Xenagogue

A GAMING AND SIMULATIONS QUARTERLY

In This Issue

October 1973 Issue

Vol. VI No. 4

$2.5Ø Per Copy

*****

Articles appearing in XENOGOGIC do not represent any consensus
of beliefs or the opinions of any individual, organization,
or institution. We do not expect that the readers of this
publication will agree with all the articles contained therein,
for some of the authors' will present directly contradicting
viewpoints. But, we believe by presenting a variety of
viewpoints we can perform a public service to the Gaming
Community. We do not accept responsibility for views herein.

*****

This issue of XENOGOGIC is indebted to many individuals
and organizations for their contributions. Only their
interest and support has enabled us to present the many
interesting articles contained in this issue. Our appreciation
is extended to all of them.

*****

The editors will consider manuscripts submitted for
publication but assume no responsibility for them unless
accompanied by a stamped, self-addressed envelope. Manuscripts
should be typed, double-spaced and in good form. Readers
are encouraged to submit articles, letters, or reviews of
interest for publication or to submit subjects that they
would like to have examined in future issues.

*****

The purpose of this journal is to further the purposes
of the Institute for Diplomatic Studies and the Gaming
Community at large, and to act as a vehicle for the exchange
of ideas between the amateur and professional gaming
community.

*****

A limited number of memberships in the Institute are still
unfilled. For application forms, and details, inquire of
The Director, Institute for Diplomatic Studies, Box 8416,
San Diego, California, 92102, U.S.A.

XENOGOGIC

A GAMING AND SIMULATIONS QUARTERLY

October 1973

Enclosures: INTERACT Catalogue, Lowry Publications
            Catalogue, 3M Catalogue, etc.

LAWRENCE WILLIAM PEERY

Editor

TABLE OF CONTENTS

AND NEXT ISSUE

We will devote the January, 1974, issue to the year 2001 A.D.

Another mammouth issue will feature: Henry Kissinger, Margaret Chase Smith, and Herman Kahn; a look at the year 2001 A.D. and what we can do, as gaming students, to get ready for it. A look at some world hot-spots, an intensive discussion of DNO!   And much, much more.

ADULT   GAMES   by   GAMES   RESEARCH   INC.

Exciting and Challenging Games for the Growing Adult Market

INSIGHT: A Party Game $8.95

    An ideal after-dinner game. Each player makes his appraisal
of the personality of each other player and himself. Then
everyone compares notes and we see who has the greatest
personality "Insight". Who best sees the personality of others
as they see themselves? An informal fun game that stimulates
conversation.

DIPLOMACY: The Exciting Game of International Intrigue $8.95

    Diplomacy is a game of skill and cunning negotiations.
Chance plays no part. Around a 1914 map of Europe, 4 to 7
players try to deal and double deal their way to control of the
continent.
    For 4 to 7 players. Diplomacy includes large 19" x 26"
full-color game board, 1112 army and navy tokens, and 7
conference maps.

Courtesy of

INTERACT

Learning   Through   Involvement

Post Office Box 262
Lakeside, California 92040
U.S.A.

A Folio Selection and Catalogue Are Enclosed

Courtesy of

THE AVALON HILL CO.

Learning Can Be Fun

The Avalon Hill Co.
4517 Hartford Rd.
Baltimore, Md. 21214

A Folio Selection Is Enclosed
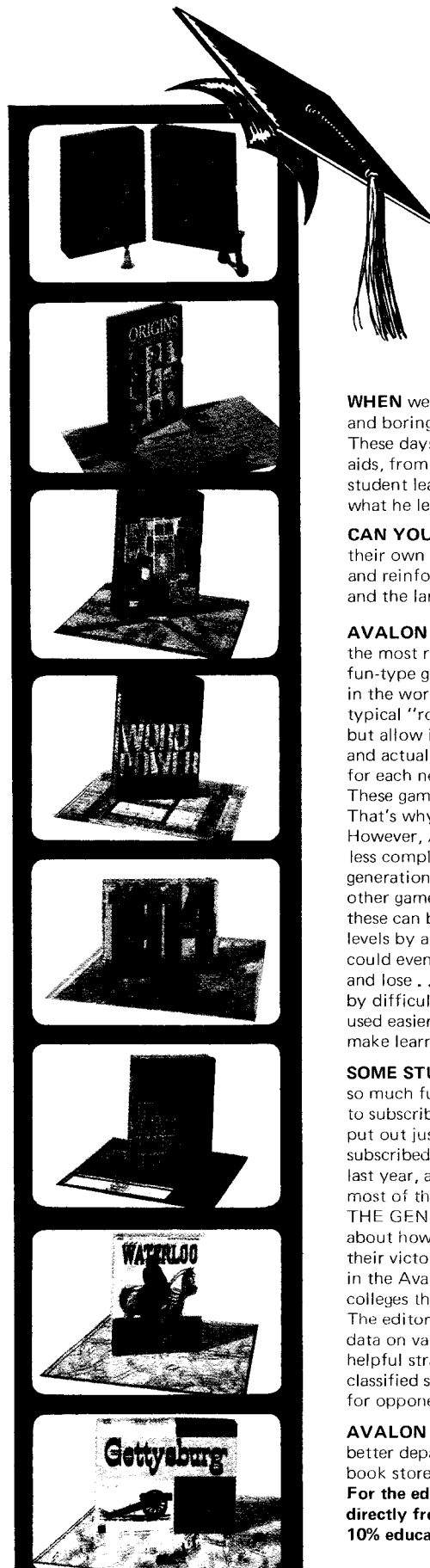

Courtesy of

3M

Bookshelf Games

3M Company
St. Paul, Minnesota, 55101
U.S.A.

A FUN & GAMES FROM 3M CATALOGUE Is Enclosed

so
enjoyable
you
might
forget
they're
educational

OR...
LEARNING
CAN
BE
FUN!

TUF (Style 803) . . . $10.00

A fast, competitive game based on number sentences or equations, **TUF** is a progressive series of games suitable for various ages: eight to adult. Especially adaptable to classroom use, as everyone plays simultaneously. The first games deal with simple two, three or four number equations. The next games increase type and complexity of equations by introducing fractions, decimals, parentheses, number systems to bases other than decimal, exponents, powers, fractional and negative roots. While each game set is designed for 1 to 4 players, many more can get involved simply with additional sets of number cubes, available at a fraction of the game set cost.
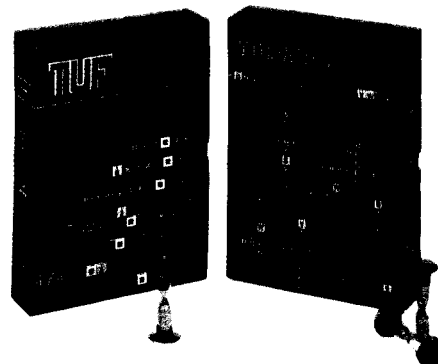
TUFABET (Style 804) . . . $10.00

If ever it was possible to improve upon Scrabble, **TUFABET** is it! Like Scrabble, students use **TUFABET** cubes to construct interlocking words similar to those formed in crossword puzzles. Unlike Scrabble, everyone plays simultaneously, and sand timers add suspense to the competition as opponents race against time. Concentration and logical throught are essential. Excitement is generated by an entire class playing against one another or groups. **TUFABET** builds vocabulary and reinforces spelling ability. Purchase of additional cube sets allows unlimited student participation around one game set.

ORIGINS OF WORLD WAR II (Style 810) . . . $9.00

If you think Germany started the war, guess again. It began, not with the invasion of Poland in 1939, but in 1932 when Hitler rose to power on a "law and order" ticket. The game **ORIGINS** returns students to that period when the war of words began, re-creating the political battlefield with students taking the part of the diplomats of each nation. Background material, included as an integral part of the game-set, informs players of all the political events (from 1919 thru 1939) that led up to the war. Students therefore negotiate accordingly with "political factor" counters representing the diplomatic muscle each nation had at the time. Were this game played tonight by today's diplomats, perhaps history might no longer repeat itself — the game is that realistic. The rules to **ORIGINS** include special Classroom Play involving the entire class around one game-set.

SHAKESPEARE (Style 800) . . . $10.00

Shakespeare and his works have always been something of a game for scholars hunting out hidden meanings in archaic phrases. Such is possible with the **GAME OF SHAKESPEARE.** The game set comes equipped with rules for a variety of games chosen to fit student expertise. Play is in Parchesi-like fashion. Students learn to identify famous Shakespearean quotations and recognize characters of all 37 plays. The "answers" are given in the accompanying 52-page guide, which also includes a chronology of the times and a biography of the "great bard". Saith the Folger Shakespeare Library, "Your game would be a valuable asset both in the study of history of the Shakespeare period and of English Literature at the secondary level." Ideal for 2 to 4 player student groups.
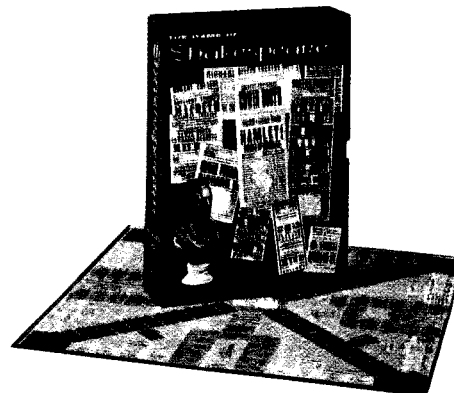
WORD POWER (Style 801) . . . $10.00

"It Pays to Increase Your Word Power", a Reader's Digest feature, inspired the design of this vocabulary-building game. Players are dealt key word cards which they must match up with synonyms and antonyms as instructed by the Monopoly-like playing board. A lofty position upon the Literary Status Ladder is the reward for successful synonym/antonym play. Yet, less erudite students can compete on even terms: three decks of key word cards, color-coded according to frequency of usage, provides equal chances of victory for everyone regardless of word knowledge. **WORD POWER** has become a favorite among school supervisors for students with remedial problems. It is ideal for teachers interested in ludo-tutoriology. While adaptable to classroom use, its educational value is greatest with 2 to 4-player student groups.

