication of his statement is that the author probably viewed any future war as basically nuclear even though he never mentioned nuclear weapons. Because no such mention was made, these references were coded with the general military power group, but one should not ignore that they possibly could (should?) have been coded in the strategi· nuclear category.

Sometimes a more difficult task than categorizing comparisons was deciding if a comparison was intended in the first place. Two authors both made the point in 1960 that the United States with its Polaris missile program would compensate for Soviet superiority in land-based ICBMs. Were the authors intending an SLBM comparison here, one that had the U.S. ahead even though they made no mention of Soviet SLBMs? Based on investigation of context, this writer answered in the affirmative and coded accordingly.

On occasion, reference was made to both superpowers in such a

way as to place them in a class by themselves, implying a comparison that had them roughly equal. More than one article, e.g., contained the admonition that France must continue her force de frappe and related delivery system programs even though she had no hope of matching U.S. or Soviet capabilities. In comparing France with both superpowers, was not the DN author in a sense also comparing both superpowers, implying some measure of equality between them since they together (rather than just one) set the norm, the standard, against which the French program was being measured? This writer thought so.

A central concept of this study, the word "balance" ("equilibre" in the French), was itself a source of uncertainty as to whether a comparison was intended. At times the term was used such that it was not clear if the DN author meant that the superpowers were in balance, meaning equal, or whether they were actors in a balance, whatever the actual state of the balance (in terms of one side being superior) might be. For instance, it is not entirely clear how an author views the balance when he writes: "French policy cannot ignore the nuclear balance existing between the superpowers." This writer had to make a careful study of the context in order to decide whether to code such a reference. If nothing in the context suggested that the DN author viewed both sides as equal, then the reference was not coded.

A frequently recurring situation - indeed, one which reflected standard operating procedure in the chronicles - was for a DN author to quote or paraphrase without comment someone else's views on a balance. Since the purpose of this study is to present DN perceptions of the balances, it did not make sense for this writer to code, e.g., Chairman Khrushchev's or Secretary MacNamara's views if these were

presented in strictly repositorial fashion. Hence, comparisons were coded only if the DN authors seemed to subscribe or accept the views in question. Contextual analysis was the method utilized to resolve ambiguous cases.

Finally, no matter how often an author stated in his piece that one side was ahead in a particular area, his comparison was coded only once. Also, when the author's focus did not go beyond quantitative comparison of total hardware associated with a balance, his comparison was coded under that balance but with the specific proviso that it was quantitative only. The same coding rule applied when an author did not go beyond comparing the technical quality of the hardware.

Question #2

Question #2 is concerned with specifying whose capabilities are being compared. While the main thrust of this project is to reach conclusions about U.S. and Soviet (i.e., US-SU) balances, it was thought useful to code NATO/West vs. Soviet Union/Soviet bloc (i.e., N/W - S/S) balances. Coding the latter helps to put into perspective the context in which individual balances were generally viewed by allowing one to answer questions such as: Is the naval balance viewed more in US-SU or N/S-S/S terms?

The Soviet Union was singled out as an entity on the S/S side since there were many articles or items which specifically compared NATO or Western capabilities against those of the Soviet Union alone vice the Warsaw Pact or Soviet bloc. In contrast, this writer cannot recall any comparisons involving the U.S. alone versus the Soviet bloc/Warsaw Pact. No more than a handful of Soviet comparisons involved or implied that China was a member of the bloc.

Since the United States and Soviet Union were viewed as being the undisputed primary competitors in all aspects of strategic weapons and delivery systems, all comparisons relative to these systems were coded as US-SU balances. This coding rule applied regardless of whether the journal author may have referred to "East versus West" rather than to the superpowers per se when making strategic system comparisons.

Questions 3 & 4

These questions are concerned with the DN author's conclusions as to which side was ahead at the time of writing and whether there was mention of any contrasting trends pointing out, e.g., that, while one side was superior, the other was closing the gap. Difficulty in coding responses to both questions did not happen frequently. Already mentioned have been those situations where DN authors talked of the U.S. and Soviets as being in a class by themselves.* There were also situations when some comparisons had to be coded as "split opinions" (referred to as "s.o.'s"). These occurred either because the authors were ambiguous or undecided as to whether one side was ahead or equal or because they had one side ahead in some circumstances and its adversary ahead in others.

Question #5

This question is concerned with the justifications an author provided. Problems in coding responses were not infrequent and centered mainly on whether some statements "qualified" as justifications. Two examples will illustrate. First, if an author wrote: "The Soviet Union has caught up with the Americans and is now at parity," should one code the "catching up" statement as a reason or

*See above, p. 9.

should one merely regard it as another way of saying that the Soviets were behind and are now equal? Second, if an author states that a Soviet missile shot demonstrates Soviet ICBM superiority, later adding that the Soviets are ahead in missile fuels and speed but not in accuracy, should one code the fuel and speed assertions as justifications. For the sake of completeness, the author decided to code these and similar cases--particularly those, such as in the second example, where it "made sense" to do so.

Question #6

Question #6--What sources of information are acknowledged?--was among the easiest to deal with and needs little elaboration. Either a source was mentioned or it was not. A source usually consisted of an article, book, report, person, group, or agency.

Question #7

Question #7--What triggering events were acknowledged?--was, in contrast, one of the most difficult to deal with. The writer originally intended to code only specific events such as the Sputnik I launching or the Cuban missile crisis but from time-to-time had to deal with vaguer references (as, e.g., "U.S. and Soviet strategic developments in the last year"). These were coded also since they were acknowledged as triggering an author's thinking.

In some articles a problem arose when the author would make some conclusion about an overall balance and elaborate by making conclusions about its constituent sub-balances. One event would be acknowledged as triggering the whole thought process. Should that event, then, have been coded only for the overall balance or for the constituent sub-balances also? For this study, they were recorded for each comparison.

Many times an author would begin an article by focussing on some

recent event--an event which seemed as if it might have triggered the article and comparisons contained therein. This raised the question: Was his mentioning the event merely a stylistic device by which to introduce the problem dealt with in the article or was it also mentioned because it had served to trigger his thinking? Even with a careful investigation of the context, it was often impossible to tell. Hence, the event was not coded.

Especially because of the third problem, this writer's level of confidence in the events data is not very high. I am not overly concerned about the validity of what I did code, but I am concerned about relevant data which never made it in the data set. In order to compensate for the problem, it might have been useful to code the topic or topics dealt with in relevant articles or c.i.'s.

Question #8

Question #8 required coding the comparison-associated recommendations made by the authors. While many were straightforward, causing no coding problems, a large number were not directly linked by the DN author to the comparisons with which they were associated by this writer. It was not at all unusual for a DN author to make comparisons in the course of an argument in which he made a number of other points and assertions. Numerous recommendations might also be made, but none would necessarily be tied in any direct, explicit, "cause-and-effect" manner to any of the points or comparisons made in the argument, yet particular recommendations seemed to this writer to flow logically from the comparisons made and hence were coded. In so doing I constantly sought not to make connections which the DN author simply did not intend to have made.

Collating the Data

Collating the data meant ascertaining the trends or patterns contained within them. The following questions guided the coding process:

(1) Did attention paid to a particular balance--where attention is measured by frequency of comparisons--increase or decrease?

(2) How do the balances rank relative to one another in terms of the frequency in which they appeared?

(3) What are the trends in perceptions about the state of each balance? Which balances seem most favorable for the U.S.? The Soviet Union? Which are most often perceived as in parity?

(4) What are the trends as to sources of information and triggering events?

(5) What patterns exist as to policy recommendations, especially if one links recommendations to their associated balance perceptions?

(6) As an indicator of the context in which the balances are viewed, do US-SU or N/W-S/S comparisons appear more frequently and do balance perceptions in one context differ significantly from those in the other?

Comments on the Data Base and Generalizations Made Therefrom

I have highlighted some of the problems associated with accumulating the data for this study. It should now be obvious that, because of the many judgments involved, coding Defense Nationale was both art and science. To have made it more purely scientific, i.e., more purely replicable, would have required developing either an overabundance of coding rules or leaving out relevant materials. The price of my proceeding as I did is that the numbers presented

in upcoming chapters should be viewed only as approximations of the frequency of the phenomena counted. Even as approximations, however, they provided the basis for making valid generalizations in response to the questions which guided the collating process. With the exceptions of the triggering events data and the data relevant to the general military power and war winning capability balance, my level of confidence in the generalizations is high. I have already elaborated on my reservations as to the former exception.* Concerning the latter, I do not feel that from the data I can give an accurate picture or rundown of DN perceptions. There were too many unresolvable, potentially relevant, ambiguous references which I felt forced to leave out. There were many references, e.g., to Soviet or American power in general which seemed to be military-associated but were never clear enough to rate coding. Because of my low level of confidence, I have placed the general military power/war winning capability information in Appendix II.

*See above, pp. 12-13.

PART II

STRATEGIC BALANCES

CHAPTER II

THE STRATEGIC NUCLEAR BALANCE

Introduction

The strategic nuclear balance (or SNB) category includes all comparisons of U.S. and Soviet capabilities to win a nuclear exchange and/or inflict nuclear destruction. It also encompasses three references restricted to comparing overall strategic nuclear delivery capabilities. It does not include references concerned with comparing more specific capabilities such as strategic missile systems per se or nuclear bombs. These are dealt with under other categories.

Since this category is more amorphous than others, it seems useful to present examples of comparisons coded as SNB references:

- a 1956 reference that both sides could reciprocally neutralize one another not only because of the number of atomic weapons each had but also because of the delivery systems and strategic nuclear defense systems possessed by both sides.
- a 1958 reference that since the U.S. homeland was now vulnerable, both sides were in a situation of approximate nuclear equality.
- a 1961 reference to the effect that victory no longer meant anything in a nuclear war and that both sides would be annihilated.
- a 1966 reference to "Soviet inferiority in the nuclear war area" since it was inferior in megatonnage, missile numbers, and missile protection.

- a 1970 reference that the U.S. and the S.U. realized the necessity to maintain the nuclear equilibrium, i.e., not disturb the actual equilibrium of strategic forces.

Table 1 presents and summarizes data on the frequency of SNB comparisons and on DN perceptions of the state of that balance. With 201 comparisons, the SNB far exceeded all others in frequency. The number of comparisons (31) was relatively low in the first five year period, but it then moved upward quickly and remained between 55 and 58 in each of the remaining three. Beginning with 1959, no year had less than 9 comparisons nor more than 15.

Balance Perceptions

Overwhelmingly the balance was perceived as in parity (168 comparisons and 2 s.o.) with the number of "pro-U.S." perceptions being small (28 and 2 s.o.) but somewhat respectable when considered with the unexpectedly low number (3) of "pro-Soviet" comparisons. In the three five-year periods between 1960 and 1974, the number of equality comparisons fluctuated in rough inverse proportion to the number of "pro-U.S." and "S.U." comparisons. The same phenomenon occurred in the 1957 - '58 time frame with the U.S. "benefitting" as the ratio shifted in its favor even though the Sputnik launch and other Soviet space spectaculars might have led one to hypothesize the opposite.*

Indeed, it was surprising the Soviets did not do better, particularly in the "missile gap" (1957-1961) and SALT (1970-1974) years. The three favorable Soviet comparisons did occur during the

*However, in line with such a hypothesis is that 3 of the 4 "pro-U.S." comparisons in 1958 were qualified by pointing out that the balance was shifting away from U.S. superiority.

Table 1

STRATEGIC NUCLEAR BALANCE

BALANCE PERCEPTIONS

Of 201 comparisons

28 + 2 s.o. favored U.S.

3 favored S.U.

168 + 2 s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	6	3	21	1 (U.S. or Eq.)	31
1960-1964	4		53	1 (U.S. or Eq.)	58
1965-1969	13		44		57
1970-1974	5		50		55

YEARLY BREAKDOWN

1955	1			1 (U.S. or Eq.)[a]	2
1956			3		3
1957	1[b]	1	7		9
1958	4[c]	1[d]	3		8
1959		1	8[e]		9
1960			15[f]		15
1961			9	1 (U.S. or Eq.)[g]	10
1962	1		9[h]		10
1963	1		12		13
1964	2		8		10
1965	5[i]		4		9
1966	3[j]		11		14
1967			9		9
1968	2[k]		11		13
1969	3[l]		9		12
1970	1[m]		8		9
1971			10		10
1972	1[n]		13		14
1973	2[o]		7		9
1974	1		12		13

Footnotes for Table 1

(a) Author said U.S. lost its sizable lead due to Soviet bomber progress.

(b) Comparison restricted to assessing which side had the better capability in nuclear weapons carriers as a group.

(c) One comparison qualified by saying that balance would surely move to equality. Second comparison qualified by saying S.U. was developing capability to neutralize U.S. even if U.S. had numerical superiority. Third comparison qualified by saying U.S. superiority margin was decreasing.

(d) Qualified by saying balance could shift as U.S. developed missiles.

(e) One comparison qualified by saying superiority could be expected to shift back and forth.

(f) One comparison restricted to assessing which side had the better capability in nuclear weapons carriers as a group.

(g) Author ambiguous.

(h) One comparison qualified by saying breakthrough could occur giving one side the edge.

(i) One comparison qualified by saying it was wise to project alternating cycles of superiority. Second comparison qualified by noting that Soviets had sufficient capability to neutralize U.S.

(j) One comparison qualified by saying that, even with the U.S. lead, both the U.S. and S.U. were in a balance of terror situation.

(k) One comparison qualified by saying that U.S. quantitative lead in strategic weapons systems was being closed and that Soviet missiles had more throw-weight and thrust. A second comparison qualified by saying that, while U.S. was superior quantitatively and qualitatively, the balance was moving towards equality.

(l) One comparison qualified by saying, "In view of the constraints of the Vietnam War, the United States has progressively lost a large part of its margin of nuclear superiority over the USSR. The way things are going, a balance could be reached by 1972." A second reference was restricted to comparing the number of strategic weapons carriers each side possessed. It was qualified by stressing need for U.S. to counter continued Soviet growth in ICBMs.

(m) Comparison qualified by saying S.U. was not far from achieving parity.

Footnotes for Table 1 (continued)

(n) Comparison qualified in that Soviets were closing gap and had an adequate second strike, in effect placing them in a situation equilibrium with U.S. even if they did not have parity.

(o) One comparison qualitative only, focussing on technology associated with the strategic nuclear balance.

"missile gap" years, but their number is very small relative to the 48 other comparisons made in the same period. In the SALT years Soviet strategic buildups were making themselves felt to the point of giving the USSR numerical superiority in the SALT I agreement but not felt enough to give the Soviets "pro-S.U." comparisons in Defense Nationale.*

In line with this writer's expectations, the U.S. made its strongest showing in the mid-to-late sixties. These were the years when Kennedy- and MacNamara-inspired strategic buildups were reaching their peaks..

As for equality comparisons, their distribution was widespread particularly after 1958 when only two years (1965 and 1973) had less than 8 equality references. The high year was 1960 with 15, and the high five-year period was the second with 53. The number dipped somewhat (to 44) in the third five-year period (the peak years of the Kennedy-MacNamara buildup) but shifted upward again (to 50) in the fourth period (the years of the Soviet buildup).

Justifications

DN authors justified 21 "pro-U.S." comparisons. In essence all argued (with varying degrees of detail or corroborating evidence) that the U.S. had or was developing better strategic strike or retaliatory response capabilities. In 1961 through 1966 DN authors particularly emphasized U.S. efforts to maintain a second strike capability either by projecting its retaliatory forces or building up its missile inventory such that it had counter-force or escalation

*In both periods, however, the U.S. did "suffer" so to speak. As pointed out in the previous footnote, 3 of the 4 "pro-U.S." comparisons in 1958 were qualified. Also there no "pro-U.S." references in 1959, 1960, and 1961. In the 5 SALT years there were only 5 comparisons favoring the Americans in contrast to 13 in the previous 5 years.

options not available to the Soviets. Indeed, in two of these (1965 and 1966), the authors doubted that the Soviets were economically capable of matching U.S. efforts. As the Soviets did increase their missile numbers and throw-weight, the writers focussed more and more on the significance of the U.S. qualitative superiority in strategic systems or the U.S. lead in warheads (the two sometimes being equated). This was the case in all explanations presented in 1968 and beyond. Only one author (1972) emphasized that this decisive qualitative advantage was only temporary since the Soviets were also working on MIRV technology.

Four pro-U.S. justifications (2 in 1965, one each in 1970 and 1974) involved a fairly detailed rundown of the superpower strategic arsenals. An additional two (1962 and 1964) involved a rundown of only the U.S. arsenal though in one (1964) the author made the point that the U.S. had twice as much strategic nuclear "potential" as the Soviets. The remaining justifications were restricted to focussing on one or a small number of factors such as the U.S. qualitative edge, U.S. superiority in missile or warhead numbers, and the like. Other than in the detailed justifications mentioned earlier, the U.S. lead in strategic bombers was mentioned 4 times (1957, 1958, 1960 and 1961) and served as an important reason why DN authors rated the U.S. superior in the "missile gap" years.

Of the three pro-Soviet comparisons, only two were justified. The Soviet launching of two satellites was justification enough for a 1957 author. His counterpart in 1958 went into greater detail, citing what he viewed as Soviet superiority in missile delivery systems, Soviet possession of FBM boats at a time when the U.S. was still building theirs, and the aging (in 1958!) of U.S. B-52 aircraft and their high susceptibility to destruction either in the

ground or in the air. The third writer did not feel any need to explain his views, referring to the Soviet position as of one of "obvious superiority."

As stated earlier, the numerical superiority given the USSR in SALT I did not result in any"pro-Soviet"comparisons. Instead, the SALT I accords were viewed on at least five occasions from 1972 to 1974 as "codifying" parity. That viewpoint is not inconsistent with the constantly recurring reason (appearing 98 times) justifying equality comparisons: the DN authors' belief that the superpowers were in a situation of strategic nuclear sufficiency or balance of terror. This thought was often accompanied by the assertion that numbers no longer counted, for, even if one side were quantitatively inferior, it was in effect equal if it had enough to deter and neutralize the other. Sometimes mentioned independently, but more often in conjunction with the sufficiency reason, was the point that the Soviets, because of their delivery system programs, had finally "caught up" with the United States. On three occasions (all in 1974) continued U.S. qualitative superiority was the reason which justified rating both sides as equal even though the Soviets did have numerical superiority in missiles.

Most DN authors did not bother to provide detailed corroborating evidence for their equality views. In fact, only 3, for example, went into detailed comparative investigation of the strategic nuclear capabilities of the two powers.

Sources of Information

DN authors acknowledged sources of information in 18 articles or c.i.'s. The most frequently mentioned sources (occurring in 10 articles or c.i.'s)were associated with the U.S. legislative or

executive branches and particularly with the latter. These are identified below together with the year they appeared:

- Senator Symington, Admiral Rickover, and the budget submission to Congress (1958)
- General Powers (head of SAC) and the budget submission to Congress (1959)
- the Defense Department and the budget submission to Congress (1962)
- Secretary of Defense's Annual Report (1964)
- the Defense Department (1965)
- Secretary MacNamara (1967)
- Secretary MacNamara (1968)
- Dr. John Foster (1968)
- the JCS Chairman's Annual Report and the Secretary of Defense's Annual Report (1973)
- the JCS Chairman's Annual Report, the Secretary of Defense's Annual Report, and Secretary Schlesinger's testimony (1974)

Publications of the London Institute for Strategic Studies figured in 3 comparisons. These were Strategic Survey of 1967 (mentioned in 1968) and Military Balance for both 1970-1971 and 1972-1973 (mentioned in 1970 and 1972 respectively). U.S. News and World Report was acknowledged twice (both times in 1962) as was Aviation Week (once in 1958 and again in 1969). The 1969-1970 Stockholm International Peace Research Institute Yearbook was cited in 1971.

Triggering Events

Most triggering events can be grouped under a number of headings. The largest group (18 events) is associated in one way or another with arms control. Only two occurred before 1970 - a Soviet disarmament proposal (1959) and the signing of the Limited Nuclear Test Ban Treaty (1963). The remaining 16 appeared from 1970

through 1974. Fourteen dealt with the SAL, CSCE, or MBFR talks. Either alone or in conjunction with the others, SALT events were mentioned 11 times, MBFR events 6 times and CSCE events 5 times. Occurring once each were: (1) the U.N. General Assembly vote on a treaty barring weapons of mass destruction on the ocean floor (1972) and (2) talk in the U.S. about the U.S. troop withdrawal from Europe (1973).

The second largest group involves 12 NATO or Western alliance events. Ten of these dealt with meetings between two or more high level Western officials to discuss common foreign and defense policy:

- meeting of Western leaders to work out a common Western approach for the Paris summit (1960)
- meeting of American and French Presidents plus the Canadian and British Prime Ministers (1960)
- Henry Kissinger, as representative for JFK, discussed military strategy with W. German leaders (1961)
- Dean Rusk met with NATO leaders (1962)
- MacMillan and Kennedy meeting in the Bahamas to discuss the Skybolt system (occurred twice in 1963 as a TE)
- NATO Parliamentarians meeting (1965)
- NATO Council's adoption of flexible response as NATO strategy (1968)
- Washington meeting on the occasion of NATO's 25th anniversary (occurred twice in 1974).

The remaining events were: (1) the Atlantic Institute's review of NATO (1964) and (2) NATO's 20th anniversary (1969).

In 11 instances the publication of a book, article, or report was sufficient to trigger thinking:

- an article by Henry Kissinger in Deadulus on U.S. military strategy (1961)
- an U.S. News and World Report article on the U.S. nuclear arsenal (1961)

- a U.S. News and World Report article on U.S.-Soviet strategic missiles (1963)
- publication of the naval annuals, official notices, and end-of-the-year articles on navies (all of which triggered thinking on the ballistic missile boat balance and consequently to the strategic balance) (1968)
- a book by G. Rathjens on the future of the strategic arms race (1969)
- current issue of Military Balance (1970)
- the SIPRI Yearbook for 1969-70 (1971)
- Neville Brown's study on the future of Europe (1972)
- current issue of Military Balance (1972)
- the Secretary of Defense's Annual Report (1974)
- the JCS Chairman's Annual Report

Three groups of events all occurred 8 times each. The first consists of U.S. military policy debates, decisions, or announcements:

- promulgation of U.S. defense budgets and associated advocacy of flexible response (1962)
- debate in the U.S. over strategic nuclear weapons developments (1966)
- MacNamara'a announcement of the U.S. decision on ABM (1967)
- statements by various high U.S. officials that the Soviet Union was pulling ahead militarily (1968)
- Congressional vote on ABM (1968)
- Secretary of Defense Schlesinger's advocacy of a new strategic targetting doctrine (occurred in 3 instances in 1974).

The second unites together four crises. These involved Suez (1957), Berlin (twice in 1959 and once in 1960), missiles in Cuba (three times in 1962 and 1963), and Czechoslovakia (1968).

The third group encompasses Soviet achievements, statements, actions or (in one case) inaction. Four were space - or missile - related: 3 dealing with Sputnik launches and ICBM developments

(in 1957 and '58) and one with cosmonaut Titov's space flight (1961). The remaining four were: (1) Soviet advocacy of peaceful coexistence in 1960; (2) Marshal Malinovski's announcement at the Twenty-Second CPSU Congress (1961) that the Soviet Union had solved the problem of interdicting missiles in flight; (3) Soviet demonstration of missile power at the 1967 Moscow October Revolution Day Parade; and (4) Moscow's passivity to U.S. plans to cut back forces in Germany.

French achievements, declarations, or announcements triggered thinking on 6 occasions. Four were associated with "force de frappe" developments (twice in 1960, once in 1963 and 1970); one with a French decision on construction of ballistic missile submarines (1966) and one with France's decision to pull out of the NATO military structure (1966).

Events involving leadership changes were instrumental 3 times and NATO maneuvers twice (the latter in 1955 and 1961). The leadership changes included the nomination of Maxwell Taylor (advocate of flexible response) to be "military representative of the President" (1961), Adenauer's retirement (1963), and Lyndon Johnson's election as President (1965).

The following events were each mentioned once:

- international meeting of experts on the prevention of surprise attack (1959)
- Britain's renunciation of the Blue Streak missile system (1960)
- W. German rearmament developments (1960)
- the recent trend toward Soviet - U.S. detente (1964)
- U.S. doing away with the B-47 (1965)
- U.S. talks with China (1971)

Recommendations

With varying frequency, there were essentially seven recommendations made by DN authors. The one which recurred most frequently (47 times) was a recommendation that France (either alone or sometimes in concert with other European states) should develop a force de frappe. In all cases except three, it occurred when the balance was perceived as in equality. The exceptions were in 1957 when the Soviets were perceived as superior and in 1958 when the U.S. was perceived as superior in two qualified comparisons.

It is difficult to discern any identifiable pattern in the distribution of these recommendations. Per five-year period the distribution was 8, 10, 12, and 16, possibly indicating an increasing tendency in the last few years to have France develop her own force or work with her neighbors for a European system.

Force de frappe recommendations were often accompanied by a number of assertions. One was that the U.S. should not be counted on to "trade New York for Paris" with the Soviets achieving sufficiency or better. Two closely related assertions were that France (and/or Europe) could not achieve status as a great power or as a partner equal to the U.S. in Western Alliance deliberations without possessing nuclear weapons. On a few occasions these last two were accompanied by the thought that France must do what is necessary to prevent a superpower condominium dictating to her, Europe, or the world.

Occurring 37 times were recommendations that called for members of the Western Alliance to increase their capabilities for flexible response so as to avoid, in an age of sufficiency on both sides, the prospect of suicide or defeat - the latter reflecting perceived Soviet conventional superiority in the European theater. These recommendations

were associated with perceived strategic equality in all but two cases (a qualified "pro-U.S." comparison in 1958 and an unqualified one in 1965). Their distribution suggests a general trend of decreased frequency. The breakdown per five-year period in 10, 12, 9, and 5 recommendations.

One should not be surprised that DN authors did, in relatively good numbers, recommend flexible response. Still, if one considers that President de Gaulle opposed flexible response and advocated continued reliance on massive retaliation, one might not have hypothesized such a high relative frequency. It seems particularly high when compared to the relatively small number of times (8) when de Gaulle's views were advocated (all between 1960 and 1969). Massive retaliation supporters saw flexible response as serving only to invite conventional Soviet aggression against Western Europe. These arguments all followed equality comparisons except in one case where the U.S. was perceived as superior.

Twenty recommendations called upon the West to react to Soviet psychological, subversive, or politico - economic warfare in Third World countries and/or in Western Europe. All except one (a 1971 recommendation) occurred between 1957 and 1964 (13 in 1957 to 1960 alone). They are consistent with Khrushchev's tenure in office and his advocacy of "peaceful coexistence" with the West and support for "wars of national liberation" in developing states. All reflect perceptions of equality and the accompanying belief of DN authors that,with strategic sufficiency and balance of terror, the Soviets were confident they could deter Western nuclear pressure as they sought to increase by non-military means their political leverage throughout the world.

Ten recommendations supported the view that strategic nuclear stability was a desirable situation and that the balance should not be upset. The ten occurred in 1957, 1961, 1966 through 1971, and in 1974. For the most part, these were accompanied by the thought that neither side should increase their nuclear power or seek some kind of advantage. On one occasion (1967), the DN author was clearly concerned that the U.S. might fall behind and called upon it to insure it did not do so. All but one (a 1974 "pro-U.S." comparison) were made in conjunction with equality comparisons.

Two recommendations appeared seven times or less. These were that (1) both sides should pursue nuclear arms limitation talks (recommended twice in 1960 and five times in the SALT period from 1969 through 1972) and (2) that the West must exhibit unhesitating will to use nuclear weapons in case of Soviet aggression (once each in 1956, 1957, and 1965). With one exception, these occurred with equality comparisons. The second recommendation was made once in conjunction with a "pro-U.S." reference (1965).

CHAPTER III

THE STRATEGIC NUCLEAR BOMBS AND WARHEAD BALANCE

Introduction

This category includes references comparing which side had more and/or better bombs and warheads, more associated megatonnage, or better bomb and warhead development programs. Some comparisons dealt only with bombs or only with warheads while others dealt with both as a group and were so coded. In most cases identifying comparisons for coding was a relatively simple task, but there was difficulty in ascertaining if megatonnage comparisons dealt with total megatonnage or with warhead megatonnage only. This writer did not control for the difference.

As per Table 2, there were 22 comparisons with each five-year period having 6 or 7 except the second, which had only 2. For the most part, comparisons prior to 1963 dealt with bombs only and those after 1964 with bombs and warheads together or warheads only.