Left column (collage of school/institution letterheads):

SPARTA AREA SCHOOLS — 10200 SPARTA AVENUE, SPARTA, MICHIGAN 49345, 887-0801
JOSEPH PUVOGEL, Superintendent

HARRINGTON SCHOOL
ALPINE SCHOOL DISTRICT

WESTERN MARYLAND PUBLIC LIBRARIES
100 SOUTH POTOMAC STREET
HAGERSTOWN, MARYLAND 21740

THE PUBLIC SCHOOLS OF WORCESTER
CENTRAL ADMINISTRATION BLDG.
EUGENE J. APPLEBAUM 20 IRVING STREET
SUPERVISOR OF PROGRAM DEVELOPMENT WORCESTER, MASSACHUSETTS 01609
AND SPECIAL ACTIVITIES

Audio-Visual Center
JUNIOR HIGH SCHOOL SARATOGA SPRINGS NEW YORK 12866

POMONA UNIFIED SCHOOL DISTRICT

Beverly Hills High School
241 Moreno Drive, Beverly Hills, California 90212 · Telephone 277-5900

MUNICH AMERICAN HIGH SCHOOL
APO NEW YORK 09407

SCHOOL DISTRICT 111
HIGHWOOD · HIGHLAND PARK, ILLINOIS

INDEPENDENT SCHOOL DISTRICT 583
PIPESTONE, MINNESOTA 56164

SYOSSET PUBLIC SCHOOLS
CENTRAL SCHOOL DISTRICT NO. 2

VICTORIA PUBLIC SCHOOLS

Richmond Public Schools

WINFIELD JUNIOR-SENIOR HIGH SCHOOL

BOARD OF EDUCATION · SCHOOL DISTRICT 73½
8000 EAST PRAIRIE ROAD, SKOKIE, ILLINOIS

DEPARTMENT OF PUBLIC SCHOOLS
ANDOVER, MASSACHUSETTS 01810

EDUCATIONAL SERVICE CENTER

DADE COUNTY PUBLIC SCHOOLS
ADMINISTRATION OFFICES
DADE COUNTY SCHOOL BOARD

HARVARD UNIVERSITY
SCHOOL OF PUBLIC HEALTH

THE CONFRATERNITY OF CHRISTIAN DOCTRINE
DIOCESE OF TRENTON

HARRY HUNT JUNIOR HIGH SCHOOL
1800 HIGH STREET
PORTSMOUTH, VIRGINIA 23704

BOARD OF EDUCATION OF THE CITY OF NEW YORK

Central School District No. 4
BELLPORT MIDDLE SCHOOL

SYRACUSE UNIVERSITY

MADISON PUBLIC SCHOOLS

SACRAMENTO STATE COLLEGE
6000 JAY STREET · SACRAMENTO · CALIFORNIA 95819

THE TOPEKA PUBLIC SCHOOLS
Unified School District No. 501 — Shawnee County, State of Kansas

Landon Junior High School

Mansfield Public Schools

CITY HIGH SCHOOL
MORNINGSIDE DRIVE
IOWA CITY, IOWA

BASSETT UNIFIED SCHOOL DISTRICT

villanova university
VILLANOVA PENNSYLVANIA 19085
SOCIAL STUDIES FIELD AGENT TRAINING PROGRAM

Ritenour Consolidated School District
Hoech Junior High School

Donald K. Walker
Gerald A. Meyer
Ronald C. Feis
Donald Clark

educational game line . . .

Those games represented on the inside pages are those most adaptable to classroom play, and as such have been our best sellers to educational institutions. Here we complete the listing; some you may find particularly applicable to your specific courses of instruction.

THE HISTORICAL SERIES . . . *listed alphabetically, these games are quite similar in design and play concepts to Gettysburg, Waterloo and 1914, previously described. They vary, of course, with their particular scenario.*

AFRIKA KORPS (Style 600) . . . $7.00
Excellent for beginners. Students take the part of regiment and brigade commanders, or Rommel and Montgomery themselves. Game emphasizes logistics factor.

BATTLE OF THE BULGE (Style 602) . . . $7.00
Authenticated by General Anthony McAuliffe of Bastogne fame. Game presents this controversial episode of WWII in its true light. Not for beginners.

D-DAY (Style 508) . . . $7.00
An historically faithful recreation of the Normandy invasion. Students have option to alter invasion site. Game progresses through 50 "weeks" after invasion. Good starter game.

LUFTWAFFE (Style 809) . . . $9.00
A challenge for the German air arm in basically a two-player game. Allied player has all the real life planes at his disposal with which to plot the aerial destruction of Germany.

MIDWAY (Style 601) . . . $7.00
Authenticated by the real-life hero, Admiral C. Wade McClusky. A good multi-student game, each assigned task forces in the WWII Pacific Theatre aerial/naval battle game.

PANZERBLITZ (Style 807) . . . $9.00
A real test of military skill, recreating every facet of small unit action down to company and platoon level. Game contains 12 historical scenarios of WWII Russian Theatre. For only the most advanced students.

RICHTHOFEN'S WAR (Style 811) . . . $9.00
A re-creation of the legendary exploits of the Red Baron. A *one-on-one* situation; players learn what it's like to fly a plane in World War I aerial combat. Authenticated by pilots of Flying Circus Aerodrome, Bealeton, Virginia.

STALINGRAD (Style 518) . . . $7.00
Perfect for beginners. Played on Corps level. Game encompasses entire Eastern Front of WWII. One of the most popular of the Historical Series.

THE INVOLVEMENT SERIES . . . *where students can indulge vicariously in their secret desires, while learning to cope with real-life situations.*

BASEBALL STRATEGY (Style 814) . . . $10.00
Students become the manager, coach, hitter, catcher all rolled up into one. Game is devoid of traditional luck elements; outcome is determined by strategic skill of players. Game includes *Handbook of Official Baseball Rules*, a compendium of all rules from Little League on up through Major Leagues — a *one-of-a-kind* textbook in itself.

BUSINESS STRATEGY (Style 808) . . . $10.00
A game parlaying proper management principles with native shrewdness and common business sense. The competitive element, where players bid for raw material and finished inventory, re-inforces basic tenets. Advanced scenario implements P & L statements, Balance Sheets, and principles of stock distribution

BLITZKRIEG (Style 700) . . . $8.00
Largest, most all-encompassing battle game ever published. Game fictionalizes Germany's breakout of WWII. Excellent instructional vehicle of military tactics and strategy.

FOOTBALL STRATEGY (Style 815) . . . $10.00
Sports Illustrated called this "the best football game ever invented. An honest-to-Pete challenge to the man who knows he would have been a great pro quarterback if only he had had the chance." A *Football Widow's Handbook*, included with the game, educates the female to what football is all about.

KRIEGSPIEL (Style 806) . . . $8.00
An abstract military strategy game. Used extensively on many army installations. Teaches all facets, from diplomacy to hot war. Excellent instructional value for beginners.

OUTDOOR SURVIVAL (Style 895) . . . $10.00
A game about wilderness skills. Players assume the roll of campers lost in the wilderness. Five scenarios, graduating in survival expertise, allow players to simulate skills necessary in real life. Game contains a handbook showing actual survival techniques written by experts in the field.

TACTICS II (Style 502) . . . $5.00
The original game of military chess. Great primer for introducing novices into the historical series. Dramatically demonstrates the 9 principles of war in a competitive atmosphere.

TO ORDER . . . Avalon Hill educational games are available in better department stores, hobby shops, toy stores and book and stationery outlets everywhere. Or, they may be ordered direct from Avalon Hill at the special 10% Educators' Discount. Simply send your order in on a school purchase order or letterhead. All games will be shipped, then invoiced at less 10% plus shipping costs. (Send payment with order and avoid shipping costs.)

THE AVALON HILL COMPANY

GETTYSBURG (Style 501) . . . $7.00
The forerunner of all adult games and now a classic . . . so well researched that it recreates the famous Civil War battle in the most authentic terms possible. The game board displays the battlefield as it existed in 1863. Students move military units representing the divisions that actually participated. Every division comes into play according to a time table depicting the exact hour and day they arrived historically. From this point, students maneuver into battle according to their own tactical and strategical instincts. In classroom play, each student is assigned the command of one or more divisions. Play is quasi-simultaneous . . . no boring delays waiting for turns. "Involvement" is the key to learning . . . **GETTYSBURG** supplies that key.

WATERLOO (Style 516) . . . $7.00
We still don't know what Napoleon was hiding in his blouse, but we do know he was a military genius, forming the subject around which this battle game is based. In short, **WATERLOO** is a superb "history" lesson in a game box." The game has it all: military units representing 100,000 men to be maneuvered across a terrain mapboard of that period. The battle was a classic. So is the game for its faithful recreation of the engagement between the finest trained armies ever. All the tactical and strategic cunning that was the hallmark of Napoleon and Wellington can be employed by students during classroom play. One game set serves as both a starter game for beginners and participation by an entire history class.

THE STOCK MARKET GAME (Style 805) . . . $10.00
Secondary curriculums all but ignore the stock market in their courses of instruction. With this in mind, Avalon Hill has designed a stock market game that shows what it's all about . . . realistically, concisely and graphically. Rules include a "classroom play" version. Here students place their buy and sell orders simultaneously, just as it is done in real life. There are no dice, no chance cards, no spinners that characterize the fantasy aspect of other commercial board games; student decision alone determines the amount earned or lost. The game set includes several game versions to increase play depth. Students can even play **"1929"**, a game version recapping events of the great Depression. A 24-page Investor's Guide comes with each game set explaining, in layman's terms, all about the stock market. For entire class participation. No additional parts required.

1914 (Style 714) . . . $8.00
The "fog of war" is no better illustrated than in the game **1914**, based on World War I. In fact, it **is** World War I . . . every military unit of any consequence that participated in the war is reproduced for replay in the game: over 400 great armies in all. While not recommended for beginners, as an instructional device, **1914** cannot be surpassed for pure authenticity. The game is patterned after U.S. Army "think tank" concepts. The 36-page accompanying Battle Manual is a text book in itself, containing economic, political and military data compiled from a most impressive bibliography (also listed.) One game set suffices for entire classroom participation, but recommended only for students with advanced interests in the subject.
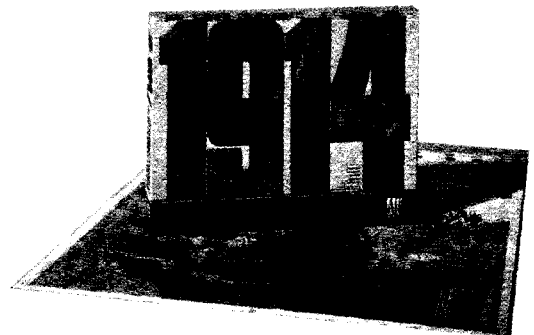
GREATER SAN DIEGO GAMING &

SIMULATIONS CONFERENCE

The GSDGSC was held on Saturday, August 4, 1973, at the Islandia Hotel in San Diego

A wide variety of groups were represented at the event including exhibitors/exhibits from:

SOCIETY FOR COMPUTER SIMULATION

MINNESOTA MINING AND MFG. CO.

LOCKHEED AIRCRAFT CORPORATION

AVALON HILL CO.

INTERACT

SIMULATION DESIGN GROUP

GAMES RESEARCH INC.

SIMULATIONS DESIGN CORP.

LOWRY ENTERPRISES

TRW

GAME DESIGNERS' WORKSHOP

INSTITUTE FOR DIPLOMATIC STUDIES.

Also among the exhibits were displays on:

HISTORY OF WARGAMING

DESIGN AND DEVELOPMENT OF WARGAMES.

Those attending were briefed on:

PROJECT TESE, NAVAL ELECTRONICS LABORATORY

Dr. Mike Mikhail
Naval Electronics Laboratory, San Diego

NAVAL WAR COLLEGE GAMING & NAVPHIBSCOL, CORO.

LCDR B. F. Coye
United States Navy

SIMULATIONS DESIGN CORP. PROGRAMS

Jack Greene, Jr.
Simulations Director

*THE C-5A GAMING/SIMULATIONS EXPERIENCE

Tom May
Vice President, Lockheed-Georgia Corp.

#GAMES FOREIGN POLICY EXPERTS PLAY:
THE POLITICAL EXERCISE COMES OF AGE

Dr. Lincoln P. Bloomfield
Center for International Studies
M.I.T.

#ROLE OF SIMULATIONS IN A SECONDARY SCHOOL
CURRICULUM: A CASE HISTORY

Michael W. McGuire
Simulations Design Group

+TRI THETA EPSILON SIMULATION EXERCISE:
FINAL REPORT

Lawrence Wm. Peery
Director
Institute for Diplomatic Studies

* To be published as an Institute monograph.
# Published in this issue.
+ To be published separately.