Balance Perceptions

DN authors most frequently--i.e., in about half the cases--saw this balance as favoring the U.S., especially from 1965 on. They least frequently saw it favoring the Soviets, who were rated ahead 3 times (plus 1 s.o.) and only in references restricted to comparing megatonnage. There were 7 equality comparisons, 6 of which were made prior to 1963.

Table 2

STRATEGIC NUCLEAR BOMBS AND WARHEADS

BALANCE PERCEPTIONS

Of 22 comparisons

11 + 1 so favored U.S.

3 + 1 so favored S.U.

7 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	2		4		6
1960-1964			2		2
1965-1969	5	2			7
1970-1974	4	1	1	1 (U.S. + S.U.)	7

YEARLY BREAKDOWN

1955			1		1
1956			1		1
1957	1[a]				1
1958			1		1
1959	1[b]		1		2
1960			1		1
1961					
1962			1		1
1963					
1964					
1965	1[c]				1
1966	2[c]				2
1967					
1968		1[c]			1
1969	2[d]	1[e]			3
1970	1[f]				1
1971	1[f]				1
1972			1		1
1973	1[g]	1[h]			2
1974	1[i]			1 (U.S. + S.U.)[j]	2

Footnotes for Table 2

(a) Qualified by saying both had enough bombs to meet their objectives.

(b) Restricted to quantitative comparison of bomb stocks.

(c) All comparisons from 1965 through 1968 were megatonnage only.

(d) One reference restricted to quantitative comparison of both bombs and warheads.

(e) Megatonnage comparison only.

(f) References for 1970 and 1971 were restricted to quantitative comparisons of both bombs and warheads.

(g) Quantitative comparison of warheads only.

(h) Megatonnage comparison.

(i) Ditto footnote (g) above.

(j) DoD author saw U.S. as superior in warheads and S.U. in megatonnage. Megatonnage reference qualified by saying that the U.S. was not behind if one adopted Pentagon concept of "equivalent megatonnage" vice utilizing "normal megatonnage" data.

Justifications

Thirteen comparisons (including the "S.U." part of the 1974 s.o.) were strictly quantitative and need no elaboration. Four other comparisons were justified. Two (one in 1969 and one in 1974) dealt with U.S. superiority in warheads, and both entailed emphasis on U.S. development and deployment of MIRVs with one (1969) also citing U.S. miniaturization technology as evidence of U.S. superiority. The remaining two were justifications of equality perceptions. One author (1960) accepted the results of Soviet nuclear tests as proof that the Soviets had reached the level of the U.S. in bomb developments. A second (1962) relied upon agreement among the CIA, the AEC, the Pentagon, and the President's advisers that the Soviets could construct warheads equal to the U.S. In addition, he also referred to tests which indicated Soviet progress in warhead detonators.

Sources of Information

Sources of information were acknowledged on four occasions:

-The CIA, AEC, Pentagon, and the President's advisors (1962).

-The Annual Report of the Secretary of Defense (1969).

-The current issue of Military Balance (1970).

-The Annual Report of the JCS Chairman.

Triggering Events

DN authors acknowledged triggering events on 13 occasions, and it seems best simply to list them below in chronological order:

-Developments in the fusion bomb area (1955)

-British H-bomb developments (1956)

-The Berlin crisis and related boasting by Soviet military leaders of Soviet military superiority (1959)

-U.S. resumption of nuclear weapons tests (1962)

-U.S.-Soviet strategic nuclear balance developments in the preceding year (1966)

-Statements by high American officials that the U.S. was falling behind militarily (1968)

-Publication of the Annual Report of the Secretary of Defense (1969)

-Publication of the 1969-1970 Military Balance, which triggered thinking because it did not go into the warhead area (1969)

-Publication of the 1970-71 Military Balance (1970)

-President Nixon's reelection victory (1973)

-Ongoing CSCE, MBFR, and SALT II negotiations (1973)

-Announcement and elaboration of Secretary Schlesinger's targeting doctrine (twice in 1974)

Recommendations

There were three recommendations, and all followed equality comparisons:

-Especially because of parity, the Soviets are posing a challenge to the West in the Third World and the West must react (1960).

-U.S. resumption of nuclear weapons testing is understandable and necessary (1962).

-France was right to develop its force de frappe because of the independence it gives it vis-a-vis the superpowers.

CHAPTER IV

STRATEGIC MISSILES (AGGREGATE)

Introduction

The "strategic missiles (aggregate)" heading encompasses references to strategic missiles-in-general, land-based ICBMs, and SLBMs. Comparisons were readily identifiable and dealt either with which side had more and/or better missiles or better associated development programs. For the purposes of convenience and of presenting data in the most informative manner, it is best to deal first in detail with subsets of the overall heading and at the end to aggregate all frequency and balance perceptions data into one table.

STRATEGIC MISSILES-IN-GENERAL AND LAND-BASED ICBMs

Introduction

As already noted,* it was not always possible, particularly in the early years, to ascertain if an author's reference was meant to apply to strategic missiles-in-general or to land-based ICBMs only. Hence, for the purposes of coding and tabulation, these were grouped together. In three articles or c.i.'s, the authors clearly differentiated and separately compared U.S. and Soviet capabilities in both areas. Each comparison was separately coded.

As seen in Table 3, there were 42 comparisons toto. With 16 comparisons, the immediate post-Sputnik period (1958-1960) seems to be one of particularly strong DN concern. In contrast, the years 1961 through '64 and 1972 through '74 seem to reflect decreased concern with only 2 and 3 comparisons respectively. Strictly quantitative references were very prominent after 1961, accounting for 14 of the 23 comparisons from 1962 through 1974.

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*See above, p. 7.

Table 3

STRATEGIC MISSILES-IN-GENERAL AND LAND-BASED ICBMs

BALANCE PERCEPTIONS

Of 42 comparisons

11 + 3 so favored U.S.

22 + 2 so favored S.U.

6 + 1 so indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959		10	2		12
1960-1964	2	5		1 (U.S. or Eq.)	8
1965-1969	9	1	2	1 (U.S. + S.U.)	13
1970-1974		6	2	1 (U.S. + S.U.)	9

YEARLY BREAKDOWN

1955					
1956			1[a]		1
1957		1			1
1958		5	1		6
1959		4[b]			4
1960		5[c]		1 (U.S. or Eq.)[d]	6
1961					
1962	1[e]				1
1963	1[f]				1
1964					
1965	3[g]			1 (U.S. + S.U.)[h]	4
1966	2[i]				2
1967					
1968	2[j]	1			3
1969	2[k]		2[l]		4
1970		1[m]	2[n]		3
1971		3[o]			3
1972					
1973				1 (U.S. + S.U.)[p]	1
1974		2[q]			2

Footnotes for Table 3

(a) Based on assumption Soviets were making progress comparable to the Americans.

(b) One comparison qualified by saying S.U. "slightly" ahead. Second comparison qualified by saying S.U. not more than one year ahead.

(c) Three comparisons qualified by saying Soviet lead in missiles-in-general (one comparison) or land-based ICBMs (two comparisons) would be compensated for or remedied by U.S. Polaris developments. Fourth comparison qualified by saying Soviet lead not definitive.

(d) Journal author ambiguous.

(d) Quantitative only.

(f) Quantitative only.

(g) One quantitative only. One restricted to comparing technical quality of missiles.

(h) U.S. viewed ahead in total numbers and the Soviets ahead in the size and power of individual rockets.

(i) One quantitative only.

(j) Both quantitative only.

(k) Both quantitative only.

(l) Both quantitative only.

(m) Quantitative only.

(n) One quantitative only.

(o) Two quantitative only.

(p) U.S. ahead qualitatively and S.U. quantitatively though S.U. seen p[illegible]suing qualitative route also.

(q) Both qualified by saying that U.S. MIRV would compensate for Soviet lead. One also viewed U.S. forward bases and strategic bombers as compensating items.

Balance Perceptions

The Soviets did very well in this category, receiving 24 favorable comparisons (including 2 s.o.) vice 14 for the U.S. (including 3 s.o.) and 7 (with 1 s.o.) indicating equality. These last comparisons occurred either before 1961 (2 plus 1 s.o.) or in 1969-1970 (in 4 comparisons). The "pro-U.S." and "S.U." comparisons followed a cyclic pattern of superiority. The Soviets (as one would expect) overwhelmingly dominated in the Sputnik and "missile-gap" years of 1957 through 1960. The U.S. dominated in turn in the Kennedy-MacNamara strategic buildup years from 1962 through 1969. The Soviets then dominated again (1970-1974) when their own buildup was making itself felt.

Nine favorable U.S. comparisons were strictly quantitative, as were 3 favoring the Soviet Union and 3 indicating equality.

Justifications

Other than in strictly quantitative comparisons, justifications were presented in 16 articles or c.i.'s. On six occasions (all from 1957 through 1960), "pro-Soviet" comparisons were justified by referring to demonstrated Soviet satellite or missile successes. In two of these cases, Soviet successes were specifically contrasted with U.S. problems or failures. Soviet superiority in rocket motors, fuels, thrust, and the like also entered into some of the preceding and in two other justifications (1959 and 1965). One author reasoned that the Soviets were "outclassing" the U.S. in missile developments (1971).

A variety of reasons justified "pro-American" references. In a split-opinion in 1960 the U.S. was viewed as possibly ahead in missiles-in-general because of its superiority in mobile, relatively invulnerable, submarine-launched Polaris missiles. In 1965 it was

perceived as ahead because it was widely deploying the Minuteman, viewed by the DN author as the world's most advanced ICBM. On two occasions (1965 and 1966) DN authors attributed both qualitative and quantitative superiority to the U.S. and justified the latter by noting that the U.S., with hardened sites and the like, better protected its missiles for second strike than did the Soviets. Though he rated the Soviets as quantitatively superior, one author in a 1973 split opinion rated the U.S. as qualitatively superior due to its MIRV capability.

There were few justifications of equality comparisons. One author made the interesting argument in 1956 that one should assume that the Soviets have the same or comparable systems and capabilities as the U.S. and that one should not, as had been done in the past, underestimate the Soviets. That U.S. qualitative superiority served to cancel out the Soviet quantitative superiority was reason enough for a 1969 author to rate both sides as equal.

Sources of Information

Sources affiliated with the U.S. Government appeared in 9 articles or c.i.'s:

- Senator Symington and Admiral Rickover (1958)
- A U.S. General Philips (1959)
- General Curtiss Lemay (1959)
- "recent statements by high U.S. officials" (1968)
- Secretary MacNamara (1968)
- The Secretary of Defense's Annual Report (1969)
- Secretary Laird (1969)
- The Defense Department (1971)
- The JCS Chairman's Annual Report (1973)

Non-governmental yearly reviews of military affairs were mentioned four times:

- Military Balance (once in 1968 and once in 1971)
- Aerospace International's Yearly Review (1970)
- the 1969-1970 SIPRI Yearbook

The remaining sources occurred once or twice:

- general references to the American press or T.V. (once in 1958 and once in 1959) and a reference specifically to a Joseph Alsop column (1959)
- Aviation Week (once in 1958 and once in 1962)
- U.S. News and World Report (1963)
- Asher Lee, indentified as a noted authority in missile affairs (1959).

Triggering Events

Triggering events fall into a number of groups. One encompasses U.S. or Soviet missile achievements:

- Sputnik launchings (once each in 1957 and 1958)
- successful Soviet missile shot coincident with the Berlin crisis (1959)
- U.S. Polaris developments (four times in 1960)
- U.S. and Soviet ICBM developments in the last year (1966).

A second consists of statements, announcements, or policy decisions by high-level U.S. or Soviet officials and budget submissions in the U.S.:

- Soviet announcements and boasts of their missile power at the time of the Berlin crisis (occurred twice in 1959 with one occurrence tied to the successful Soviet

missile shot mentioned above)

- statements by high U.S. officials that the U.S. is falling behind militarily (1968)
- MacNamara's budget submission to the Congress (1968)
- statement by Secretary Laird on the Soviet nuclear threat (1969)
- announcement of U.S. decision to install the Safeguard system (1971)
- announcement and budget submission relative to Secretary Schlesinger's targetting doctrine (occurred twice in 1974)

A third group deals with the publication of the following books or monographs:

- Henry Kissinger's Nuclear Weapons and Foreign Policy and Robert Osgood's Limited War (both triggered the same comparison in 1958)
- current issues of Military Balance (1968 and 1970)
- the U.S. Secretary of Defense's Annual Report (1969)
- Aerospace International's Yearly Review (1970)
- the 1969-70 SIPRI Yearbook (1971)

A fourth group involves SALT, MBFR, and CSCE events. SALT was mentioned alone in 1970, and all three were mentioned together once in 1973 and once again in 1974.

Of the remaining events, two concerned French decision-making on their nuclear rocket program (1958 and 1965), and one concerned a NATO study then in progress of the nuclear and missile balances.

Recommendations

Seven authors made recommendations, and of these three encouraged France to develop her own nuclear missiles. Two offered this recommendation in connection with viewing the Soviets ahead (once in 1957 and once in 1958), and one did so in connection with viewing the U.S. ahead quantitatively but the Soviets ahead in the size and power of individual missiles. Other authors favoring the Soviets also called upon: (1) the West to maintain an effective deterrent while increasing flexible response capability (1959); (2) the West and France to react to the Soviets' taking advantage of their rocket successes to impress the Third World (1960); and (3) the U.S. to move ahead with its Safeguard ABM program (1971). One author who perceived the U.S. as superior criticized it for not helping France develop her nuclear deterrent, and he encouraged his country to continue in its endeavors (1962).

THE SLBM BALANCE

Introduction

There was no difficulty in identifying SLBM comparisons, of which there were 15 in all. They occurred from 1960 through 1973 with only 4 occurring before 1966. (See Table 4.) Five comparisons were quantitative only.

Balance Perceptions

In contrast with the ballistic-missile-in-general/ICBM balance, the U.S. was overwhelmingly perceived as superior and the Soviets no better than equal (once in 1962 and once in 1969). All strictly quantitative comparisons favored the U.S.

Justifications

The United States was perceived as superior (once in 1966 and twice in 1969) or probably so (the split opinion in 1962) because

Table 4

SUBMARINE-LAUNCHED BALLISTIC MISSILES

BALANCE PERCEPTIONS

Of 15 comparisons

13 + 1 s.o. favored U.S.

0 favored S.U.