IMPORTANT NOTICE

Remember, if you have all four issues of Vol. VI your
subscription to XENOGOGIC ends this issue. You must resubscribe
if you wish to continue receiving the magazine.

A check below indicates your subscription will expire
with this issue:

_____

If you wish to resubscribe, or enter a new subscription,
send your check or money order for $5.00, or $8.00 air mail
overseas, to the Institute.

New subscribers will receive a complimentary copy of
WHO'S WHO IN POSTAL DIPLOMACY or one of the MONOGRAPHS.

STRATEGY AND TACTICS OF POSTAL DIPLOMACY

The Institute for Diplomatic Studies is pleased to make this special prepublication offer on Diplomacy's first book.

The author of this Diplomacy first is Lawrence Peery, long-time Diplomacy player, variant designer, and publisher. He served as the first President of the International Diplomacy Association. Peery has participated in more than 70 postal Diplomacy games; as player, gamesmaster and publisher.

STPD will consist of 4 parts and an appendix:

(1) Introduction to the Strategy and Tactics of Postal Diplomacy: This highly successful introduction to Diplomacy basics outlines the basic strategic and tactical decisions facing each of the seven Powers during the first two years of the game.

(2) Mid and End Games in Diplomacy: Will carry on where Part 1 ends, discussing the primary period of conflict in the game and the final drive for victory.

(3) The Shrink's Series: Was a unique experiment over a 2 year period featuring an in-depth study of the behavior of players in 21 different postal Diplomacy games.

(4) The Postal Diplomacy Game: Based on the author's more than seven years in postal Diplomacy this is a candid look at a remarkable sub-culture in the gaming world.

(5) Appendix: Contains the nuts and bolts of the author's research. The statistics, the moves, and the techniques of the gamesmaster and publisher are here.

*****

Basic Price is $8.00 per copy.   250 pp. approx.

Discounts to IDA, IDS Members, and players in Shrink's: $2.00
Discounts to postal Diplomacy publishers/gamesmasters: $1.00

Delivery from December 1973, through April 1974, by subscription method or in April 1974, in permanently bound volume.

Only a limited number of copies are available. To be sure of prompt delivery order your copy now.

DIPLOMACY'S FIRST BOOK

INSTITUTE FOR DIPLOMATIC STUDIES

REPORT

The Office of the Director is pleased to present the
following report on the status of the Organization for the
1973 calendar year.   All figures and dates are tentative
and subject to revision as circumstances warrant.

Purposes

The general purposes of the Institute, as outlined
in the Membership Handbook, remain unchanged. However, due
to various events in the world about us such as the
Watergate Affair, the recent Chilean upheval, and the
constantly changing balance of power, the Institute advisors
have decided to speed up the program of current and future
problem studies. This decision on policy is being practically
implicated in the publication of the monographs discussed
elsewhere in this issue, and in the topics for planned
simulation exercises.

Programs

Institute programs will continue to expand in scope
and in depth during the next year. Generally the policy of
the Institute will be to improve existing activities rather
than start new ones.

Games and Simulations

The lessons learned in the Tri Theta Epsilon Simulation
exercise will be applied to the Institute's major 1974
exercise, Phi Eta Omega (PEO). PEO will deal with the
Middle Eastern balance of power in the late 1970s and will
generally follow the pattern established in TTE. However,
the Fact Book will be based on materials provided by the
Research Analysis Corporation, McLean, Va., and the
American Enterprise Institute, Washington, D.C. The simulation
scenario will be futuristic and involving several problems.
Approximately 10-15 states, organizations, and oil firms
will be represented. The game will last 6-8 months and
have approximately 6 turns. And, in conjunction with PEO
a similiar simulation will be conducted at San Diego State
University in Spring 1974.

The Institute will also offer two, two man simulations.
One involving the SALT negotiations and one involving a
Sino-Soviet Conflict. These will be short, intensive studies
of particular problems.

In addition to conducting simulations via the postal media and in local face-to-face meetings, the Institute will continue to publish a variety of simulations and games. If current programming schedules are met by the end of 1973 the Institute will have available revised forms of:

NEXUS, COLD WAR GAME, SIMCON, DOOMSDAY, INTER-NATIONAL SIMULATION, TOP SECRET, etc.

In addition, two more tactically oriented games will be offered: POLARIS III and SINEX, both theater-level, two man simulations dealing with current problems. Details on all these games may be found in XENOGOGIC or PEERINALIS.

Postal Simulations

The main postal simulation for 1974 for the Institute will be the PEO described above.

In addition the Institute will bring to completion its current inventory of postal Diplomacy games.

Publications

XENOGOGIC has been highly successful and the Institute is making plans for its expansion, both in circulation and in magazine size. The basic format will remain unchanged.

Upcoming issues will feature a variety of articles related to today's gaming needs. A special emphasis will be on futuristic studies and potential politico-military problems.

MONOGRAPHS are explained elsewhere.

STRATEGY AND TACTICS OF POSTAL DIPLOMACY will be the Institute's first book and the first book ever written on Diplomacy, one of the most successful games in modern times. It will contain the wrap-up report on the Shrink's Series of postal Diplomacy games.

TRI THETA EPSILON REPORT will contain the final report on this exercise.

Administration, Membership & Finances

The new Advisory Committee (combining the old Military Advisory Committee and Board of Trustees) includes: Lt. Gen. Victor Krulak (USMC Ret.), Chairman; Col. Irving Salomon (USA Ret.), former US Ambassador to UNESCO and UN Undersecretary-General; Ambassador Horacio Rivero, Jr. (Adm., USN Ret.), US Ambassador to Spain; U.S. Grant Sharp

(Adm., USN Ret.); Richard Capen, former Assistant Secretary
of Defense and currently President, Copley International
Corporation; William Patterson (Col. USA Ret.), former
Division Chief, SAGA, OJCS; Lord Caradon, former British
Ambassador to the United Nations; M. Christian, former
Greek Ambassador to NATO and currently Professor of International
Law, University of Athens. Members of the Committee met
in San Diego on 23rd of September. Details are available
in PEERINALIS.

The results of the 1973-74 membership drive were
encouraging. Membership has increased by approximately 450%
since the establishment of the Institute. Members now
represent over 45 separate gaming agencies in government,
education, private enterprise, social, etc. Members are
located in 11 foreign countries.

Financially the Institute ended the year with an
operating deficit. However, the value of the Institute's
inventory of publications and other materials increased
by over 600%. Contributions from a variety of individuals
and organizations met the Institute's expenses for the
past year. However, the projected budget for 1974 will
not be met from dues and may not be realized from sales of
publications. In such case, the Institute will again depend
on the generosity of its members to make up the deficit.

*****

INSTITUTE FOR DIPLOMATIC STUDIES

To continue the work of the Institute I am enclosing a
donation in the ammount of _____
to be used for the purpose of:

GAME DEVELOPMENT____PUBLISHING_____AS NEEDED_____
This contribution IS IS NOT annonymous.

Contributions are tax deductible.

_____

                                    Signature

Return to:
Office of the Director
Institute for Diplomatic Studies
Box 8416, San Diego, Ca. 92102.

INSTITUTE FOR DIPLOMATIC STUDIES
Monograph Series

At the present time, and in the next few months, some of the most important strategic, tactical, and logistical decisions to be made by the United States since the end of World War II will <u>have</u> to be made. On the one hand the United States is faced with the desire for an improved SALT II, and MBFR. On the other hand the Military-Industrial-Bureaucratic Establishment is pushing for the full-scale development and deployment of major new improved technological systems: TRIDENT, The B-1, F-14A, F-15, etc. etc.

An understanding of these new weapons systems, and the strategic and tactical theories behind their acquisition and deployment is vital to all of us, as concerned citizens and as serious gaming students. These new systems, now coming into the public eye, will be the mainstay of American military power for the next generation. They will be, in effect, the tools available to future gaming students.

With them, or in spite of them, they may prevent, fight, or end, future politico-military crises. As we move increasingly toward activities oriented towards <u>future</u> conflicts we will need a active understanding of the uses, and limitations, of these systems as they apply to us. For these reasons we are making available a series of monographs on some of the key systems, problems, and issues facing us.

******

Monographs are complete in themselves. They follow the standard IDS format with stiff cover, photo-offset printing, etc. They may include illustrations, charts, maps, drawings, etc. as appropriate.

Only recognized authorities and reliable sources are included. Differing viewpoints may be found in different monographs.

Comprehensive bibliographies are included with some papers.

$2.00 per paper, postpaid. 10% discount on 5 or more.

INSTITUTE FOR DIPLOMATIC STUDIES

Monograph Series

(1) TTT Publications Magazine Evaluation

(2) ABM: Yes, No, or Compromise

(3) TFX: Study In Congressional Influence

(4) The Italian Defense Organization

(5) Exercise Strong Express: A NATO Case Study

(6) Submarine Defense

(7) The F-15 Eagle Air Superiority Fighter

(8) The LANCE Tactical Missile: A New Artillery Weapon System
                                for NATO

(9) The RAF In the Mediterranean

(10) The French Mechanized Brigade and Its Foreign Counterparts

(11) Fighting Trim: The Swedish Air Force

(12) The F-14A Tomcat Air Superiority Fighter

(13) U.S. Military Posture for FY 1974

(14) Missile Submarines and National Security

(15) ASW Warfare and National Security

*(16) The Trident

*(17) The B-1

*(18) SALT

*(19) MRV, MIRV, etc.

*(20) MBFR

* To be published in 1974, all others now available

In order to advance our members' understanding of
the rapidly changing military technology and strategy
of our times the Institute has arranged to publish
some of the best original and reprint material available.

INSTITUTE FOR DIPLOMATIC
STUDIES

THE COLD WAR GAMES

The Institute is pleased to offer a special price on its three latest simulations/games under the package title: THE COLD WAR GAMES.

Included are: NEXUS, a one man simulation of the office of the Presidency of the United States, as developed by the Navy Computer Institute; THE COLD WAR GAME, a study of the SAGA, OJCS and M.I.T. politico-military simulation; and SIMCON, an advanced politico-military simulation developed by the Industrial College of the Armed Forces. Note, neither NEXUS nor SIMCON have ever been published before in any form available to the general gaming public. And the COLD WAR GAME study is the most detailed collection of materials on that simulation yet available.

The package includes approximately 130 pages and each simulation is covered in its own stiff-cover. The standard photo-offset copy method is used.

The entire package, available for immediate delivery, is available for the single price of $10.00. This is lower than IDS rates or the single copy rate, which would total $14.00 if bought separately.

This offer will expire December 31, 1973.

****

IDS
Box 8416
San Diego, Ca. 92102

Enclosed is my check for _____. Please send_____
sets of THE COLD WAR GAMES by return mail. Postpaid.

$10.00 per set, postpaid. First class mail add $2.00.

_____

_____

_____

RAND: INTELLECTUAL   "SALON"   OR   "PLAYPEN?"

Attempting to describe RAND's place in the Gaming and
Simulations Community, if such a "Community" can be said
to exist anywhere except in the minds of wishful wargaming
thinkers, is all but impossible. Either one tends to over-
praise RAND and attribute to it all, or at a minimum most,
of the important accomplishments in the field of gaming in
the past 25 years or so or, some, like Herman Kahn, maintain
that when they left RAND it became an "intellectual wasteland"
and a "playpen for frustrated science fiction writers."
Neither view, in our opinion, is correct. In this second
article of a series dealing with RAND we hope to evaluate
objectively some of RAND's many contributions to the gaming
world.