1 + 1 s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

			Eq.		Number of Comparisons
1955-1959					
1960-1964	3			1 (U.S. or Eq.)	4
1965-1969	4		1		5
1970-1974	6				6

YEARLY BREAKDOWN

1955					
1956					
1957					
1958					
1959					
1960	2				2
1961					
1962	1			1 (U.S. or Eq.)[a]	2
1963					
1964					
1965					
1966	1[b]				1
1967					
1968	1[c]				1
1969	2		1		3
1970	2[d]				2
1971	3[e]				3
1972					
1973	1				1
1974					

Footnotes for Table 4

(a) Journal author ambiguous.

(b) Qualified by saying Soviets were ready to put a Polaris-type missile into service.

(c) Quantitative comparison of Polaris-type only.

(d) One quantitative only.

(e) Quantitative only. One qualified by saying Soviets would move ahead by 1974.

it was the first to develop an SLBM with submerged-launch capability and/or because its missile had more power and range than Soviet SLBMs. In 1970 it was rated as superior because it had both more and better SLBMs - better because they were being fitted with MIRVs. The Soviets were seen as equal (1968) or possibly so (1962) because they had or were assumed (in 1962) to be putting into service missiles comparable to the U.S. Polaris.

Sources of Information

With 3 mentions (1968, 1969, and 1970), the current issue of Military Balance was the most frequently recurring source of information on SLBMs acknowledged by the DN authors. On four occasions DN authors referred to sources associated with the U.S. Senate (i.e., a 1968 reference to a Senate report) or with the Defense Department (i.e., a 1969 reference to the Secretary's Annual Report, a 1971 reference to the Department in general, and a 1973 reference to the Annual Report of the Chairman of the Joint Chiefs of Staff). Aerospace International's Yearly Review and SIPRI's 1969-1970 Yearbook were the only other acknowledged sources.

Triggering Events

Other than the Senate report and the JCS Chairman's Report, the publication of each of the sources specified above was an event which triggered thinking on the balance in each case. Other triggering events were:

- launching of U.S. Polaris boats (1960)
- U.S. ballistic missile submarine developments (1962)
- the Cuban missile crisis (1962)
- the U.S. Defense Department's proposal to accelerate production of nuclear attack submarines (1969)

- SALT entering a new phase (1971)
- ongoing SALT II, MBFR, and CSCE negotiations (1973).

Recommendations

There were no recommendations specifically associated with the SLBM balance.

STRATEGIC MISSILES (AGGREGATE):
FREQUENCY AND BALANCE PERCEPTIONS

Table 5 aggregates the frequency and balance perceptions data contained in Tables 3 and 4. In light of SALT I, it is very surprising that there were more strategic missile references in 1965 through 1969 than in 1970 through 1974. Also within the '70 - '74 period there was a definite decrease in concern (as measured by comparisons) since 11 comparisons were made in 1970 and 1971 but only 4 from 1972 through 1974.

The net effect of the Soviets leading in the strategic missiles-in-general and land-based ICMBs and the U.S. leading in SLBMs is that each was viewed as superior in a nearly equal number of instances when one aggregates these sub-categories. However, when one contrasts the totals in the third five-year period with those of the fourth one sees that recent trends definitely benefit the Soviets. There was a sharp increase in "pro-S.U." comparisons while at the same time there was a significant decrease in "pro U.S." references.

Table 5

STRATEGIC MISSILES (AGGREGATE)

BALANCE PERCEPTIONS

Of 57 comparisons

24 + 4 s.o. favored U.S.

22 + 2 s.o. favored S.U.

7 + 2 s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959		10	2		12
1960-1964	5	5		2 (U.S. or Eq.)	12
1965-1969	13	1	3	1 (U.S. + S.U.)	18
1970-1974	6	6	2	1 (U.S. + S.U.)	15

YEARLY BREAKDOWN

1955					
1956			1		1
1957		1			1
1958		5	1		6
1959		4			4
1960	2	5		1 (U.S. or Eq.)	8
1961					
1962	2			1 (U.S. or Eq.)	3
1963	1				1
1964					
1965	3			1 (U.S. + S.U.)	4
1966	3				3
1967					
1968	3	1			4
1969	4		3		7
1970	2	1	2		5
1971	3	3			6
1972					
1973	1			1 (U.S. + S.U.)	2
1974		2			2

CHAPTER V

THE BALLISTIC-MISSILE SUBMARINE BALANCE

Introduction

This balance includes all statements as to which side had more and/or better boats and all statements comparing the progress each side was making in its boat development and production programs. Comparisons were easily identified.

There were 21 comparisons spread throughout the years from 1958 on (see Table 6) with no strong concentration in any year or group of years. Five comparisons were strictly quantitative as were the "S.U." portions of the 3 split opinions.

Balance Perceptions

This was a strong balance for the U.S. since it received a significantly larger number of favorable comparisons (14 and 3 s.o.) than did the Soviet Union (3 and 3 s.o.). Six of the favorable American references (including the "U.S." portions of the 3 s.o.'s) focused only on technical-qualitative features of the submarines. Two were quantitative comparisons of Polaris-types only. Five "pro-S.U." comparisons (including the "S.U." portion of the 3 s.o.'s) were quantitative only. At no time (except possibly in 1958) were Soviet nuclear-powered boats ever seen as superior to those of the U.S. in a technical-qualitative sense.* This qualitative superiority may partially explain why the Soviets did not do better even in those years (the early sixties) when they had quantitative superiority in ballistic

*The U.S. has never had diesel-powered ballistic-missile submarines.

Table 6

BALLISTIC MISSILE SUBMARINES

BALANCE PERCEPTIONS

Of 21 comparisons

14 + 3 s.o. favored U.S.

3 + 3 s.o. favored S.U.

1 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	2	1			3
1960-1964	4			1 (U.S. + S.U.)	5
1965-1969	5	1	1	1 (U.S. + S.U.)	8
1970-1974	3	1		1 (U.S. + S.U.)	5

YEARLY BREAKDOWN

1955					
1956					
1957					
1958					1
1959	2				2
1960	2				2
1961					
1962	1[a]			1 (U.S. + S.U.)[b]	2
1963					
1964	1[c]				1
1965	1[d]			1 (U.S. + S.U.)[e]	2
1966	2				2
1967					
1968			1[f]		1
1969	2[g]	1[h]			3
1970	1[i]				1
1971					
1972	1[j]			1 (U.S. + S.U.)[k]	2
1973	1[l]				1
1974		1[m]			1

Footnotes for Table 6

(a) Comparison restricted to stating Soviets did not have submerged launch capability the U.S. had.

(b) U.S. viewed ahead qualitatively and S.U. quantitatively.

(c) Comparison restricted to technical quality of submarines.

(d) Ditto previous footnote.

(e) Ditto footnote (b) above.

(f) Quantitative comparison only.

(g) One is a strictly quantitative comparison of nuclear-powered ballistic missile boats. It was qualified by saying S.U. might equal U.S. around 1975.

(h) Quantitative comparison of diesel-powered ballistic missile boats.

(i) Comparison of Polaris-type boats only.

(j) Quantitative comparison of Polaris-type only. Qualified by saying Soviets expected to reach equality by 1974.

(k) Ditto footnote (b) above.

(l) Comparison of Polaris-type only. Qualified by saying the Soviets might reach equality soon.

(m) Quantitative comparison only. Qualified by saying that the Soviet lead compensated for by U.S. "MIRVing" of its SLBMs.

missile boats overall. The "pro-Soviet" comparison in 1974, a year when the U.S. received no favorable mentions, may signal the beginning of a trend favoring the U.S.S.R. because at about that time it achieved quantitative superiority in boats roughly comparable to American boats in quality. One can hypothesize this trend will continue until the U.S. Trident system becomes operational. The one equality comparison (1968) was quantitative only.

Justifications

The following reasons justified viewing the U.S. as ahead:

-U.S. boats can fire a missile when submerged while Soviet submarines cannot. (Once in 1959 and twice in 1962)

-U.S. boats carry more and/or better missiles, including missiles capable of longer ranges. (Twice in 1962, once in 1965, and twice in 1966)

-The U.S. produced nuclear-powered ballistic missile submarines before the Soviets did. (1959)

-U.S. boats are relatively large and all are nuclear-powered while Soviet boats are smaller and the majority are diesel-powered. (1964)

The pro-Soviet comparison in 1958 was the only one favorable to the USSR (including s.o.'s) which was not strictly quantitative. The DN author emphasized in that instance the Soviets already had ballistic missile boats operational while the U.S. was not expected to have them for two years. As already noted, the one equality comparison was quantitative only.

Sources of Information

Among acknowledged sources of information, the current issue of Flottes de Combat was mentioned three times (1960, 1968 and 1972) and the following once each:

-Asher Lee, a "noted authority" (1959)

-The Atlantic Council Standing Group Report (1962)

-The U.S. Defense Department, U.S. Congress budget data, and Jane's Fighting Ships (all mentioned together in 1962)

-Numerous official notices, end-of-the-year articles in specialized French and foreign journals and especially publication of the 1968 naval annuals (all mentioned together in 1968)

-A statement of Secretary of Defense Laird (1969)

-The current issue of Military Balance (1969)

-The International Institute of Strategic Studies (1970)

-The Annual Report of the Chairman of the Joint Chiefs of Staff (1973)

Triggering Events

Publication of some of the above sources prominently figured as triggering events. These included the three Flottes de Combat references, the Atlantic Council Standing Group Report, the "numerous official notices, end-of-the-year articles...," the Laird statement, and Military Balance. There were, in addition, seven other triggering events, and it will suffice to merely list them here:

-Soviet rocket developments (1958)

-Khrushchev's boast about Soviet military superiority at the Berlin crisis (1959)

-Recent U.S. and Soviet progress in missiles (1959)

-U.S. ballistic missile boat developments (1962)

-Opening of the Helsinki SALT (1970)

-Ongoing SALT 1I, MBFR, and CSCE negotiations (1973)

-Announcement of Secretary Schlesinger's targeting doctrine (1974)

Recommendations

One recommendation was made. In a 1972 comparison where the author viewed the U.S. as ahead quantitatively, but with the Soviets approaching equality, the author recommended against the U.S. building more submarines simply to stay ahead of the U.S.S.R. He recommended that the U.S. concentrate instead on improving its capabilities for detecting Soviet boats.

CHAPTER VI

STRATEGIC BOMBERS/STRATEGIC AVIATION

Introduction

Included in this category are references comparing which side had more and/or better bombers in general, more and/or better strategic bombers in particular, better strategic aviation capability, or a better bomber or strategic aviation development program. Of primary concern were references to heavy or long-range bombers or bombers which could leave one side's homeland, strike the other's, and return. As already indicated, no attempt was made to control whether a DN author's reference to "strategic bombers" or "bombers in general" was meant to include medium bombers, light bombers, or forward-based tactical aircraft.*

There were 21 comparisons (see Table 7), 7 in 1957 through 1960, and 14 in 1965 through 1973. The latter 14 reveal that, even in the age of missiles, DN concern for or awareness of the strategic aviation balance--as measured by comparisons--has not, with the exception of the 1961 through 1964 period, diminished over time. Four comparisons were quantitative only.

Balance Perceptions

Not surprisingly the U.S. was viewed as ahead in all comparisons except one (a 1957 equality reference). It is ironic that the DN author in that instance qualified his conclusion by noting that if the Soviets were behind, they would surely catch up--a prediction not borne out by his colleagues in later comparisons. The four strictly quantitative comparisons were all pro-U.S.

*See above, p. 7.

Table 7

STRATEGIC BOMBERS/STRATEGIC AVIATION

BALANCE PERCEPTIONS

Of 21 comparisons

20 favored U.S.

0 favored S.U.

1 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	5		1		6
1960-1964	1				1
1965-1969	7				7
1970-1974	7				7

YEARLY BREAKDOWN

1955					
1956					
1957	1		1[a]		2
1958	1				1
1959	3[b]				3
1960	1				1
1961					
1962					
1963					
1964					
1965	3				3
1966	1				1
1967	.				
1968	1[c]				1
1969	2				2
1970	3[d]				3
1971	1[e]				1
1972					
1973	3[f]				3
1974					

Footnotes for Table 7

(a) Qualified by saying that, if the Soviets were behind, there was no reason to believe they would not catch up quickly.

(b) One comparison qualified by saying Soviet long-range bomber hardware might be equal to the U.S. if the Soviet Bounder was as good as the author believed it to be.

(c) Quantitative only.

(d) One comparison quantitative only. A second comparison qualified by saying Soviet tactical aviation could reach all the interesting objectives in the world close to Europe. A third comparison qualified by mentioning Soviet lead in medium bombers.

(e) Quantitative comparison only.

(f) One comparison quantitative only. One comparison qualified by saying Soviet medium bombers and the Soviet Backfire aircraft could hit the U.S. on a one-way trip. The second comparison qualified by saying that the Backfire was being put into service.

Justifications

The reasoning underlying the equality comparison is presented directly above. That the U.S. was both quantitatively and qualitatively superior entered into 6 justifications (1959, twice in 1965, 1966, 1969, and 1970). The qualitative portion of those justifications included assertions about U.S. superiority in equipment, training (additionally mentioned in a second 1959 justification), capability to penetrate an enemy's homeland (also mentioned in a 1958 comparison), in-flight refueling, range, readiness, and payload. U.S. possession of forward bases was cited in a 1959 justification.

Sources of Information

The current issue of Military Balance was acknowledged three times (1965, 1969, and 1970) and the U.S. Secretary of Defense's Annual Report twice (1969 and 1973) - the latter being mencioned with the Annual Report of the JCS Chairman. Other sources were:

-Aviation Week, Air Force, and "other specialized American reviews" (1957)

-Gen Power, SAC Commander (1959)

-Asher Lee, a "noted authority" (1959)

-Aerospace International's Yearly Review (1970)

-The 1969-1970 SIPRI Yearbook

Triggering Events

Publication of the reports, reviews, magazines, and yearbooks mentioned above all served to trigger thinking. The reference to Aviation Week, Air Force and other specialized

American reviews all relate to what they had to say about the Soviet Tushino Air Show and the related visit of the U.S. Air Force Chief of Staff, General Twining, to the U.S.S.R. The remaining triggering events include:

-Soviet successes in ICBMs and satellites (1957)

-The Kremlin's boast of military superiority at the time of the Berlin crisis (1959)

-U.S. and Soviet aeronautic developments and related Soviet claims (1959)

-The French decision to concentrate on ballistic missiles vice bombers (1965)

-U.S. and Soviet strategic nuclear developments in the last year (1966)

-Opening of SALT (1970)

-Ongoing CSCE, MBFR, and SALT II negotiations

Recommendations

This writer did not find any recommendations made which flowed logically and directly from bomber comparisons. Many of these comparisons occurred as sub-balances in articles or c.i.'s where the author was inquiring into a larger, overall balance. What recommendations were made seemed more logically related to the overall balances.