To understand and appreciate RAND is difficult for an
outsider, by definition anyone not party to RAND's secrets
(which are not necessarily the same as those of its clients:
the Air Force, AEC, etc.). Comparisons with other "think
tanks" are misleading because of RAND's preeminent position
in the field. Next to RAND all other think tanks are as
American Motors is to General Motors; a useful parasite.
RAND is not a private enterprise; it is a "not for profit
corporation" under California law. Nor is RAND a government
agency; it is a highly valued auxillary to many government
agencies. Nor is RAND an educational institution; it is one
of the best collections of scholars and academic specialistis
in the world. RAND is something of all these things: business,
government, school. It shares their strengths and it shares
their weaknesses. RAND's strengths are well-known and require
no comment as they will be self-evident. However, its
weaknesses are less apparent. Perhaps two of RAND's greatest
weaknesses are its hyper-secretiveness (a diease which it
shares with most government quasi-agencies), which Daniel
Ellsberg has gone after, and its tendency toward being a
closed system in which outside influences, both good and bad,
are minimal, something on the order of the Rosecruians.
RAND operates in, frankly, an "eggheads' vaccuum," and tends
to see the world---past, present, and future---through RAND-
colored glasses. Still, it is well worth an effort to under-
stand RAND's work and its importance to us.

One possible, and very tentative, comparison for RAND
is found in French history. The "salon" was a French
Enlightenment institution, as RAND is a modern American
institution. In it the best minds of the Enlightenment
gathered to discuss their times, radical ideas ahead of their
times, their problems, and possible solutions of all kinds;

all supported by an indulgent, generous and uncomprehending aristocracy. Even this analogy is subject to challenge--- the salons mostly discussed---RAND has, more often than not, acted on its discussions.

The fruits of the salons' discussions were recorded in Diderot's Encylopedia and thousands of letters exchanged among Enlightenment figures. The fruits of RAND's work are found in its publications: books, reports, research papers, etc. The higher purposes of both are found in the lives of our own people, a better life for all mankind, present and future, and the victory of peace over war.

The purpose of this article is to carry on where the article introducing RAND in Vol. I, No. 1, January 1973, left off. Here we will discuss some of RAND's publications of interest to gaming and simulations students; their place in the literature; and how these publications may be obtained from RAND or various libraries and government agencies.

Two things should be noted. First, this article concerns, primarily, RAND's unclassified documents and publications, approximately one-half of its total output. RAND's traditional policy has been to publish a generalized paper dealing with non-classified aspects of more sensitive documents. Thus, the substance, if not the form, becomes real and, sooner or later, RAND's knowledge becomes general knowledge. RAND has published one paper for each day of its existence, according to some sources, which means somewhere between 7,ØØØ and 1Ø,ØØØ papers of various sorts by hundreds of different authors including, by the way, most of the foremost thinkers of our time in dozens of different fields.

Second, RAND's papers are catagorized by subject areas which are listed below. These catagories reflect RAND's internal organization and areas of special interest to her. We will focus on only two, out of a score or more, of these areas: Game Theory and Gaming. Those interested in other areas, such as Computer Simulation, Systems Analysis, etc. should inquire about appropriate bibliographies.

For general public orientation RAND has published a folder, Publications of the RAND Corporation, which is available from RAND for free and which covers, in a general way, sources for RAND publications. The general contents of the folder are summarized below for those interested.

RAND publications are available from the Corporation. Individual titles are available from RAND Publications Dept., 17ØØ Main St., Santa Monica, Ca. 9Ø4Ø6. Prices depend on the number of pages in the publication but average $1 to $2.

Books are not available from RAND directly but must be ordered through their publishers.

Collections, by subscription, are available, on a yearly basis which includes 350 to 450 titles, an Index and Abstracts, but not the books. The fee is $300, domestically mailed. Back collections, for the two previous years, are also available.

Indexes include a description of each publication, as well as an Abstract. Index of Selected Publications of the RAND Corporation, 1946-1962, $10 per volume set, and Selected RAND Abstracts for the years 1963-1971, in annual volumes, $5 each.

Bibliographies cover the following subjects: Aerodynamics, Africa, Arms Control, China, Civil Defense, Combinatorics, Communication Satellites, Communication Systems, Computer Simulation, Computing Technology, Decision-making, Delphi and Long-range Forecasting, East-West Trade, Education, Game Theory, Gaming, Health-related Research, Human Resources, Latin America, Linguistics, Maintenance, Middle East, Policy Sciences, Pollution, Population, Privacy in the Computer Age, Probability, Program Budgeting, Public Safety, SIMSCRIPT, Southeast Asia, Space Technology and Planning, Statistics, Systems Analysis, Television, Transportation, Urban Problems, USSR/East Europe, Water Resources, Weapon Systems Acquisition, & Weather and Meteorological Studies. Copies of the above bibliographies are available from RAND without charge.

Many RAND documents are available to government users and other official groups from Government Document Centers.

RAND document depositories are maintained at more than 270 U.S. public and corporate libraries, and overseas. Most of these are located at major university centers. A complete list of the depositories is found in the Publications.

Two samples of the Bibliographies are those for "Gaming" and "Game Theory." The Gaming Bibliography, SB-1050, last updated in June 1972, includes listings for 2 books, 2 reports, 23 memorandum, and 36 papers. Of these documents approximately 10 are of special interest to the average wargamer. Some of them are described more fully below. The Game Theory Bibliography, SB-1039, last updated in June 1972, covers 53 pages, and includes entries for 8 books, 6 reports, approximately 200 memorandum, and a hundred or so papers. This Bibliography also contains a 19 page Subject/Author Index. Each Bibliography contains various kinds of index, abstracts, order forms, etc. Bibliographies are normally updated on a yearly basis. Selected Abstracts, published quarterly, lists new publications.

In addition to the Gaming and Game Theory Bibliographies, those for Computer Simulation, Systems Analysis and Delphi and Long-range Forecasting may be of special interest to gamers.

RAND produces five main types of documents: Books, which are normally authored by one or more individuals at RAND but which are published by a university or commercial publisher; Research Papers or Reports, which are prepared specially for someone, such as a government agency, which are usually funded under a research contract, and which are fairly elaborate in scope and deal with some aspect of RAND's work; Papers, which are less formal documents reporting on some RAND project; and Working Papers, which are informal and subject to revision, and which are usually prepared for discussion purposes. Another way of looking at them is that RAND books are for the world, Research Papers and Reports are for clients, Papers are for fellow researchers, and Working Papers are for in-house discussion.

With even this limited over-view of some of the basics of RAND publications, let us consider some of the fruits of her labors in the gaming and simulations field. The following representative, although we have tried to pick from among the best, selections are chosen from hundreds available to illustrate the development of RAND's gaming studies. They are also representative of the historical development of RAND's work in this field; its depth, its breadth, and the varities of its methods, approaches, and authors.

1)   *TECHNIQUES OF SYSTEMS ANALYSIS
     RM-1829-1-PR
     June 1957
     H. Kahn and I. Mann, 161 pp.

This document is a preliminary draft of a portion of a planned book, Military Planning in Uncertain World. "Techniques of Systems Analysis" was to be part one of the book, followed by parts dealing with "Techniques of Operations Research" and "Philosophical and Methodological Comments." "Techniques of Systems Analysis" includes chapters on: Designing the Offense, Probalistic Considerations, Designing the Defense, The Two-Sided War, Evaluation and Criticism. Part 2 included chapters on: Probability and Statistics, Monte Carlo, Game Theory and War Gaming.

The document represents an early development in the authors and RAND's gaming experience. Many of these gaming students/authors went on later to make substantial contributions of their own to gaming research: Bernard Brodie, E. S. Quade,

C. J. Hitch, A. J. Wohlstetter. Still, the basic philosophy
and style of the document is pure Herman Kahn. Kahn left
RAND and founded his own Think Tank, the Hudson Institute.
And, we believe, that was best, in the long-run, for both.
Primarily a document of historical interest.

2) *SOME OBSERVATIONS ON POLITICAL GAMING
P-1679-RC
April 30, 1959
H. Goldhamer and H. Speier, 25 pp.

This paper, which was intended for publication in World
Politics, surveys five years of RAND working in the game
field and the development of political gaming, as well as
the efforts of other individuals and groups working in the
same general area. The document gives a brief description
of the technique and some of the authors' observations about
its utility. Herbert Goldhamer is one of two men, the other
being Oliver Benson, who can claim to be the "father of
the political game." As such, his views are of special
historical significance.

3) *WAR GAMING METHODOLOGY
RM-2413
July 10, 1959
M. G. Weiner, 103 pp.

This document explains and discusses the methodology
of war gaming as developed and used in the study of limited
war situations by the RAND Corporation. The technique was
developed for the study of possible limited wars in the
period from 1955-1960 in Southeast Asia, the Far East,
and the Middle East (the SIERRA Project).

LImited War, as the term is used here, includes the full
context of air, sea, ground and logistic actions. Moreover,
the nature of limited wars implies a strong interaction
of military and political elements, and of economic aspects.
The inclusion of these factors requires techniques that allow
them to be combined and interact in diverse ways, a
demand that is not met by a properly constructed war game
exercise.

As a research tool, the war game provides a systematic
method for organizing and analyzing large groups of data
and many varied factors. It forces decisions to be made,
and permits the interactions and relationships among the
factors to appear in specific, concrete forms. It provides
a means of continually checking the credibility and feasibility

of the military and political decisions, and is a useful
framework for organizing a group and achieving division of
effort in a natural "real life" way.

The author's objectives are to provide a sufficiently
detailed study of war gaming methodology to enable the reader
to understand the findings and conclusions of limited war
studies, and to enable small, balanced staffs to organize
and conduct their own limited war studies.

The memorandum includes discussions of the concept of
war gaming, prepatory steps for gaming, techniques for
two-sided gaming, functions of the player and control teams,
the play of the game itself, and analysis of the play.
There are appendixes illustrating the types of background
materials and planning factors used in war gaming, a comparison
of the staff-study and the pre-gaming techniques for
shortening of the time needed for some phases of gaming,
and a sample analysis of decision points from one hypothetical
game.

An understanding of this document is required for the
serious gaming student.

4)   *AN INTRODUCTION TO WAR GAMES
     P-1773
     August 1959
     M. G. Weiner, 40 pp.

This paper is the initial form of Chapter 11 of a book
entitled "Sequential Decisions and Simulation," edited by
Rosenstiehl and Ghouila-Houri, to be published in France by
Dunod, Paris. The book describes various aspects of simulation.
The purpose of Chapter 11 is to present some general information
on war games. This paper provides a short history of war
games and an introduction to the various characteristic
techniques, and types of war games. An illustration of the
steps in an umpired game is included.

Shubik, et al. say this of Weiner's "Introduction;"
"This is an excellent survey of war gaming from early times
to the present. The author distinguishes two types of
war games and analyzes their differences. This study remains
timely today."

5)   STRATEGIC GAMING
     P-1902
     10 February 1960
     Olaf Helmer, 19 pp.

This paper uses a number of exhibits relating to a strategic procurement game in order to illustrate various concepts and techniques of operational gaming. In particular, the relative merits of play by human players versus machine play are discussed, as are those of rigid rules versus umpire rulings. The roles of the experts in different aspects of gaming are examined and illustrated.

6) *WAR GAMING
   RM-3489-PR
   February, 1963
   E. W. Paxson, 35 pp.

This memorandum reviews those types of war games which provide support for military operations decisions.

Shubik, et al. say: "The paper is an excellent, well-written, and informed survey of wargaming with reference to the significant literature. Originally prepared as a chapter in B. O. Koopman, ed., Military Operations Research, the selection has more general appeal. The game classes discussed include Monte Carlo, man-machine, rigid manual, semi-rigid, and free-form games. Each class is characterized and exemplified; weaknesses and potentially productive research avenues are noted where appropriate. Significant issues for debate among gamers are noted."

7) STROP: A STRATEGIC PLANNING MODEL
   RM-4817-PR
   July 1966
   N. C. Dalkey, 38 pp.+

This memorandum describes one of the models developed in a continuing project at RAND concerned with strategic planning techniques. The particular model described is designed to be one of an integrated family of computer models for generating strategic war plans and evaluating force structures.

STROP is a highly aggregated central nuclear war game, coded for a high-speed computer which evaluates a pair of Red and Blue allocations of missiles and bombers to some combination of four target systems: missile sites, bomber fields, bomber defenses, and value targets. The routine will evaluate one pair of Red and Blue allocations in about 1/50 of a second. The routine can be used to generate and survey a large sample of Red and Blue allocations or to evaluate specific allocations selected by the analyst.

8) *POLITICAL-MILITARY SCENARIOS
    P-3535
    February 1967
    H. A. DeWeerd, 14 pp.

        "The article is a good short lesson in writing scenarios.
The author gives a brief history of political-military
scenarios, which can serve variously as background contexts,
settings for war games, and narratives of war games. To be
effective the scenario should be modeled as closely as
possible on the existing world; changes from this world should
be explained as completely as possible. Two problems with
scenarios, credibility and relevance, are discussed. In
some cases relevance, rather than credibility, should
predominate; otherwise future problems cannot be studied.
The problem of the players reaction to the scenario is
handled and suggestions are given to avoid the problem." says
Shubik, et al.

        In 1970 and 1971, RAND conducted a critical evaluation
of the activity and products of gaming, model-building,
and simulation, under the sponsorship of ARPA. Some of the
results of that project were:

9) *ON THE SCOPE OF GAMING
    P-4608
    March 1971
    M. Shubik, 26 pp.

        "Gaming and simulation mean different things to different
people. Currently there exists separate schools of individuals
working on interrelated but basically different areas. Each
have their own special goals, terminology, and criteria of
validation. Yet there is a sufficient enough overlap among
them that it is important to clarify the common interests and
terminology.

        "The general topic of gaming is ripe for an examination
to see to what extent there exists a basic methodology and
theory of gaming. This paper addresses itself, in part to
this problem. Different types of games and simulations
and different purposes are discussed. A way of applying
the work exposited here to the construction of validation
procedures for specific games is noted." says Shbik, et al.

10) *ON GAMING AND GAME THEORY
     P-4609
     March 1971
     M. Shubik, 33 pp.

     This is a companion piece to the above article.

11) *THE LITERATURE OF GAMING, SIMULATION AND MODEL-BUILDING:
     INDEX AND CRITICAL ABSTRACTS
     R-620-APRA
     June 1972
     M. Shubik, G. Grewer, and E. Savage, 121 pp.

     This Bibliography is one of the results of the study
referred to above. The specific aim of that inquiry was to
assess the usefulness of gaming in military-political
policy-making. Its general aim was to contribute to the
definition of common standards and the refinement of
objectives that are necessary to the gaming professions'
advancement.

     As a means to those ends, the authors compiled a
bibliography of the professional literature of the past
thirty years and made a critical review of much of it. This
report describes their bibliographical and classification
system and presents indexes and abstracts of the publications
entered in it.

     Two companion studies are: R-732-ARPA, Reviews of Selected
Books and Articles on Gaming and Simulation and R-1060-ARPA,
Models, Simulations and Games---A Survey, by the same authors.

     This Bibliography is an invaluable reference tool to
the serious student.

     Each of the above documents is well worth reading, some
are worth including in your own gaming library. Those marked
with an "*" are of special importance.

     Those interested in RAND and its activities will find
most of the information they need in RAND's documents.
However, those doing serious research or wanting to have a
balanced view of gaming activities must consult other sources
in addition to RAND's publications. For instance, the
Shubik Bibliographies, as complete and useful as they are,
are still incomplete; they fail to list many major publications
from sources such as the Research Analysis Corporation.
Anyone comparing the bibliographies in Alfred Hausraths
Venture Simulation in War, Business and Politics will quickly
discover that the elephant when seen from RAND is not the same
as the elephant when seen by RAC.

RAND's sins may not be sins of commission, they may merely be sins of omission. It seems likely, to us, that no one, not even RAND, can keep up with everything going on in the gaming and simulations field today. It is proof of its rapid growth and demonstration of its lack of organization. But, if anyone is going to bring organization out of the confusion they will have to start where RAND has left off, there is no other way.

Hopefully, this brief introduction to RAND's publications will encourage some of you to acquire some of RAND's other publications and, in due course, submit some reviews of those documents for publication. We can't read everything RAND publishes but if we all work at it perhaps we can keep up with some of their important work.

<div align="center">*****</div>

NOW AVAILABLE IN LIMITED

QUANTITIES

A very few volumes of XENOGOGIC Vol. VI are now available for immediate delivery.

For a full list of contents see the enclosed evaluation sheet.

Volumes are encased in a permanent volume and bound for library storage.

The price is $8.00 per volume, postpaid.

<div align="center">*****</div>

THE ROLE OF SIMULATIONS IN A SECONDARY SCHOOL CURRICULUM: A Case History

by Michael W. McGuire   (Simulation Design Group)

Serious games and simulations serve many diversified uses in our contemporary society. Several major companies have developed a lucrative market for adult entertainment games; the public spends millions of dollars each year for the opportunity to refight World War Two battles or modern urban political struggles in the comfort and security of one's living room. In an entirely different context, the US government annually expends millions on gaming and simulation projects designed to serve a multitude of objectives — ranging from training tomorrow's military leaders to developing new domestic and foreign policy alternatives. The nature and scope of gaming science today is all but limitless.

This startling evolution of gaming science is not mere happenstance. In our complex and technological society meaningful participation in social decision-making is limited to a few individuals appointed, elected or permitted to represent the larger society. Games offer a wider cross-section of government and the public an opportunity to change the history of empires — even if they are only the cardboard worlds of the coffee-table or the lab. Through games, people can regain, atleast momentarily, the impression that they can exercise real and direct control over the world in which they live. Whether for world leaders or factory workers, games instill a sense of understanding and hope; people who play serious games often experience the idea that our future is not predestined and the course of the world can be changed by the people.

The current fatalism, apathy and ignorance of society is directly reflected in the problems which plague our educational systems. 'Relevance' is a word which is often echoed by our young people. Yet, our systems seem totally unable to offer them the 'relevant' education which they both need and desire. Yawning gaps between what is considered worth knowing and what is needed for an effective life appear to be growing at an ever-increasing pace. The abandonment of a free high school education by a significant percentage of our adolescent youth points up the magnitude of the problem.

Our schools fail to motivate the student by confronting him with an unimaginative curriculum, obnoxious textbooks, inadequate facilities and archaic teaching methods. Day after day, our youth sit through hours of boring and uninformative lectures, tests of questionable value and constricted classroom discussions. The vitality and vibrancy of our youth's minds is literally being stagnated and killed by the very institution which is designed to foster mental growth.

Reform is needed immediately. Research is already advancing on modular curriculum schedules; textbooks are being revised; facilities updated. Gaming science can play an important role in our reformed educational institutions. Indeed, gaming science is already being employed by many of the progressive school systems in this country. Yet, the adoption of gaming science in a system is often a slow and uncertain process of trial

and error. However, when given a fair chance, the process is invariably a success. One such success story occurred a few years ago in a high school system in the Midwest.

Rich Central High School is located in Olympia Fields, Illinois. The school, serving the middle- and upper-middle class population of a Chicago suburban area, is almost exclusively college preparatory in its outlook; vocational training in the skilled trades is limited or non-existent. The student body of 2000 has an average IQ of approximately 110; and over 80% of the graduating classes go on to attend college. It was in this setting that gaming science gained a toe-hold in the system.

1965-1966 School Year:

In the spring of 1966 a mock United Nations General Assembly simulation was held in the school gymnasium. There was nothing unique about the simulation; it was typical of the dozens of mock UN sessions which are replayed in schools throughout the country every year. The United Nations has served as the 'medium' for the entry of gaming science into many schools; it is the basic stock of the proverbial 'social studies' project.

However, several aspects of the 1966 Rich Central simulation are noteworthy. First, the project was begun at the initiation of a group of senior students. Once the student interest was expressed, sincere support from the social science faculty was readily extended. The simulation, in its final form, represented a two month long organizational effort by a dozen 'key' students and faculty. Another noteworthy fact was that the simulation was held on a Saturday from eight in the morning until four in the afternoon. What makes this fact significant is that over 10% of the student body, more than 200 students, attended the simulation. When 200+ high school students can be motivated to participate in any school related academic activity on a Saturday, school administrators have just reason to feel satisfied. What makes this attendance performance even more remarkable is the fact that the conduct of the students during the eight-hour session clearly indicated that the vast majority of them had done comprehensive research on their respective country's foreign policy positions. To merely call this simulation a success would be an understatement.

1966-1967 School Year:

Yet, with this successful foundation to use a springboard for continued school-sponsored simulations, the administration and faculty proved guilty of gross negligence. Unlike the previous year, a key group of students did not take the initiative to formulate a new simulation project. Ignoring the valuable lessons learned the prior spring, the faculty failed to seize upon the opportunity to advance the learning experience of the students.

1967-1968 School Year:

Despite the severe setback of the previous year, gaming science was not dead at Rich Central. In the fall of 1967 a group of students and teachers joined forces to organize a constitutional convention simulation based on the lost continent of MU. Their efforts began at the outset of the school year in September. For two months the student-faculty team planned and organized the affair. A complete Muan history scenario was written; maps were drawn; states were created and resources allocated. Excerpts from

the writings of Locke, Voltaire and Rousseau were mimeographed for the participants along with extracted information on the nature and organization of constitutional government. The final packet distributed to the participating students was over 75 pages long.

The actual simulation, again held on a Saturday, surpassed the attendance record of the 1966 UN simulation. During the morning session state planning groups and constitutional committees met to prepare formal proposals for the convention. After a lunch break, the participants met in the school auditorium as a collective body to debate the proposals generated during the morning. Late in the afternoon a patch-work, compromise draft constitution was adopted.

The simulation proved a modified success. The day-long affair was clearly not adequate in length to resolve the fundamental question of writing a constitution for a fledgling country. The participant's packet was an excellent guide to the theory of constitutional government, but it was less than useful when it came to the question of actually devising a Muan constitution. The simulation organizers recognized the need for more extensive 'practical' preparations for future simulations. The lesson they learned would be applied with great success the very next year.

1968-1969 School Year:

The key students involved in the Muan simulation were juniors. These same students returned to school in the fall of 1968 eager to pursue additional simulation projects. The impending highly controversial Presidential elections provided them with an excellent subject matter.

During September a student-faculty committee conducted planning sessions. Proportional state delegation sizes were calculated; state seating arrangements in the auditorium were developed; and prospective participants were contacted. Recalling the problems of the previous year, selected student participants were assembled to draft convention rules; party majority and minority resolutions; and party platforms in the weeks preceding the simulation. Party (Republican and Democrat) leaders were selected for the bi-partisan convention, and informal state and party caucuses became a normal sight throughout the school's halls during late September and early October. By convention time on Friday, October 16th, the preparations were complete.