PART III

CONVENTIONAL BALANCES

CHAPTER VII

THE CONVENTIONAL OR GROUND FORCES BALANCE

Introduction

This category aggregates together references to the general or overall conventional forces balance and to the general or overall ground forces balance. They were aggregated because some authors clearly referred to one or the other's superiority in "conventional," "classical," or "traditional" forces but then restricted discussion to ground forces.* Based on the fact that Table 8 shows only 6 comparisons, it would seem that there was little concern for this balance in a U.S.-S.U. context, particularly after 1963 since there were no comparisons after that year.

Balance Perceptions

The Soviets unqualifiedly dominated in all six cases.

Justifications

Two authors provided justifications. A 1956 author, noting that "armies that focus too much on luxuries seldom win wars," declared that there were "too many elements weighing down the mobility of the U.S. Army and maybe too much luxury." A 1958 author elaborated by pointing out that the Soviets were not, in contrast to the U.S., building up their nuclear strength at the expense of their conventional forces. That author saw the U.S. as possibly having to escalate any conflict up to total war in order to avoid defeat while the Soviets retained the capability to fight the whole gamut of wars.

*Comparisons specifically addressing the conventional naval or air balances are dealt with in the next two chapters respectively. Comparisons restricted to focusing on personnel numbers or on subcategories of the ground forces balance (e.g., tank references) are dealt with in Appendix V.

Table 8

CONVENTIONAL OR GROUND FORCES BALANCE

BALANCE PERCEPTIONS

Of 6 comparisons

0 favored U.S.

6 favored S.U.

0 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinion	Number of Comparisons
1955-1959		3			3
1960-1964		3			3
1965-1969					
1970-1974					

YEARLY BREAKDOWN

1955					
1956		2			2
1957					
1958		1			1
1959					
1960		1			1
1961		1			1
1962					
1963		1			1
1964					
1965					
1966					
1967					
1968					
1969					
1970					
1971					
1972					
1973					
1974					

Sources of Information

None were acknowledged.

Triggering Events

These were:

-The introduction by the Soviets of various types of new conventional arms in their inventory (1958).

-Khrushchev offer of disarmament proposals (1960).

-The meeting between President Kennedy and Prime Minister MacMillan in the Bahamas whereby they agreed to offer the Polaris system to France (1963).

Recommendations

There were four recommendations, three of which can clearly be viewed as encouraging greater flexible response capability:

-The U.S. should cease building up its strategic nuclear forces at the expense of its conventional forces. It should retain the capability to fight wars at all levels without the need for escalation to total war (1958).

-The West should be skeptical of any disarmament proposals that involve the reduction of U.S. or NATO troops in Europe. Reductions would only favor the Soviets (1960).

-The West must insure it has the capability to respond to any Soviet military initiatives. In order to prevent war, the West must make clear its determination to respond to any initiatives (1961).

-The U.S. and its allies must increase their flexible response capabilities (1963).

The Question of Context

It was particularly in the N/W-S/S context that the problem arose of knowing whether an author intended to have his reference to conventional or classical forces apply only to ground forces. Most N/W-S/S comparisons seemed restricted to the European theater, though at times an author may have intended his reference to have wider scope. Because ambiguities were too often unresolvable, no differentiations in that regard were made in coding.

The significance of the data contained in Table 9 needs little elaboration. DN authors overwhelmingly viewed the conventional or ground forces balance in N/W-S/S vice U.S.-S.U. terms. Though significantly less marked than in the U.S.-S.U. comparisons, there was, as in those comparisons, less concern about this balance in the second decade than in the first. The Soviets were unanimously perceived as superior in both U.S.-S.U. and N/W-S/S contexts.

Table 9

CONVENTIONAL OR GROUND FORCES BALANCE (N/W vs. S/S)

BALANCE PERCEPTIONS

Of 36 comparisons

0 favored N/W

36 favored S/S

0 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	N/W	S/S	Eq.	Split Opinions	Number of Comparisons
1955-1959		11			11
1960-1964		11			11
1965-1969		10			10
1970-1974		4			4
YEARLY BREAKDOWN					
1955		1			1
1956					
1957		3[a]			3
1958		3			3
1959		4			4
1960		6			6
1961		2			2
1962		2			2
1963					
1964		1			1
1965		2			2
1966		2			2
1967		3			3
1968					
1969		3[b]			3
1970					
1971					
1972		1			1
1973					
1974		3			3

Footnotes for Table 9

(a) One reference qualified by saying that Soviet conventional superiority could be neutralized by Western use of nuclear weapons, by the presence of hostile satellite states in the Soviet camp, and by Soviet inability in war to secure their interior and exterior lines of communications.

(b) One reference qualified by noting that in some ways large Western units "are fairly comparable" to Eastern bloc units.

CHAPTER VIII

THE NAVAL BALANCE

Introduction

This category includes all statements focusing on which Navy is superior overall as well as all references restricted to comparing which had more ships or tonnage, technically better ships, or better ship development programs.* There were 29 comparisons. (See Table 10) Two focused only on the technical-qualitative features of each side's ships and two only on tonnage.

The distribution of the comparisons (19 in the first decade and 10 in the second) is not consistent with this writer's expectations for two reasons. First, the Soviets very impressively increased the quality of their naval inventory in the last ten years and increased inventory quantitites in some very important areas (e.g., nuclear-powered submarines and major surface combatants). Second, since 1964 and most especially since 1967,they stepped up their long-range deployments and, thereby, their "visibility" on the world's oceans. While such activities did not go unnoticed by DN authors, they did not occasion the number of second decade comparisons which this writer expected.** The fact that all second-decade comparisons occurred in 1967 and beyond, and that their number

* Comparisons restricted to sub-categories of the naval balance (e.g., cruisers, destroyers, etc.) are dealt with in Appendix VI.

**An obvious implication is that focusing on comparisons may not be the best way to measure "concern for" or "awareness of" factors which may significantly affect a balance.

Table 10

NAVAL BALANCE (U.S. vs SOVIET UNION)

BALANCE PERCEPTIONS

Of 29 comparisons

25 favored U.S.

0 favored S.U.

4 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	9		1		10
1960-1964	9				9
1965-1969	4				4
1970-1974	3		3		6

YEARLY BREAKDOWN

1955					
1956	3[a]				3
1957	1				1
1958	3[b]		1[c]		4
1959	2[d]				2
1960	1[e]				1
1961	2[f]				2
1962	3[g]				3
1963	1				1
1964	2[h]				2
1965					
1966					
1967	1				1
1968	1[i]				1
1969	2[j]				2
1970					
1971	1[k]		1		2
1972	1				1
1973	1				1
1974			2		2

Footnotes for Table 10

(a) One reference was a comparison of technical-qualitative aspects only. All comparisons noted that the Soviets had made very significant progress in naval development.

(b) One reference restricted to technical-qualitative aspects only.

(c) Qualified by saying U.S. superior if one were to restrict comparison to surface ship confrontation at sea.

(d) One reference restricted to comparison of tonnages only. Qualified by saying Soviets had in recent years (since 1953) outproduced U.S. in tonnage. Second comparison noted that Soviets had made very significant progress in naval developments.

(e) Qualified by saying Soviets had made very significant progress in recent years.

(f) One comparison qualified as in (e) above.

(g) All comparisons qualified as in (e) above.

(h) One comparison qualified as in (e) above. Second comparison qualified by stressing the great threat posed by the Soviet submarine force.

(i) Qualified as in (e) above.

(j) One reference comparison of tonnage only. Both qualified as in (e) above.

(k) Comparison qualified as in (e) above with additional thought that Soviets are qualitatively superior "in certain areas."

(l) Comparison qualified as in (e) above.

increased slightly over time thereafter may, from a comparisons point of view, indicate at least a weak trend of increasing concern for the balance.

Balance Perceptions

It is clear that the U.S. dominated in this balance area though a majority of the "pro-U.S." writers readily acknowledged Soviet progress in building up their navy.* It may be significant --reflecting the reasons mentioned above--that the U.S. did most poorly in the last five years. Of six comparisons, it was seen as superior in only 3 and equal in the remainder. Two of the latter occurred in 1974, the only year where the U.S. was not seen as superior in a year where comparisons were made. Extrapolating from these data,one can hypothesize a trend away from perceiving the U.S. as superior.

Justifications

In justification of their views that the U.S. was ahead, DN authors presented the following reasons--many of which were linked together in the same article or c.i.:

-U.S. superiority in tonnage and/or in ship numbers, particularly the former. (9 comparisons with 8 occuring between 1957 and 1964 and one in 1969.)

*They also frequently acknowledged Soviet superiority in submarines-in-general. See Appendix VI where of 15 submarines-in-general comparisons, the USSR was rated superior in 13 (including one s.o.)

-The U.S. Navy's status as a better balanced Navy, particularly due to the number of its aircraft carriers and major surface combatants (7 justifications with 6 occurring between 1956 and 1962 and one in 1972).*

-The U.S. Navy being a navy with ships of "revolutionary" or "modern" design in contrast to the more "classical" Soviet Navy (once each in 1956 and 1960 and twice in 1962).**

-The U.S. Navy's superiority in logistics and in capability to roam all the oceans of the world (twice in 1962, once each in 1972 and 1973).

-The U.S. Navy's superiority in equipment and armament (once each in 1954 and 1964).

-General U.S. superiority in open-ocean sea-control capability (once in 1962).

-The superiority of U.S. aircraft carriers compared to Soviet missile ships (once in 1962).

-U.S. superiority in amphibious capability (1962).

-U.S. superiority in training (1964).

-The constraints on Soviet naval operations due to problems of geography and weather (1962).

The only reason given for justifying an equality comparison (in 1974) was that the Soviets had, through slow but steady progress, finally caught up with the U.S.

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* That nearly all occurred in 1962 or before is consistent with the point made earlier that the Soviets after 1962 increased the number of major surface combatants in their inventory.

**That all occurred before 1963 is consistent with point alluded to earlier that the Soviets (particularly in the last ten years) produced ships of significantly increased technical sophistication compared to what they had built earlier.

Sources of Information

Five sources of information were acknowledged. Flottes de Combat appeared twice (1960 and 1972), and Admiral Barjot, the NATO Bulletin, and the 1969-70 Military Balance each appeared once (1959, 1962, and 1969 respectively).

Triggering Events

The publication of Flottes de Combat and of Military Balance as mentioned above accounted for three triggering events. The following were acknowledged in nine other instances:

-controversy surrounding Field Marshal Montgomery's ideas about strategy in the nuclear age (1956).

-American ship and submarine building developments (1961).

-Soviet inroads into the Third World (1962).

-The Cuban Missile Crisis (1962).

-The Thresher sinking (1964).

-The decision of the French government to pull out of NATO's military structure (1967).

-Disengagement of U.S. forces from Vietnam (1973).

-Manifestations of detente such as the signing of various U.S.-Soviet Union accords in 1972 and 1973 and ongoing MBFR talks (1974).

Recommendations

Five U.S.-Soviet Union comparisons were accompanied by recommendations. All except the last (an equality comparison) were made in conjunction with viewing the U.S. ahead:

-The U.S. and the West should maintain flexible naval forces ready to respond to any contingency around the world (1956).

-NATO should do whatever is necessary to insure sea control of the Atlantic (1958).

-The West should enter into psychological warfare for Third World minds. The U.S. Navy has not been properly utilized in this regard. (1962).

-The West should not underestimate Soviet naval growth and the potential it gives the Soviets for influencing the West. (1969)

-France should build up her naval forces to protect her interests. (1971)

The Question of Context

Comparing the U.S.-Soviet Union data with N/W-S/S data (See Table 11) indicates that the naval balance is most often seen in U.S.-Soviet Union terms. The N/W side, as one might have hypothesized, dominated the category. Again the number of comparisons in the last few years seems low.

Table 11

NAVAL BALANCE (N/W vs S/S)

BALANCE PERCEPTIONS

Of 9 comparisons

7 + 1 s.o. favored N/W

1 favored S/S

1 s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	N/W	S/S	Eq.	Split Opinions	Number of Comparisons
1955-1959	3	1			4
1960-1964	1			1 (N/W or Eq)	2
1965-1969	2				2
1970-1974	1				1

YEARLY BREAKDOWN

1955					
1956					
1957	2	1[a]			3
1958	1[b]				1
1959					
1960				1 (N/W or Eq)[c]	1
1961					
1962	1				1
1963					
1964					
1965	1[d]				1
1966	1				1
1967					
1968					
1969					
1970	1				1
1971					
1972					
1973					
1974					

Footnotes

(a) Comparison restricted to evaluating Western sea control capability versus Soviet sea denial capability.

(b) Ditto footnote (a).

(c) DN author ambiguous.

(d) Ditto footnote (a).

CHAPTER IX

THE AIR BALANCE

Introduction

Coded under this category were statements to the effect that one or the other side had more air power, more and/or better aircraft overall, or a better aircraft development program.* The number of comparisons (4) was small and suggests that the air balance in general was not a matter of great concern to DN authors. As seen in Table 12, three occurred in 1957 and one in 1974. Specifically why three of the four should occur in 1957 is difficult to establish. Triggering events may be part of the explanation. One was the visit of the USAF Chief of Staff, General Nathan Twining, to the U.S.S.R. in conjunction with the Tushino Air Show. A second was the Paris Air Show at Le Bourget Field. Both events elicited extensive articles. All the 1957 comparisons were made before the first successful ICBM shot (by the U.S.S.R.) in August, suggesting that the advent of the age of long-range missiles may have contributed to drawing attention away from the overall air balance.**Indeed even the number of air sub-balance references made by DN authors (see Appendix V) would have been small if not for three articles/c.i.'s (in 1969, 1970, and 1972) where the authors took occasion of the publication of the current issue of Military Balance to review the state of the balances covered therein.

*Comparisons restricted to sub-categories of the air balance (e.g., fighters) are dealt with in Appendix VII except for strategic bombers strategic aviation. These were dealt with in Chapter VI.