When the chairman's gavel fell precisely at 7:00 PM, an overflow crowd of 450 students was packed into the auditorium anxiously awaiting the night's political struggles. The students playing the part of the convention chairman and his staff (messengers and sergeants at arms) were connected by intercom to student and faculty advisors safely sequestered in a film projection booth overlooking the 'convention floor'. A local FM station provided continuous live radio coverage which included two 'on-the-floor' reporters equipped with wireless microphones.

The convention was scheduled to last until only 10 PM, but it didn't take long to throw that time limit out the proverbial window. As the hours passed, a hotly contested but smoothly operating convention unfolded. One incident of pseudo-violence flared when strained tempers and frayed nerves reached a breaking point, but the sergeants at arms, alerted by the advisors, quickly restored peace after ejecting several exuberant delegates. Vietnam, law and order, and the economy were reviewed, discussed and debated. When the political smoke had cleared late Friday night, the Richard Nixon (Pres-

ident) and Nelson Rockefeller (Vice-President) ticket had been selected.

This political simulation proved several things. It proved that high school students could be motivated to spend a Friday evening (a night so precious to most young people) engaged in academic/intellectual pursuits. Perhaps more importantly, the simulation demonstrated that students will expend a great deal of time and effort (in planning and preparations) on a worthwhile learning experience. An indicator of the success of the simulation can be taken from the many local citizens who called the FM radio station which covered the event to express their appreciation for an 'entertaining glimpse of American youth at its best'.

The 1968 political simulation was the turning point for gaming science at Rich Central. Interest in the use of gaming science techniques in education resulted in the use of Professor Guetzkow's Inter-Nation Simulation in two classes of contemporary history students.

A senior history student, selected by the social science faculty, was requested to adapt the successful INS system for use in the senior history classes. By the spring of 1969 the revised simulation was ready. Turn times were adjusted to fit the school's fifty-five minute periods and 30 student classes; a complete historical background scenario was written; and the necessary forms and other materials were reproduced. The student-author of the variant INS system served as the Nature element for both classes; no faculty members took an active role in the simulation.

The original plan called for the operation of the INS on alternate days during a two week period; a total of five sessions. However, the highly receptive reaction of the test classes during the first week persuaded the teachers to expand the scope of the simulation. For the next four weeks the sessions were held on a daily basis. A two day long 'de-brief' session was held at the conclusion of the simulation.

The active interest of the students was reminiscent of the political simulation earlier in the school year. Alliances were formed and broken; economic trades flourished and disappeared; crises flared and were dealt with; policies were developed and abandoned; and individual hopes and aspirations were realized or crushed. Prior to the simulation, the students had often vocally expressed their dissatisfaction with world leaders who are unable or unwilling to establish a lasting peace on earth. After five weeks of crisis simulation which resulted in three nuclear wars and a host of revolutions despite the most noble intentions, the students gained a deep respect for the complexities and uncertainties of international affairs.

Although five valuable weeks had been consumed in the process, the faculty was delighted with the results of the INS. There could be no doubt of the intensely valuable educational lessons offered to the students by the simulation. Gaming science, at last, had found a home at Rich Central.

The initial evolution of gaming science at Rich Central was a slow and tedious process. Yet, once the simulations were conducted, the value was readily apparent. Fortunately, this value was recognized and utilized.

The gaming science revolution at Rich Central has continued. In 1970 an improved INS was prepared for the history classes; a series of mini-simulations were designed for the economics courses; and still other school-wide simulations were put on the drawing board.

A productive blend of faculty and student interest is vital to the success

of gaming science in a secondary school curriculum. Gaming science is an effective educational tool that has been graphically demonstrated at schools like Rich Central throughout the country. It is a teaching element which actively complements the traditional 3Rs in education; it must not be ignored.

****

TRI THETA EPSILON SIMULATION

A VALHALLA ENDING

The TRI THETA EPSILON SIMULATION Exercise, based on the SAGA, CJCS, Cold War Game and the M.I.T. POLEX experiments, has concluded after almost seven months work.

Copies of the final report, and all necessary documentation, are now available.

The charge is $5.00 per copy. Players and monitors will receive their copies shortly.

Among other curiousities the Simulation:

(1) Correctly forecast the latest changes in the Soviet ruling hierarchy;

(2) Correctly anticipated the appointment of Henry Kissinger as Secretary of State;

(3) Evaluated the consequences of a simulated Balkan Crisis involving the death of President Tito of Yugoslavia;

(4) Handled a crisis between the United States and Soviet Union involving a U.S. polaris submarine;

(5) Observed the intensification of a political dispute between the Soviet Union and Peoples Republic of China over Mongolia, a conflict which developed into a theater-wide nuclear conflict.

Probably the most valuable portion of the exercise was the experience gained by all concerned which will prove invaluable in the next Institute simulation.

GAMES   FOREIGN   POLICY   EXPERTS   PLAY:

THE   POLITICAL   EXERCISE   COMES   OF   AGE

By Lincoln P. Bloomfield   and   Cornelius J. Gearin

In December 1959 a Teaching Note in the "American
Political Science Review" reported on early efforts by
political scientists at the Massachusetts Institute of
Technology to adapt the techniques of "political gaming"
or (POLEX) first experimented with at the RAND Corporation
in the early 1950s. (1)

Thirteen years and many a POLEX later, it seems
timely to make another report to the profession, particularly
since the most recent round of "games" at M.I.T. was aimed,
at least in part, at moving this particular art form closer
to the main body of social science experimentation and
practice. (2)

CONTEMPORARY   GAMING

Political (or political-military) "games" have
been increasingly used in the past decade, chiefly for two
purposes---educational (3) and policy planning or analysis.
At M.I.T., while has the PE has also been used extensively
for teaching and training, our major efforts have gone into
developing its second use. (4) The Studies, Analysis,
and Gaming Agency (heretofore the Joint War Games Agency)
of the Joint Chiefs of Staff has since 1961 employed something
akin to the 1960 M.I.T./RAND model (which we developed with
the collaboration of Thomas C. Schelling) to confront senior
and lesser officials from the foreign policy-defense
community with alternatives in future contingencies---with
mixed results, in our opinion. (5) This type of all-man,
role-playing game using "realistic" hypothetical crisis
problems has been staged by other groups, both in the United
States and elsewhere, to educate policy analysts by projecting
international situations that otherwise might not be
considered, and to expose diplomats and others to roles their
own experience might not otherwise fully comprehend.

Apart from the JWGA, now SAGA, whose games service
the broad U.S. government community, few political games
seem to have been played inside the government. The one
senior in-house political game in the State Department of
which we are aware was Exercise PORTER in 1963 (which

Professor Lincoln Bloomfield directed), although members of
the now defunct Policy Planning Council participated in
virtually all our M.I.T. professional-level PE's over the
years. An abortive experiment with more formalized man-
machine gaming of the Inter-National Simulation---World
Politics Simulation---International Processes Simulation
(INS-WPS-IPS) was tried out in State in recent years, and
the Foreign Policy Institute, like the various service war
colleges, has attempted sporadically to build simulation
into its crowded curriculum. Computerized simulation exercises
have, however, been solidly installed in the Industrial
College of the Armed Forces (where quantities are obviously
far more relevant) to evaluate production and logistics
problems. Computer-assisted simulations of strategic and
tactical military interaction have been employed for several
years by the U.S. and European governments to elucidate the
military component of foreign policy issues.

Since GENEX I, put on by Bloomfield at the Institut
de Hautes Etudes Internationales in Geneva in 1965 at the
urging of Jacques Freymond (and understood to be the first
European game), scholars such as Jean Siotis and A. J. R.
Groom (who both assisted in GENEX I), A. N. Oppenheim and
Michael Banks in England, and C. C. Schweitzer in Bonn
have used the techniques in Western Europe. Others have done
so in countries such as Israel. Interest in political gaming
has also been growing in Eastern Europe; Bloomfield was
invited to include the subject in lectures in Belgrade in
1968 and in both Moscow and Bucharest in 1970.

Of special interest in the international application
of political games was a peacekeeping game played in Geneva
in 1970, and "recounted" to a diplomatic gathering in Toronto
by Bloomfield and Miss Amelia C. Leiss, under the aegis of the
Carnegie Endowment for International Peace. A "mediation
game" conducted at the Diplomatic Academy, Vienna, under the
auspices of the International Peace Academy in the summer of
1970, involving officials and others from twenty-nine nations,
was also directed by Bloomfield with the Collaboration of
Miss Leiss and Thomas L. Fisher II. (6) Siotis, David Thomas
and others conducted a most interesting all-human simulation
of a Conference on European Security and Cooperation in
Geneva in the spring of 1971 with the informal help of many
of the governments concerned in formulating accurate opening
positions. Moreover, with the assistance of some "political
gamers" the technique of both all-man and man-machine gaming
has increasingly been applied experimentally to such non-
foreign policy realms as the Model Cities Program and other
urban and economic issue areas where better anticipation of
possible outcomes and consideration of alternative strategies
might be facilitated by role-playing and dynamic simulated
interaction. As for classroom use, there seems little doubt
that gaming is here to stay.

GAMES AND LOCAL CONFLICT

The M.I.T. Center for International Studies resumed
its intermittent role in the development of professional-
level, policy-type, all-man games, or "political exercises,"
with CONEX I (the CON referring to local conflict) on
September 11-12, 1968. The second game, CONEX II, was, like
the first, held at M.I.T.'s Endicott House in Dedham,
Massachusetts, on December 6-7, 1968; CONEX III also took
place there on March 28-29, 1969. In CONEX IV, September
17-19, 1969, we used an experimental variable condition,
the "CASCON" computerized conflict data system we are
currently developing under contract to the U.S. Arms Control
and Disarmament Agency. (7) Because of the technical
requirements of that exercise, which involved computer use
not only for CASCON but for game communications as well,
it was held in M.I.T.'s Center for Advanced Engineering
Studies in Cambridge, Massachusetts.

All of this grew out of substantive research on
foreign policy problems, as has all our gaming activity
at the M.I.T. Center. The particular problems of study
were related---one was a concern with foreign policy planning,
particularly of a preventive variety. The other had to do
with local conflicts and their prevention.

As early as 1963 a group at M.I.T. began to investigate
the nature of local conflict, and the relevance of arms control
and conflict control measures aimed at minimizing the chances
of small wars, particularly those that might involve the
nuclear powers and thus contain the danger of escalation.
This initial project, sponsored by the U.S. Arms Control and
Disarmament Agency, was completed in 1967. (8) Among the
fruits of that research was a series of hypotheses bearing
on the causes and effects of the United States' policy
toward local conflict in the developing world.

At the same time, we felt the need for further
analysis of factors in U.S. involvement in low-intensity
conflicts in different parts of the world that the historical-
analytical case method employed in our earlier study, (9),
had identified and isolated, but could not explain. The
intensification of the Viet Nam war gave urgency to the
conviction that this line of research warranted development.

One way of testing our tentative findings would
be to expose them to hypothetical situations in which
pressures for and against U.S. unilateral military
intervention were experimentally generated. The same would

be true of reactions to various conventional arms imputs
into conflict situations (which we were also studying).
This was what we sought to do in the new CONEX series of
games, with the benefit of hypotheses and propositions
generated by prior research. CONEX II was the only exercise
in the series not concentrated on U.S. policy-making. Its
focus was on the behavior of small country decision-makers
on war and peace issues, with particular reference to the
acquisition of conventional weapons; for this we were likewise
able to specify hypotheses developed both in prior research
and concurrently by colleagues in the Arms Control project.(1∅)

In turning back to the PE model we had earlier
helped to refine, we were acutely aware of its shortcomings.
Despite the widening circle of application of its first
decade of operational use, the "research" PE remained a
highly experimental device whose primary purpose could in
honesty be described only as heuristic, and which was still
considerably more "social science fiction" than science.
Nevertheless, evidence had accumulated that a well-designed
and executed PE could have a substantial impact on a
professionally-trained person in loosening up some of his
policy assumptions by forcing him to "live" realistically
with an artificial situation not of his own choosing. (11)
It was generally agreed that this value was a direct product
of the antagonistic clash of wills generated in a dynamic,
interactive role-playing exercise characterized by tension,
professionally competent players, a plausible scenario, and
a sequential interaction of the players or teams leading
them to unforeseen choice-points. We felt that if we tried
to correct for some of its most glaring methodological
weaknesses, the still relatively free game might expose for
us, better than any other experimental method we knew, the
"innards" of the policymaking process concerning U.S.
involvement in local conflicts.

We thus used in the CONEX series---with what we
believed to be ameliorative changes---the all-man, relatively
free, multi-team game which sought to model typical groups
of senior officials responsible for making policy and
implementing programs on behalf of the United States, in a
time frame reflecting the Viet Nam experience.

To elicit the maximum amount of data, we designed
hypothetical situations, set in the near future, in which
we foresaw the U.S. government as likely to be torn between
competing impulses. Such situations should, we felt, at
least expose the pros and cons of choices between (a) trying
to arrange things so that Washington controls the political
and idealogical outcome of a conflict---in many ways the
model of the 195∅'s and the 196∅'s; and (b) a policy of

either violence-minimizing regardless of outcome, or
(c) of outright abstention from any involvement. For
distribution we selected hypothetical areas where by our
own a priori assessments U.S. interests were deemed to be
"high," "low," or "medium." (These were arrived at by
assigning weights to twenty potential crisis areas on the
basis of nearness to the United States, treaty commitment,
likelihood of significant advantage to powers unfriendly
to the United States, and availability of fast-reaction
forces.) The scenarios, postulating events that had not
yet occurred in the real world, were as realistically
constructed and politically plausible as experts could devise.

All four of the CONEX exercises had in common the
following characteristics derived from predecessor PE's
(they are common to most related forms of simulation):

(1) There were two or more playing teams, each
portraying an assemblage of high-level civilian and military
officials responsible for making foreign policy decisions
on behalf of their national governments; at least one team
in each game (and two in each of three games) represented
the "United States" decision process.

(2) Each team, relying on the real-life political,
diplomatic, military and scholarly experience of its members,
was expected to fulfill all of the responsibilities assigned
to that "country" in a decision-making style typical of
the real-life country. Members' decision-making was assumed
to be rational in the sense of a value-maximizing process,
but under conditions of information uncertainty also
constrained by history and culture; a sense of personal
responsibility accentuated by role-playing; and accumulated
professional skills.

(3) Each team was assigned a mission specifying
responsibilities and limitations, in order to define the
context of its participation. These behavioral parameters
were largely organizational and did not significantly
constrain choices.

(4) Those elements in the international system
that either varied from common knowledge, or constituted
specialized knowledge, were stipulated for the participants
in the "Scenario-Problem" document given to them at the
outset of the game and updated at specific points in the
exercise.

(5) A "Control" staff provided: updates of the
scenario specifying the synthesized "results" of team
interactions; means of communicating the actions of one team
to others; means of conveying to the teams the behavior of

other elements in the system that impinged on ther initiatives; a mechanism for administrative control and support appropriate for the size, duration, and objectives of the particular exercise; and a system for evaluating and/or observing performance, consonant with parameters of the research design.

(6) The research design ensured that each exercise was designed for its special purpose; an explicit and detailed definition of this purpose influenced all subsequent organizational and methodological choices in the game design.

(7) Team decisions were encapsulated in messages simulating typical government instructions: these included a basic strategy paper, plus unlimited messages to other teams or public statements, all committed to writing on standard message forms, and an occasional face-to-face exchange between prospective adversaries.

NEW DIRECTIONS IN CONEX

Because of our efforts to create an improved experimental medium, however, the CONEX model differed from earlier PE's in several aspects.

(1) All of the situations portrayed in the CONEX series were initially framed for the players as non-crisis or pre-crisis problems.

We were led to this deviation from the typical "crisis game" model out of a conviction as citizens that better advance planning is desperately needed if preventive diplomacy is to be more than rhetoric. We sought to ascertain if games were in fact as dependent on a high-intensity crisis environment as we, and others, had hithereto assumed. On the hunch that they were not---and because we were studying preventive diplomasy---we deliberately designed each of the CONEX exercises in two basic parts. The first part was set early enough in the life of a crisis so that the United States had a substantial range of options open to it. But the second part was portrayed as exigent enough to test some of our fundamental hypotheses about competing policy pressures weighing on the decision-maker. The technique required the players to live with the consequences of their planning decisions, and our inspiration for it was the RAND "SAFE" procurement game. (12)

In the same normative spirit, we were troubled by the frequent assumption, both in real life and in games, that conflict situations are by definition almost exclusively political-military. Clearly, decision-making is strongly

influenced by factors other than military; where it is not,
it should be. We thus made provision for more specific
imputs from the domestic sector than in prior games. All
of the CONEX exercises provided for explicit imputs from
"Congressional" factions, "interest groups," the "communications
media," "budget makers," and other private and public
bureaucratic competitors for resources, with highly qualified
professionals playing these roles. (The growing inverse
relationship between defense and domestic political influence
in this process((13)) is the final reason for wishing to call
our "games" political rather than political-military exercises---
or, better still, political-economic-psychological-cultural-
intellectual-military exercises, for which the acronym would
be PEPCIME).

(2) Specific hypotheses referring to policy
preferences, or decisional behavior concerning involvement in
local conflict, were selected for examiniation prior to each
exercise.

Each exercise was designed to produce specific
data on selected hypotheses; situations and imputs were
planned to stimulate consideration of salient issues directly
related to hypothesized behavior.

In CONEX I we had listed six broadly cast hypotheses
about predicted U.S. reactions to any new local conflict
situation. (For example, we postulated that "preventive
policy measures are more available early in a crisis than
late, but the United States government typically does not
take full advantage of them.")

In CONEX II, III, and IV we further refined the
process by assigning specific hypotheses to the predicted
behavior of each team for each move period. Another change
was to flag in advance those hypotheses whose primary data
source would be, respectively, team documents, questionnaires,
monitor observations of real-time activity, or some
combination of these sources. (The role of the monitor is
explained below.) These improvements proved valuable because
they permitted a more precise and relevant design of
questionnaires and monitor forms, reduced monitor work load,
assured overlap or corroboration as necessary, and expedited
post-exercise analysis. In each successive exercise some
of the previous hypotheses were eliminated as previous games
showed that no useful data could be generated for them.
However, we also found that in every exercise we accumulated
data on nonspecified hypotheses, thus further substantiating
the conviction that policy games are best at generating
hypotheses and should be analysed to discover their
propositions.

There is little doubt in our minds that the design
for a political exercise for research or policy analysis
should be based on a set of precisely formulated questions.
Good experimental technique suggests that such questions
can best be posed as hypotheses, and games taken as partial
evidence in support or confirmation of the hypotheses.
True, there is not an exact connection between hypotheses
about policy behavior and game evidence. One does not predict
in advance what the players' exact reactions will be (although
that is not totally impossible). But, properly used, this
kind of undergirding process makes for a more meaningful
experiment.

Apart from permitting far more discipline over Control
staff inputs, this degree of pre-planning permits better
measurement of the input-output relationships geared to the
specified hypotheses. One can select or devise measurement
devices appropriate not only for the hypothesis, but, more
important, for the exercise situation in which the hypothesis
will be tested. Enumeration of hypotheses early in the
planning phase of a PE has the added advantage of rationally
determining the appropriate level of conflict (or cooperation)
to be gamed.

The separation of move periods into distinct sets
of predicted policy events provided a means for comparing
the relevance of a specified input to differing environmental
conditions. We quite often discarded a proposed event that
would not be compatible with the situation or would pre-empt
a logical team alternative.

More generally, this procedure defined the situations
most appropriate for inclusion in the scenario and associated
background material. It also guided the Control staff in the
planning and formulation of responses to team meassages,
and above all set planned limits on the inevitable and often
damaging tendency of Control to "free-wheel" and thereby
pre-empt design objectives. In the CONEX exercises the
hypotheses were useful as reference points for Control when
decisions had to be made about the pace and direction of the
exericse. Finally, selection of key propositions to be watched
for enable the real-time monitors to observe selectively
the relationship between input and team decisions.

(3) "United States" decision-makers were simulated
by two similarly composed professional U.S. teams (except
in CONEX II), which played separately but simultaneously;
their behavior was subsequently compared on the basis of
one critical variable manipulated for one, but not the other,
team. (We made every effort to ensure that they were
similarly constituted ((14)) for comparative purposes, except
as noted below.)

We are fully convinced of the value of fielding more than one U.S. team in a decision-making PE, if only as a generalized check that the behavior of a single U.S. team is not totally idiosyncratic. For those hypotheses that related to individual behavior, the additional team increased the sample size and consequently strengthened our confidence in statistical findings. Yet in CONEX I, III, and IV we risked serious problems in having two U.S. teams interact vis-a-vis a single protagonist "state" (not to mention a single Control staff operating with a single scenario). If the two U.S. teams' policies had diverged significantly, it would have presented acute problems to Control in defining a single U.S. position to other participants. The result might have been either to require the playing of two games simultaneously, or to force either or both of the U.S. teams to modify their positions. We were uncertain as to how well in that case we would be able to introduce Control responses, "adviser inputs" from other actors subsumed under the Control group, and other team moves; previous experience had suggested that this amounts to playing two games, placing an inordinate strain on a single Control operation. It could also have forced the "protagonist" team to alter its behavior to the extent that its actions would not be the result of free, realistic choices.

As it turned out, both U.S. teams in CONEX I, III and IV made fundamentally similar responses to the assigned problem. In successive move periods we saw sufficient essential similarity of the overall moves by the two teams so that virtually all Control responses were identical, and did not require adjustment to differences.

The simultaneous employment of two "U.S." teams also permitted one to be used as an experimental control; an independent variable condition was applied to only one team of each pair. In CONEX I and III we introduced without announcement a focus on "cost-consciousness" in one U.S. team, through the device of special briefings on cost constraints (not only economic, but also opportunity and social costs). The team briefed was strongly led to focus on the varying resource allocations entailed in a range of possible U.S. policies toward a hypothetical local conflict situation. Also in CONEX I and III an economist member was added to the experimental U.S. team to press for consideration of costs and systematic analysis techniques. In CONEX IV the special variable was the availability to one U.S. team of the experimental CASCON Pilot System---a computer-aided system for storing, retrieving and analyzing data on local conflicts.