**The same phenomenon, however, did not occur with the strategic aviation balance. See above, p. 57.

Table 12

AIR BALANCE (U.S. vs S.U.)

BALANCE PERCEPTIONS

Of 4 comparisons

3 favored U.S.

0 favored S.U.

1 indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	3				3
1960-1964					
1965-1969					
1970-1974			1		1

YEARLY BREAKDOWN

1955					
1956					
1957	3[a]				3
1958					
1959					
1960					
1961					
1962					
1963					
1964					
1965					
1966					
1967					
1968					
1969					
1970					
1971					
1972					
1973					
1974			1		1

(a) One comparison restricted to technical-qualitative features of super-power aircraft. A second comparison saw the U.S. as only "slightly ahead" with the Soviets, though, possibly exhausting themselves.

Balance Perceptions

There were 3 "pro-U.S." comparisons and 1 equality reference. One 1957 comparison was restricted to the qualitative-technical features of aircraft.

Justifications

Justifications occurred twice--both in 1957. One author supported his views with a detailed review of individual sub-balances. Another author said that the complex and sophisticated system seen on the B-52 at the Paris Air Show proved the U.S. to be superior to all rivals in aircraft technology.

Sources of Information

The only acknowledged sources were Aviation Week, Air Force, and other specialized American reviews reporting on General Twining's visits to the U.S.S.R. and the Tushino Air Show.

Triggering Events

Two events have already been mentioned in the Introduction. In addition, "manifestations of detente" (such as the signing of various U.S.-Soviet agreements in 1972 and 1973) triggered the 1974 comparison.

Recommendations

No recommendations were specifically associated with the overall air balance comparisons.

The Question of Context

With only two comparisons, the number of N/W-S/S references was even smaller than the number for the U.S. versus the Soviets. Both occurred in 1957, one in the same article as a U.S.-S.U. comparison dealt with above. In that article NATO aerial forces

were seen as qualitatively superior in a comparison which had Eastern bloc (including Chinese) aerial forces otherwise enjoying a "certain equilibrium." It was not stated whether the latter equilibrium was specifically quantitative in nature. The second 1957 comparison rated both sides equal and seemed restricted to the European theater only.

Table 13

AIR BALANCE (N/W vs S/S)

BALANCE PERCEPTIONS

Of 2 comparisons

1 s.o. favored N/W

0 favored S/S

1+ s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	N/W	S/S	Eq.	Split Opinions	Number of Comparisons
1955-1959			1	1 (N/W + Eq)	2
1960-1964					
1965-1969					
1970-1974					

YEARLY BREAKDOWN

1955					
1956					
1957			1	1 (N/W + Eq)[a]	2
1958					
1959					
1960					
1961					
1962					
1963					
1964					
1965					
1966					
1967					
1968					
1969					
1970					
1971					
1972					
1973					
1974					

(a) N/W seen as qualitatively superior. Balance was viewed as otherwise being equal "in a certain sense" if one includes Chinese forces on the S/S side.

PART IV

CONCLUSIONS

AND

RECOMMENDATIONS CONCERNING FUTURE RESEARCH

CHAPTER X

SOME OVERALL CONCLUSIONS

Balances in Order of Frequency And Related Trends

Table 14 lists the balances in order of frequency. It also highlights recent frequency trends associated with each balance as derived by comparing the number of references in 1965-69 with the number in 1970-74.

Based on the number of comparisons, the strategic nuclear balance far and away loomed most often in the minds of DN authors. In line with this frequency is the relatively high number of strategic missile (aggregate) references. Of the conventional balances, the naval was the most significant while the air and conventional or ground forces balances received the smallest amount of attention. Frequency trends do not indicate any major or radical shifts in the 1965-69 vice 1970-74 periods.

U.S.-S.U. Balance Comparisons In N/W-S/S Context

For the conventional balances, references were coded for N/W-S/S as well as U.S.-S.U. comparisons. Comparisons for overall totals for each are contained in Table 15. The numbers clearly indicate that the conventional or ground forces balance is--not surprisingly--most often seen in N/W-S/S terms while the naval balance is not. The general air balance totals are too small for any valid conclusions.

Table 14[a]

BALANCE AREAS IN ORDER OF FREQUENCY

	Balance	Number of Comparisons (1955-1974)	Trend (1965-69 vs. 1970-74)
(1)	Strategic nuclear balance	201	No significant change (From 55 to 57 comparisons)
(2)	Strategic ballistic missiles (aggregate)	57	Small decrease (From 18 to 15)
(3)	Strategic-missiles-in-general and land based ICBMs	42	Decrease (From 13 to 9)
(4)	Naval-in-general	29	Slight increase (From 4 to 6)
(5)	Strategic nuclear bombs and warheads	22	No change (From 7 to 7)
(6)	Ballistic-missile submarines	21	Small decrease (From 8 to 5)
(6)	Strategic bombers/strategic aviation	21	No change (From 7 to 7)
(7)	SLBMs	15	Very slight increase (From 5 to 6)
(8)	Conventional or ground forces-in-general	6	No change (From 0 to 0)
(9)	Air-in-general	4	Very slight increase (From 0 to 1)

(a) If the general military power and war-winning capability balance as dealt with in Appendix II were included in this Table, it would be in fourth place with 30 comparisons.

Table 15

CONVENTIONAL BALANCES IN U.S.-S.U. AND N/W-S/S CONTEXT

Balance	Number Of: U.S.-S.U. Comparisons	N/W-S/S Comparisons
Conventional or ground forces	6	36
Naval	29	9
Air	4	2

Balance Perceptions

Table 16 summarizes the data on balance perceptions over the 20 year period and for the 1965-69 and 1970-74 periods. Data for the latter two periods are useful for stating conclusions about more recent trends as contained in those periods. From the Table, it seems clear that the U.S. dominated in the following areas over the 20 years:

-strategic nuclear bombs and warheads

-SLBMs

-ballistic missile submarines

-strategic bombers/strategic aviation

-naval power

The U.S. also led in the air balance category but the significance of its lead is questionable since the number totals are so small. As for the Soviets, they led in two areas:

-strategic missiles-in-general and land based ICBMs

-conventional or ground forces

Table 16

Balance Perceptions

BALANCE	20-Year Summary			Summary for 1965-1969			Summary for 1970-1974		
	U.S.	S.U.	EQ.	U.S.	S.U.	EQ.	U.S.	S.U.	EQ.
Strategic Nuclear	28+2 s.o.	3	168+2 s.o.	13	0	44	5	0	50
Strategic Nuclear Bombs and Warheads	11+1	3+1	7	5	2	0	4+1	1+1	1
Strategic Missile (aggregate)	24+4	22+2	7+2	13+1	1+1	3	6+1	6+1	2
Strategic Missiles-in-General & Land-Based ICBMs	11+3	22+2	6+1	9+1	1+1	2	0+1	6+1	2
SLBMs	13+1	0	1+1	4	0	1	6	0	0
Ballistic Missile Submarines	14+3	3+3	1	5+1	1+1	1	3+1	1+1	0
Strategic Bombers/ Strategic Aviation	20	0	1	7	0	0	7	0	0
Conventional & Ground Forces	0	6	0	0	0	0	0	0	0
Naval	25	0	4	4	0	0	3	0	3
Air	3	0	1	0	0	0	0	0	1

Table 17

BALANCE PERCEPTIONS AND RELATED TRENDS

U.S. Dominated Balances[a]

"Pro-U.S." areas/20 year trend	Trend for last two five-year periods
1. Strategic nuclear bombs and warheads	1. No significant change
2. SLBMs	2. Increased perceptions of U.S. superiority
3. Ballistic missile submarines	3. No significant change
4. Strategic bombers/strategic aviation	4. No significant change
5. Naval power-in-general	5. Increased perceptions toward equality (decreased perceptions of U.S. superiority)

[a]Air balance not included due to small number of comparisons

Table 18

BALANCE PERCEPTIONS AND RELATED TRENDS

U.S.S.R. Dominated Balances

"Pro-U.S.S.R." Areas/ 20-Year Trend	Trend in last two five-year periods
1. Strategic missiles-in-general/ICBMs	1. Increased perceptions of Soviet superiority (with decrease in perceptions of U.S. superiority)
2. Conventional or ground forces	2. No significant change

Table 19

BALANCE PERCEPTIONS AND RELATED TRENDS

Superpower Equality/Stalemate

Equality/stalemate areas 20-year trend	Trend in last two five-year periods
1. Strategic nuclear	1. Increased perceptions of equality (with accompanying decrease in perceptions of U.S. superiority)
2. Strategic missiles (aggregate)	2. Increased perceptions of Soviet superiority (with accompanying decrease in perceptions of U.S. superiority)

Table 20

U.S.-S.U. CONVENTIONAL BALANCE PERCEPTIONS IN N/W-S/S CONTEXT

BALANCE	PERIOD	U.S.	S.U.	EQ.	N/W	S/S	EQ.
Conventional or Grcund Forces	Twenty Year Totals	0	6	0	0	36	0
	1965-1969 Totals	0	0	0	0	10	0
	1970-1974 Totals	0	0	0	0	4	0
Naval	Twenty Year Totals	25	0	4	7+1	1	1+1
	1965-1969 Totals	4	0	0	2	0	0
	1970-1974 Totals	3	0	3	1	0	0
Air	Twenty Year Totals	3	0	1	0+1	1	1+1
	1965-1969 Totals	0	0	0	0	0	0
	1970-1974 Totals	0	0	1	0	0	0

The two superpowers can essentially be regarded, from a perceptions viewpoint, as either equal or in a stalemate situation in two balances:

-strategic nuclear balance

-strategic missiles (aggregate).

They can be regarded as equal in the first because of the preponderant number of equality comparisons and in stalemate in the second because both were viewed as ahead in a nearly equal number of cases (24 + 4 s.o. versus 22 + 2 s.o.).

Comparing the data for the last two five-year periods results in the following more recent trends in balance perceptions:

-Increased perceptions of U.S. superiority in SLBMs

-Increased perceptions of Soviet superiority in:

(1) Strategic missiles (aggregate) (with accompanying decrease in perceptions of U.S. superiority)

(2) Strategic missiles-in-general and land-based ICBMs (with accompanying decrease in perceptions of U.S. superiority)

-Increased perceptions of equality in:

(1) The strategic nuclear balance (with accompanying decrease in perception of U.S. superiority)

(2) The naval balance (with accompanying decrease in perceptions of U.S. superiority)

-No significant change in perceptions relative to:

(1) Strategic nuclear bombs and warheads

(2) Ballistic missile submarines

(3) Strategic bombers/strategic aviation

(4) Conventional or ground forces

(5) Air power-in-general

It is worth noting that the four instances of increased perceptions

of Soviet superiority and increased perceptions of equality were all accompanied by corresponding decreases in perceptions of U.S. superiority.

Tables 17, 18, and 19 link together 20 year trends with the more recent trends derived by comparing totals of the last two five-year periods. As seen therein, the U.S. lead in its 5 areas over the 20 years (not counting the air balance) was accompanied by more recent trends of no significant change in 3 (strategic nuclear bombs and warheads, ballistic missile submarines, strategic bombers/strategic aviation), increased perceptions of U.S. superiority in 1 (SLBMs), and increased perceptions toward equality in the last (naval power-in-general). There was no significant change in one of the Soviet dominated balances (conventional or ground forces) and increased perceptions of Soviet superiority (accompanied by a decrease in perceptions of U.S. superiority) in the other (strategic missiles-in-general/ICBMs). The equality and stalemate balance areas were characterized by increased perceptions of equality in the former (strategic nuclear balance) and increased perceptions of Soviet superiority in the latter (strategic missiles (aggregate)). Decreases in perceptions of U.S. superiority were involved with both trends.

Balance Perceptions in N/W-S/S Context

Table 20 summarizes the U.S.-S.U. and N/W-S/S perceptions for the conventional balances. N/W-S/S twenty-year trends for the conventional or ground forces balance match the U.S.-S.U. trends. There were no significant changes in trends for both contexts when comparing the last two five-year periods, but it must be pointed out that the reason for no change in the U.S.-S.U. balance is that there were simply no comparisons in either period. N/W-S/S twenty-year trends for the naval balance also

matched U.S.-S.U. trends, but the more recent trends did not match since the U.S.-S.U. balance moved toward equality while the N/W-S/S balance did not. The N/W-S/S numbers, however, were very small, and, hence, of possibly questionable significance. Air balance totals are too few to allow for valid generalizations.

Justifications

Justifications were too varied, multi-faceted, and tied to individual balance areas to allow for general conclusions here.

Sources of Information

Of all sources, the ones acknowledged most frequently were those associated with the U.S. Government's executive or legislative branches (particularly the former). Non-governmental annuals devoted to military/naval affairs (e.g., IISS's Military Balance, Flottes de Combat,etc.) were the second most acknowledged sources. French Government sources were mentioned in surprisingly few instances. References to books and periodicals were infrequent but not as rare as references to newspapers.

Triggering Events

As with justifications, triggering events for each balance were too varied and multi-faceted to allow for generalizations here.

Recommendations*

Three recommendations recurred most frequently. One, associated with the strategic balances, encouraged French or

*Dealt with here are only those recommendations which recurred relatively frequently and had some general applicability by being made in connection with more than one balance area.

Western European development of a force de frappe and/or related delivery systems. It was usually made in connection with equality references but also occurred with a small number of both "pro-U.S." and "pro-S.U." comparisons. It was not unusual for this recommendation to be associated (in instances of perceived equality or Soviet superiority) with the thought that the U.S. could no longer, due to increases in Soviet strategic power, be counted on to go to nuclear war in response to Soviet aggression in Europe. It was also not unusual, regardless of the perceived state of a balance, to have this suggestion justified by claims that France must develop her deterrent either to avoid a superpower condominium or to assure herself a strong voice in NATO circles.

Recurring almost as frequently were admonitions that the U.S. and/or the West should increase their flexible response capabilities. These recommendation occurred especially with strategic comparisons that had both sides equal. They also arose with "pro-S.U." conventional or ground forces comparisons (3 times) and "pro-U.S." naval comparisons (once, possibly twice).

Third in frequency and occurring in almost all cases in connection with strategic balances were suggestions to the effect that the West must act to counter Soviet politico-psychological advances in the Third World. These recommendations were made most often in the late fifties and early sixties when Khrushchev was strongly wooing the underdeveloped and verbally supporting "wars of national liberation." They were particularly associated with the Soviet's reaching equality in the strategic areas (hence assuring themselves a modicum of security vis-a-vis the

U.S.) or with Soviet space activities viewed as particularly impressive to Third World states.

Other than the strategic nuclear balance, there were no recommendations that supported arms controls measures (even with MBFR), and, surprisingly, only one recommendation that called upon France, exclusive of the West or the U.S., to build up her conventional force capabilities (in this case, naval). As already noted, while many DN authors desired that France/Western Europe build a nuclear deterrent due to some lack of confidence in the U.S., there were--again, surprisingly--no recommendations to the effect that, since one or another balance was shifting in favor of the U.S.S.R., France/Western Europe should move to build up political fences with the Soviets. Indeed, recommendations that the U.S. or Western countries as a group increase their flexible response capabilities signify willingness to continue working within the American/Western alliance context.

CHAPTER XI

RECOMMENDATIONS CONCERNING FUTURE INQUIRIES INTO PERCEPTIONS

There are seven recommendations worthy of consideration.

First: Other perception studies should be undertaken focusing on different countries and guided by similar questions as asked herein. These should complement one another, and they should provide the basis for making widely applicable generalizations about perceptions. Based on these generalizations, policy-makers might then be better able to take into account the reaction of other countries to U.S.-S.U. military balance developments.

Second: Some future studies should deal with sources similar to Défense Nationale but others should focus on different sources to ascertain the relative utility of each.*

Third: Some future studies should definitely involve experimentation with machine-reading of foreign materials. There should also be experimentation with computer-coding, -tabulation, and -correlation of data whether or not it is machine-read. Because of the press of time, I had to break off my own efforts at devising a coding scheme suitable for computer-manipulation, but I am convinced the problem is not insurmountable, especially for someone more experienced than I in computer programming.

Fourth: Unless materials are to be machine-read, I recommend that any one future investigator restrict his focus to a smaller number of balance areas than I did. "Jumping" from one balance area to another was more "disruptive" to my thought processes than

*See Appendix I.

I would have predicted. Also, the sheer volume of reading, coding, tabulation, and problem-solving can be handled much more efficiently the narrower one's focus.

Fifth: It may be that the focus on comparisons per se is too narrow. Consideration should be given to coding not only balance comparisons but also, on a thematic basis, everything said about U.S. or Soviet endeavors in a particular area of military concern. As I have already stated, DN authors did pay attention to the growth, forward deployment, and foreign-policy use of the Soviet Navy in the second decade of this study. Yet, they did so while making a smaller number of naval power-in-general comparisons during that period.* Focusing just on comparisons, then, gave the impression of decreased attention to the naval area, but such was not really the case.

Sixth: A particularly important problem requiring attention is how to make a coding process as replicable as possible without having to adopt a morass of coding rules or rules which force one to leave out relevant materials. It would be particularly good in future studies to have at least two investigators work together reading the same materials independently and consulting on ambiguous cases. It also would be interesting to have someone attempt to duplicate what I have done to see to what extent another's coding replicates mine.

Finally, if time had allowed, I could have done a good deal more with my data, particularly as regards providing explanations, making correlations, pointing out policy implications, and typing in the "sub-balance" data contained in the appendixes with the balance-in-general data presented in the previous chapters. I

*See above, p. 69.

strongly believe efforts should be made in those directions, and I would be pleased to cooperate with any investigators willing or assigned to perform such tasks.

APPENDIX I

Some Thoughts Relative to Development of a Framework for Inquiry into Third Country Perceptions of the U.S.-U.S.S.R. Naval Balance

by

Donald C. Daniel

Whom should one focus on as indicative of a country's perceptions? Possible choices:

1. Governmental leaders/Executive Branch
    a. President/Prime Minister
    b. Foreign Minister
    c. Defense Minister
    d. Military chiefs, esp. naval
2. Governmental leaders/Legislative Branch
    a. Legislative leaders
    b. Members of foreign policy/defense committees/sub-committees
    c. Rank and file legislators
3. Attentive public/public opinion elites
    a. Newspaper editors
    b. Other commentators on foreign and defense policy
    c. Labor, business, church, university leaders

Perceptions of the above can be gauged by having reference to:

1. That country's version of the U.S.'s State Department Bulletin
2. White papers on foreign or defense questions
3. That country's version of the yearly U.S. DOD Report
4. Their version of the Congressional Record or Britain's Hansard/legislative committee or subcommittee reports
5. Position papers of political parties
6. Newspaper editorials
7. Radio or television commentaries as published by FBIS

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8. Foreign journals comparable to Foreign Affairs or Foreign Policy

9. Interviews

10. Questionnaires

11. Intelligence reports

General questions to ask in probing perceptions could include:

1. At different points in time/over time, how do the individuals factually assess the U.S.-U.S.S.R. naval balance?

2. As far as subsets of the overall balance is concerned, where do they feel the U.S. Navy is strongest vis-a-vis the U.S.S.R.? Weakest?

3. What effect do they see the state of the balance having on their country, especially relative to its security?

4. If allied to the U.S., do they express decreased confidence in the U.S. commitments?

5. How do they feel about the answers to questions #1, #2, #3, and #4 above?

6. What do they say should be done?

   a. Work more closely with the U.S.? U.S.S.R.?
   b. Work less closely with the U.S.? U.S.S.R.?
   c. Adopt a neutral stance?
   d. Increase their own naval or other capability to be able to act more independently?

7. (Though of a different nature than the above questions, one might also try to look at what that state has actually done.)

Content analysis of documents, statements, newspaper editorials and the like might seek to code the following information:

1. Number of individual references to the U.S. Navy/U.S.S.R. Navy.

2. Number of references to the U.S. and U.S.S.R. Navies together.

3. Number of favorable references to the U.S./U.S.S.R. Navy relative to naval balance:

   a. overall balance
   b. balance as to ability of U.S. or U.S.S.R. Navy to perform specific missions (e.g., interdiction of

sea lines of communication or nuclear deterrence) against the threat posed by the other.

4. Number of references to working more closely or less closely with the U.S. or U.S.S.R. in foreign policy/defense because of the state of the naval balance.

5. Number of references indicating willingness or lack of willingness to rely on U.S. naval power.

A problem of time exists. Among the "cuts" to be considered would be:

1. The whole post-war period; changes in perception might occur as the U.S.S.R. Navy enhanced its position relative to the U.S. Navy.

2. Selected years such as:

   -1946 - the first post-war year
   -1952 - mid-point between 1946-1958
   -1958 - high point year in quantitative buildup of Soviet naval inventory associated with Stalin decisions. Also year of Lebanon crisis.
   -1963 - year after Cuban missile crisis (allowing time for reaction to and evaluation of crisis).
   -1965 - year after Soviet Navy begins forward deployment to Med.
   -1968 - year after 1967 Mid-East War and appearance of Moskva, Yankee; year of Soviet forward deployment to Indian Ocean.
   -1972 - year after Okean exercise.
   -1974 - year after 1973 Mid-East War.

3. Times of crisis such as:

   -1946 Iran crisis
   -1947 Greek crisis
   -1949 China crisis
   -1956 Suez crisis
   -1957-1961 Berlin crises
   -1958 Lebanon crisis
   -1962 Cuban crisis
   -1964 Cyprus crisis
   -1967 Mid-East War
   -1970 Jordanian crisis
   -1971 Indo-Pak crisis
   -1973 Mid-East War

Finally how does one account for the overarching context within which a country would perceive the U.S.-U.S.S.R. naval balance - specifically the general state of relations between that third country and the U.S. and U.S.S.R. respectively and its perception of the overall politico-diplomatic, nuclear, and military balance. If, in its foreign and defense policy, a country seeks to move "away" from the U.S. to a more neutral stance or to a stance closer to the Soviet Union, what are the reasons? Where does its perception of the naval balance fit in among those reasons?

APPENDIX II

GENERAL MILITARY POWER OR WAR WINNING CAPABILITY DATA

Introduction

This category--referred to as the GMP-WWC balance--encompasses comparisons which deal either with the overall military situation existing between the two Great Powers or with the overall capability of either to prevail in a general war. It does not encompass comparisons which deal with specific areas of military endeavor (e.g., strategic missile systems or naval capabilities), nor does it include D.N. references restricted to comparing which side would overcome the other in a strategic nuclear exchange or a conventional military struggle. These are dealt with under other categories.

The following are examples of GMP-WWC references:

-The U.S. is better equipped to obtain its war objectives. (1957) (Coding noted that comparison restricted to how well each country was equipped.)

-The dissuasion exercised by the United States is not only in the nuclear domain but also comes into play each time an eventual aggressor compares the risks to the gains. The possibility acquired by the U.S. on the world chess-board to put in each case stakes slightly greater than that to which an adversary would consent, constitutes the essential and general character of deterrence. (1966)

-We are in a situation of U.S.-Soviet parity based on equivalent arsenals of global power and diversification. (1974)

Table A-1

GENERAL MILITARY POWER OR WAR WINNING CAPABILITY (U.S. VS. S.U.)

BALANCE PERCEPTIONS

Of 30 comparisons

9+1 s.o. favored U.S.

4 favored S.U.

16+1 s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	U.S.	S.U.	Eq.	Split Opinions	Number of Comparisons
1955-1959	1	2	2		5
1960-1964	1		4		5
1965-1969	4		4	1 (U.S. or Eq.)	9
1970-1974	3	2	6		11

YEARLY BREAKDOWN

1955		1[a]			1
1956					
1957	1[b]		2		3
1958					
1959		1			1
1960	1[c]				1
1961					
1962			1[d]		1
1963			2		2
1964			1[e]		1
1965	1				1
1966	1		1		2
1967			2		2
1968	1[f]			1 (U.S. or Eq)[g]	2
1969	1		1		2
1970	1[h]	1	2[i]		4
1971	1				1
1972			2		2
1973	1[j]	1[k]	1		3
1974			1		1

Footnotes for Table A-1

(a) Qualified by saying Soviet lead diminishing.

(b) Restricted to comparing how well each country was equipped to obtain its war objectives.

(c) Qualified by saying U.S. lead diminishing.

(d) Restricted to U.S.-S.U. arms race in general.

(e) Qualified by saying S.U. was having a hard time keeping up with arms development and production.

(f) Qualified by saying Soviet menace increasing.

(g) DN author indicated equality but held open possibility U.S. may be stronger.

(h) Qualified by saying Soviets closing gap.

(i) One comparison qualified by saying S.U. may pull ahead.

(j) Qualitative comparison focusing on military technologies.

(k) DN authors, focusing on increasing S.U. military power, stated that the world military situation was "bipolar... with a certain tendency to lean toward Soviet superiority."

For reasons outlined in the introductory chapter, this writer is not highly confident that the GMP-WWC data closely approximates DN perceptions about this balance. The problem is not so much with the data presented below as it is with potentially relevant but difficult-to-deal-with references not included in the data set.

There were 30 comparisons, and, with 10 in the first decade and 20 in the second, the distribution suggests heightened interest over time in this balance.

Balance Perceptions

The balance was most frequently seen as in equality, these comparisons accounting for slightly over half the total. Except for two in 1957, all equality comparisons occurred after 1961 with no year having more than two.

In superiority comparisons, the United States fared better than the Soviet Union. The former was seen as actually ahead 9 times (especially from 1965 through 1973) and possibly so once (in a split opinion) in contrast to 4 instances of perceived superiority for the latter (in 1955, '59, '70, and '73). Three comparisons favoring the Americans (in 1960, 1968, and 1970) were qualified to suggest the balance was shifting away from them as was one "pro-Soviet" comparison (in 1955).

Justifications

DN authors "justified" their views on equality as follows:

-two simply said in effect that both sides had the capability to neutralize one another (1957 and 1968).

-one saw the efforts of each to outdo the other in the arms race as inevitably and recurringly ending up in an "uncertain and precarious balance." (1962)

-a fourth viewed each side as "possess[ing] all the classical and modern attributes for waging war." (1963)

-a fifth implied that parity had been reached due to the Soviets catching up with the U.S. (1972)

-a sixth stated parity was "based on equivalent [U.S. and S.U.] arsenals of global power and diversification." (1974)

There were two justifications of "pro-American" comparisons. One author (in 1965) was impressed enough with U.S. performance in Exercise Polar Strike to accept it as proof of American capability to handle all military challenges whatever the environment. A second author (in 1966) based his views on the belief that, according to him, the United States had sufficient military capability to "put in each case [of confrontation] stakes slightly greater than that to which an adversary would consent...."

"Pro-Soviet" justifications also occurred twice. The first (in 1955) reflected the view that the U.S. had not yet adequately rearmed following its "foolish" and precipitous post-World War II disarmament, and the other (in 1959) the view that Soviet forces could better sustain a nuclear attack and have the residual left to go on and win.

Sources of Information

The following constitute the acknowledged sources:

-the 1967 issue of Strategic Survey (1968)

-the 1968-1969 SIPRI Yearbook (1970)

-President Nixon's report to the Congress on the Administration's foreign policy (1971 and 1972)

-Annual Report of the JCS Chairman (1973)

Triggering Events

The publication of each source specified above constituted a triggering event. Additional events included:

-initiation of the Minuteman program (1959)

-Soviet announcement of a defense budget reduction (1964)

-the Polar Strike Exercise (1965)

-recent statements by high U.S. officials that the U.S. was falling behind militarily (1968)

-ongoing SALT and MBFR negotiations (1973)

-ongoing SALT, MBFR, and CSCE negotiations (1973)

-the 25th anniversary of NATO (1974)

Recommendations

Five recommendations appeared more than once, and it seems significant that for four of these, the same recommendation is associated with different perceptions of the balance. This situation suggests that the state of the balance per se may, depending upon various conditions, not be an especially good indicator of the foreign or defense policy recommendations of third country observers. The five recommendations are:

-France must increase her military power, including her force de frappe (associated with four equality comparisons, one each in 1957 and 1963 and twice in 1967).

-The West or the U.S. must act to insure against Soviet military superiority (associated with two favorable U.S. comparisons, one each in 1960 and 1973 and two equality comparisons, one each in 1962 and 1970).

-France or Europe should seek greater autonomy from the U.S. (associated with two equality comparisons, one each in 1957 and 1972; one "pro-U.S." comparison in 1970; and one "pro-S.U." comparison in 1973).

-France or Europe should guard against superpower condominium (associated with two equality comparisons--one each in 1957 and 1972--and one favorable Soviet comparison in 1973).

-Peaceful stability is preferable to a superpower arms race (associated with a favorable Soviet comparison in 1955 and an equality comparison in 1972).

Three additional recommendations appeared once each, and all were associated with perceptions of equality:

-Nations must learn to adjust their policies to the superpower balance. (1957)

-The most favorable situation is an inter-penetration of the East and West alliances and an end to bipolarity. Should the balance tilt in favor of the Soviets, Europe must do what is necessary, including open dialogue with the East. (1970)

-Politics and economics, not military matters, are the main problems of today. (1973)

The Question of Context

Table A-2 indicates 28 N/W-S/S comparisons, very close to the number of U.S.-S.U. comparisons, suggesting the possibility of approximately equal attention given to both. As with the U.S.-S.U. comparisons, the number of N/W-S/S comparisons increased gradually over time.

Of possibly greater significance is that the N/W side fared poorly compared with the U.S. side (4 favorable N/W comparisons, including 1 s.o., vice 9, also including 1 s.o.). While the U.S. was particularly favored from 1965 through 1973, the N/W group was not favored at all after 1965. These data suggest that DN authors had more confidence in U.S. capabilities to face the Soviet Union in a straight U.S.-S.U. confrontation than in the capabilities of the N/W group to confront the Soviet bloc as a whole or the Soviets in particular. A possible explanation may be associated with a recurring concern of DN authors with intra-NATO decision-making. It may be that DN authors believe that, when the U.S. is operating alone, it may actually be more effective than in situations when it must be more directly concerned with the interests and sensitivities of its allies.

Table A-2

GENERAL MILITARY POWER OR WAR-WINNING CAPABILITY (N/W VS S/S)

BALANCE PERCEPTIONS

Of 28 comparisons

3+1 s.o. favored N/W

11+1 s.o. favored S/S

12+2 s.o. indicated equality

BREAKDOWN PER FIVE-YEAR PERIOD

	N/W	S/S	Eq.	Split Opinions	Number of Comparisons
1955-1959	2	5	1	1 (N/W or Eq) 1 (S/S or Eq)	10
1960-1964		1	3		4
1965-1969	1	3	2		6
1970-1974		2	6		8

YEARLY BREAKDOWN

1955	1[a]	2[b]			3
1956		2[c]			2
1957	1[d]			1 (N/W or Eq)[e]	2
1958				1 (S/S or Eq)[f]	1
1959		1	1		2
1960		1[g]	2		3
1961					
1962					
1963					
1964			1		1
1965	1[h]	1			2
1966		1			1
1967		1	1		2
1968			1		1
1969					
1970			1		1
1971			3		3
1972		1			1
1973		1	1		2
1974			1		1

Footnotes for Table A-2

(a) Qualified by saying that the U.S. was tiring and might leave Europe, thereby causing a shift in favor of S/S.

(b) One comparison qualified by saying S/S lead would diminish if NATO reforms carried out.

(c) One comparison qualified by saying N/W was increasing its military power and might soon reach equality.

(d) Qualified by saying that N/W must exhibit strength of will to use nuclear weapons.

(e) S/S viewed as winning if they undertook surprise attack. N/W viewed as possibly winning if they resorted to nuclear weapons.

(f) Situation of equality seen shifting in favor of S/S since 1953.

(g) Qualified by characterizing S/S lead as "temporary."

(h) Qualitative comparison only focusing on military technologies.

APPENDIX III

US-SU MISCELLANEOUS STRATEGIC DELIVERY SYSTEMS:

BALANCE PERCEPTIONS DATA

Area	Year	Favoring	Remarks	Totals
Delivery systems in general (without specifying particular systems)	1957 1957 1960 1969	US US Equal US	Quantitative. Qualified by saying Soviet augmentation of ICBMs was forcing US to react.	4 comparisons 3 favored US 1 indicated equality
Satellite as delivery systems	1957	SU		1 comparison SU favored
Naval Systems in general (i.e., submarines and carriers as a group)	1960	US		1 comparison US favored

APPENDIX IV

ABM DEVELOPMENTS:

BALANCE PERCEPTIONS DATA

Area	Year	Favoring	Remarks	Totals
	1962	US		
	1962	SU		
	1963	US	US viewed as "maybe" ahead	7 comparisons 2 favored US
	1968	Eq		3 + 1 so favored SU
	1969	SU		
	1970	SU or Eq	Author ambiguous	1 + 1 so indicated equality
	1973	SU	In that Soviets have an operational system	

APPENDIX V

MISCELLANEOUS CONVENTIONAL OR GROUND FORCES: SUB-BALANCES PERCEPTIONS DATA

US-SU COMPARISONS

Area	Year	Favoring	Remarks	Totals
Personnel numbers	1957	SU		
	1972	SU		5 comparisons all favored SU
	1973	SU		
		SU		
		SU		
"Intervention forces"	1972	US		1 comparison US favored
Artillery	1973	SU	Quantitative	1 comparison SU favored
Tanks	1972	SU	Quantitative	2 comparisons both favored SU
	1973	SU	"	

APPENDIX V (continued)

N/W-S/S COMPARISONS

Area	Year	Favoring	Remarks	Totals
Personnel numbers	1955	S/S		
	1956	S/S		
		S/S		
	1957	S/S		
	1958	S/S		
		S/S		
	1960	S/S		
	1962	S/S		
		S/S		20 comparisons
		S/S		2 favored N/W
				18 favored S/S
	1966	S/S		
	1968	N/W		
		N/W		
	1969	S/S		
	1970	S/S		
	1972	S/S		
		S/S		
	1973	S/S		
	1974	S/S		
		S/S		
Tanks	1968	S/S	Quantitative/European theater only.	
	1969	S/S + N/W	S/S quantitative and N/W qualitative. N/W also has more ATWs (anti-tank weapons).	
	1970	S/S + N/W	S/S quantitative and N/W qualitative.	

APPENDIX V (continued)

N/W-S/S COMPARISONS

Area	Year	Favoring	Remarks	Totals
Tanks (continued)	1972	S/S	Quantitative only. N/W also has "marked superiority" in ATWs and combat helicopters.	6 comparisons 0 + 2 s.o. favored N/W 4 + 2 s.o. favored S/S
		S/S	Quantitative only. N/W has a "certain advantage" in ATWs.	
	1974	S/S	Quantitative only	
Anti-Tank Weapons	1969	N/W	Quantitative only	3 comparisons all favored N/W
	1972	N/W		
		N/W	N/W credited with a "certain advantage".	

APPENDIX VI

NAVAL SUB-BALANCES: PERCEPTIONS DATA

US-SU COMPARISONS

Area	Year	Favoring	Remarks	Totals
Major surface ships-in-general	1972	US	Quantitative	2 comparisons both favored US
	1973	US	Quantitative but SU closing gap	
Carriers	1959	US	Quantitative	
		US		
	1960	US		
	1961	US		
	1964	US		
	1968	US	Quantitative	9 comparisons all favored US
		US	Quantitative/helicopter carriers only	
	1969	US	Quantitative	
	1972	US	Quantitative (includes helicopter carriers)	
Other surface platforms				
- Cruisers	1962	US	Quantitative	
- Missile cruisers	1968	US	"	
	1972	SU	"	
- Gun cruisers	1968	SU	"	
	1972	SU	"	
- Frigates	1962	SU	"	
- Destroyers	1962	US	"	
- Missile frigates and destroyers	1972	US	"	
- Gun destroyers	1969	US	"	

APPENDIX VI (continued)

Area	Year	Favoring	Remarks	Totals
- Destroyers and destroyer escorts	1972	US	Quantitative	
- Missile destroyers and destroyer escorts	1968	US	"	20 comparisons 13 favored US 7 favored SU
- Escorts	1968	US	"	
- Minesweepers	1962	SU	"	
- Patrol craft	1962 1972	SU SU	"	
- Amphibious ships	1962	US	"	
- Auxiliaries	1962	US	"	
- Surface-to-air missile ships	1969	US	"	
- Surface-to-surface missile ships	1969	US	"	
- Helicopter-carriers and assault ships	1968	US	"	
Submarines-in-general	1958	SU		
	1959	SU		
	1960	SU		
	1962	SU		15 comparisons 1 + 1 so favored US
		Eq	Technical/qualitative only	
	1964	SU	Quantitative only	13 + 1 so favored SU
		SU	" "	1 indicated equality
	1965	SU		
	1966	SU		
		SU		

APPENDIX VI (continued)

Area	Year	Favoring	Remarks	Totals
	1968	SU		
		US	Technical/qualitative only	
	1970	SU	Quantitative only	
	1973	US + SU	US qualitative & SU quantitative	
	1974	SU		
Miscellaneous submarine platforms				
- Non-ballistic missile	1972	SU	Quantitative	
- Nuclear-powered boats	1973	US	Quantitative but SU closing gap	
- Nuclear-powered missile boats	1968	US	Quantitative	
- Deisel-powered missile boats	1968	SU	"	11 comparisons 5 favored US
- Cruise missile boats	1969	SU	"	6 favored SU
- Attack boats	1972	SU	"	
- Nuclear-powered attack boats	1968	US	"	
	1969	US	"	
	1970	US	"	
- Deisel-powered attack boats	1969	SU	"	
- Deisel-powered boats	1968	SU	"	

APPENDIX VI (continued)

Area	Year	Favoring	Remarks	Totals
Construction				
- "of new naval arms"	1959	US		3 comparisons 1 favored US 2 favored SU
- rate of surface ships minus carriers	1960	SU		
- rate of submarines	1956	SU		
Naval-associated technology:				
- Nuclear propulsion	1956	US	Relative to submarines only	9 comparisons 7 favored US 2 indicated equality
	1958	US		
		US		
	1963	US		
	1972	US	Relative to surface ships only	
- Submarine	1962	Eq		
- Naval air	1962	Eq		
- Naval surface-to-air missiles	1956	US		
- Advanced design	1956	US		
Surface-to-surface missiles	1968	SU	Though US aircraft may compensate	2 comparisons both favored SU
	1970	SU		
Equipping of Naval Forces	1964	US		1 comparison US favored
Logistics capability	1962	US		4 comparisons US favored
	1965	US		
	1966	US		
	1973	US		

APPENDIX VI (continued)

Area	Year	Favoring	Remarks	Totals
Amphibious capability	1962	US		2 comparisons US favored
	1968	US		
Training	1964	US		1 comparison US favored
Surface ship confrontation at sea	1958	US		2 comparisons US favored
	1960	US		
Naval Personnel	1962	US	Quantitative	1 comparison US favored

APPENDIX VI (continued)

N/W-S/S COMPARISONS

Area	Year	Favoring	Remarks	Totals
Carriers	1973	N/W	Quantitative	1 comparison N/W favored
Other surface platforms				
- Missile destroyers	1969	N/W	Quantitative	2 comparisons Both favored N/W
- Escorts	1969	N/W	"	
Miscellaneous submarine platforms:				
- Attack boats	1972	S/S	"	
- Nuclear-powered attack boats	1969	N/W	"	4 comparisons 1 favored N/W 3 favored S/S
- Deisel-powered boats	1969	S/S	"	
	1972	S/S	"	
Anti-submarine warfare units	1972	N/W	"	1 comparison N/W favored

REGIONAL NAVAL BALANCES

(BOTH US vs SU and N/W vs S/S)

Area	Year	Favoring	Remarks	Totals
Mediterranean	1968	US	Though SU now second	4 comparisons 2 favored US 2 favored N/W
	1968	US	Though a "certain equilibrium" has been established with Russian presence	
	1971	N/W	Though less in favor of West than it used to be	
	1972	N/W	Though gap decreasing	

APPENDIX VI (continued)

N/W-S/S COMPARISONS

Area	Year	Favoring	Remarks	Totals
Baltic	1956	SU	Quantitative	
	1962	SU		5 comparisons 3 favored S/U 2 favored S/S
	1968	SU		
	1972	S/S		
	1972	S/S		
Indian Ocean	1965	US		1 comparison US favored
Caribbean	1964	US		1 comparison US favored

APPENDIX VII

AIR SUB-BALANCES:

PERCEPTIONS DATA
US-SU COMPARISONS

Area	Year	Favoring	Remarks	Totals
Bombers (other than heavy/strategic for 1965 through 1974)				
- Medium and light	1965	US	Quantitative	
- Medium, light, and fighter	1966	SU	"	6 comparisons 1 favored US
- Medium	1968	SU	"	5 favored SU
	1969	SU	"	
	1970	SU	"	
		SU	"	
Fighters/Tactical air	1957	Eq	With US ahead qualitatively and in all-weather fighters and SU ahead quantitatively	
	1957	US	Heavy fighters only	6 comparisons 3 + 1 s.o. favored US 1 + 1 s.o. favored SU 1 indicated equality
	1972	SU		
		US	Quantitative	
		US		
	1973	US + SU	US ahead qualitatively (though gap closing in ground support aircraft) and SU quantitatively in interceptors	
Air Transport	1957	US		2 comparisons Both favored US
	1971	US		
Air-associated technology				
- Electronics	1955	US	But SU "making strong effort"	
	1957	JS		

APPENDIX VII (continued)

Area	Year	Favoring	Remarks	Totals
- Aerodynamics	1957	Eq		4 comparisons 2 favored US 1 favored SU 1 equality
- Motors	1957	SU		
Production rate of Aircraft	1957	SU		1 comparison SU favored
Personnel & Pilots	1957	Equal	Though US may be ahead in strategic aviation area.	2 comparisons 1 favored US 1 indicated equality
	1969	US	Quantitative	
Bomber training	1959	US		1 comparison US favored

APPENDIX VII (continued)

N/W-S/S COMPARISONS

Area	Year	Favoring	Remarks	Totals
Tactical/Fighter Air Balance in Europe	1964	S/S	Quantitative	
	1969	N/W + S/S	N/W Qualitative and S/S quantitative though N/W has more reinforcement capability	
		N/W + S/S	N/W qualitative and S/S quantitative	
	1970	N/W + S/S	Ditto previous	8 comparisons 0 + 4 s.o. favored N/W 4 + 4 s.o. favored S/S
		N/W + S/S	Ditto previous	
	1972	S/S	Quantitative but NATO has strong air defense	
		S/S	Quantitative	
	1974	S/S	" (Central Europe)	
Personnel	1968	N/W	Quantitative	1 comparison N/W favored
Training	1969	N/W		1 comparison N/W favored