But curiously, we were not able to determine the extent to which the introduction of inducments to "increased

rationality: influenced behavior. For one thing, each attempt was marred by a procedural or methodological weakness that precluded successful observation. It may be that this experience indicates a limit to the ability of a PE to produce clear evidence on a specific phenomenon, for it is difficult to measure the effects of any single input without exerting controls which would fundamentally alter the character of the PE. The slight differences between the behavior of the two teams in each of the exercises could not be attributed to a single variable. Perhaps more to the point, it was exceedingly hard at the end of the 1960's to get any team playing the role of U.S. decision-makers to decide on unilateral U.S. military intervention anywhere, whether the members were given a cost briefing or not. In general terms, the potential value of comparison would seem indisputable, even if CONEX experience failed to provide solutions for the problem of isolating one experiment without sacrificing the entire exercise.

In a complementary series of student-level exercises (EXCON) of even greater rigor, conducted as a part of this research by Professor John D. Steinbruner, (15) the evidence supporting this hypothesis was much stronger because the primary level of analysis was individual as opposed to group. Quite likely, comparison can best be accomplished on this level. Given the statistical difficulties encountered with aggregating individual decisions, it may be that the effect of this kind of variable can only be observed on the individual level. However, we are encouraged to believe that with sufficient replications, the effects of intervening variables might be washed out to the extent that group comparisons would be useful.

(4) Various experimental controls were imposed on the behavior of teams in order to improve both the quality of the data and the potential for research.

(a) In all the CONEX exercises, playing teams were required to describe explicitly not only their strategy, but also their rationale. At the conclusion of the initial planning period each team submitted to Control a strategy paper that included an evaluation of the situation, a list of broad goals and specific objectives, and a strategy outline. In order to give the Control staff maximum reaction time, these papers were summarized orally on television prior to drafting. Most succeeding move periods were concluded by an abbreviated form of the initial strategy paper. (The original contingency estimates remained unchanged.)

This technique clarified the input-output relationship by formalizing team reaction to a changed situation or adversary action. Team-produced documents in this analytical form constituted a record that could subsequently be compared

with real-time monitor reports and questionnaire results.
The "position papers" also represented the culmination of
a typical mutual adjustment or compromise processs. As such,
they reflected decision-making reality more faithfully than
the parochial opinions of individuals.

The requirement to re-evaluate strategy and
formally revise it as necessary is not unrealistic in a
simulation of foreign policymaking. It is perhaps unusual
for the same people to participate in the solution of long-
term problems. Despite this irregularity, a periodic review
of strategy appears to be an excellent control in a political
exercise, especially when testing hypotheses about changes in
values or shifts in attitude.

(b) Questionnaires were administered for all of
the exercises in the CONEX series. Some of these questionnaires
attempted to ascertain individual values and attitudes
related to exercise policy issues, and the results served
in part as experimental controls, in part as game evaluation.
Those administered prior to the exercise were used to influence
team composition. Teams were designed to add up to a balance
of attitudes toward the policy issues at stake; the
questionnaires gave a gross indication of this balance. We
also administered questionnaires during and after the exercise
in an attempt to measure shifts in individual attitude.
Finally, as in previous PE's, we mailed questionnaires to
participants several weeks after each exercise to solicit
their views on policy issues and PE methodology.

The pre-exercise questionnaires helped in balancing
obvious bias in team composition. Individuals were character-
ized on a scale depicting attitudes toward the policy issues
to be addressed in each exercise, and assignments to teams
were predicated on these catagorical classifications. A
balanced distribution of attitudes had the effect of
stimulating discussion and encouraging consideration of sharply
different alternatives, and helped to ensure that differences
in actions would not be attributable to a biased perspective.
The questionnaires administered during and after CONEX III
and IV were intended to assist in measuring shifts in attitude
or perception. For example, in CONEX III each player was
asked two questions: first, the degree to which he perceived
one or another superpower to be "behind the trouble," i.e.,
the promoter of the conflict situation; second, to indicate
his perception of potential superpower gains from the conflict.
Answers were later compared with intentions as displayed by the
"superpower" teams, revealing an interesting---and familiar---
"parallax" between the object and, so to speak, the foreign
"viewfinder."

Despite their imprecision, the questionnaires also enabled us to determine whether the players correctly perceived situation changes. The cues were understood with few exceptions, and we were able to assume consequently that behavior was not a function of misconceptions. The questionnaires were likewise helpful, although not decisive, in analyzing correlations between input and output. If we depicted an increase in visibility and potential gain for an adversary, and if the teams recognized the change and their policy preferences then changed, there would be a demonstrate coincidence. On the other hand, it was impossible to demonstrate a clear cause-and-effect relationship through the questionnaires. Even when the evidence accrued by questionnaire analysis was supported by other data, the correlations were obscured by intervening variables whose effects were not measured. Moreover, the administration of questionnaires can be disconcerting and an operative variable per se. Particularly when the players are senior professionals, American and foreign, the social science experimenter would do well to act within the famous maxim of Mrs. Patrick Campbell. (16)

In an effort to preclude such adverse influence, we modified the questionnaire technique in CONEX IV. The same questions asked of the players in previous exercises were asked of the monitors about the teams they were observing. At any time during the move period when a message suggesting a change in involvement or prospects was received, the monitor completed a questionnaire. This technique reduced the probability of intervening variables, decreased the "guinea pig" reaction of the players, and increased the number of observations. We acknowledge that this kind of indirect survey in interpreting another person's reaction can have serious disadvantages even when the observer is well informed and sensitive. However, with improvement in the survey technique the administration of questionnaires as both an experimental control and a source of game evidence is both advisable and feasible.

(c) Each "U.S." player was assigned a specific role to play during the exercise. He was instructed to represent the interests of an agency or group, but was not constrained by existing policy. CONEX players were recruited from the agencies they were to represent or were academic specialists. Team chairman were generally political figures such as leading members of Congress or others in public life.

The assignment of highly qualified experts to specific roles on each team in the CONEX series was a distinct success. In addition to the obvious advantages of including a cross-section of specialized inputs into the decision process, role-playing encouraged the teams to

produce solutions that arose from institutional considerations as well as personal opinions. For example, the player representing the United States Congress might do so imperfectly, but at least the ultimate group decision included consideration of this vital influence. We believe that despite the artificiality of the device, the designation of roles with concomitant responsibilities improved the authenticity of the simulation and powerfully influenced team behavior. We are also convinced that only a political generalist should be asked to simulate the summit of American political leadership, and we have serious reservations about the wisdom of selecting specialists to be "U.S." chairmen in a PE.

Structuring the teams by distribution of attitudes and assignment of roles acted as a control when we attempted to measure reaction to an input, for it diminished the probability of bias or oversight as alternative explanations. There is a strong suggestion that the explicit introduction of institutional and interest group inputs so constrained choices that all proposed actions were incremental, through accentuation of the notorious pressures for consensus. All of the "United States" teams were strongly motivated to produce major policy reform in the face of interventionist-type situations, but in the CONEX games they invariably settled for less ambitious action.

(5) Data were collected through real-time observation of playing teams by graduate student monitors, via closed circuit television, and recorded on tape for later analysis.

Evidence in political exercises has usually taken the form of an opening "Scenario-Problem" plus team decisions (moves). In the CONEX series the inputs into the team decision process controlled by the game designers were similarly the Scenario-Problem which provided a baseline, plus game-generated information. The outputs from the teams were either their decisions about the extent of involvement or noninvolvement (in the case of the simulated U.S. teams), and internal and external conflict (in the case of the simulated LDC teams). But we wished to go beyond this, to data based on the process of deliberations of professional players simulating U.S. and other decision-makers. Put differently, between the independent variables fed into the "black box" of the team decision processs, and the dependent variable of policy outcome, lie intervening variables that link the two, but which generally are taken on faith. To analyze and measure them requires systematic observation of individual and team behavior, in addition to analysis of their game product.

The CONEX exercises were designed to permit evaluation of most of the hypothetical propositions by more than one method. In addition to analysis of team documents which reflect group decisions, all team discussions were monitored via closed circuit television in an effort to identify the most influential factors involved in the decisions. A small camera and several microphones were installed in each team room. Receivers were located in the director's office, the data monitors' space and the visitors' area. Tape recorders were installed in the data monitors' space and the monitors were required to operate the recorder linked to the team they were observing. Graduate student monitors recorded their reactions to inputs and team-generated discussion. Tape recordings of all team discussions and post-exercise critiques were available for post-exercise analysis to resolve or clarify ostensible contradictions between real-time observation of discussions and analysis of documents. Further evidence was adduced from participants' comments during the plenary critique and their responses to a post-exercise questionnaire.

The closed circuit television and tape-recording systems conferred several benefits that fully justified the costs. Team discussions were not interrupted by visitors or staff members. Control could monitor discussions and anticipate questions or judge reaction to input; e.g., when a Control expert dispatched a message depicting increased "Soviet" activity, he could observe team reaction and decide whether his message had been correctly perceived. Control also monitored oral briefings of team strategy that were presented on a staggered schedule prior to drafting the basic move period paper, thereby permitting the Control staff to begin work on its scenario projection for the next period while the teams completed their work. The coolection of data was enhanced by isolating the observers from players and other distractions. Their ability to follow the discussions enabled them to contribute to scenario projections and post-exercise critique sessions. The tape recordings of team discussions also provided a source of data for other types of analysis, e.g., content or transaction analysis of policy discussions that might be accomplished independently of CONEX. The closed circuit television and tape-recording systems were relatively trouble-free and did not appear to inhibit discussion in any way.

(6) We experimented with computerized interteam communication and with far more face-to-face contact than before.

(a) Intergroup communications is a vexing problem in any interaction game involving large numbers of people. In a typical PE, move periods are too brief to tolerate real-world message-handling times. Unless message-handling time can be compressed sharply, the vital interaction between teams will be adversely affected. In the CONEX series we

accepted several handicaps to expeditious processing:
(i) All messages (with rare exceptions) were typed for the
sake of clarity and realism. (ii) Messages were distributed
to each member of the playing teams and to the Control staff;
it was not unusual to reproduce fifty or sixty copies.
(iii) After the initial planning session, there was no
limit on the number of messages a team could originate;
they generally averaged forty to fifty messages per game.
(In the JWGA, now SAGA games, only one message per team is
normally permitted for each move period). The pros and cons
of the two approaches are still, in our judgment, debatable.)

A manual system of this type depends on typists,
messengers, machine operators, and file clerks. Our best
efforts to design a game message center to optimize this
manual system did not completely eliminate delay and confusion.
In CONEX IV we experimented by employing a time-shared
computer to transmit, store and reproduce messages. Each
team and the Control apparatus were linked by consoles to
the M.I.T. Compatible Time Sharing System (CTSS). A simple
but elegant computer program devised by George Allen Moutlon,
an M.I.T. student, permitted a secretary to type a message
and add only a few symbols for distribution. The computer
time-coded and internally numbered each message, and transmitted
it to all addressees at the first opportunity, automatically
blocking messages of one U.S. team from another and performing
similar tasks. All messages were stored on disk and could
be retrieved quickly for retransmittal, correction or
duplication. (One teleprinter's output was televised for
instant but quiet read-out by the Control Director and gaming
observers.)

The benefits derived from highspeed message-handling
are increased interaction, transmission reliability, reduced
administrative requirements and accurate record-keeping.
Transmittal times using the computer system were reduced
from an average of ten to twelve minutes to an average of
two to three minutes. Employing such a system would be
expensive if consoles, data phones and data terminals
had to be rented or installed. But if the hardware is
available, the computer costs are fully justified by the
increase in efficiency. Such a system also makes intercity,
interstate or international PE's more feasible. All of the
minor problems encountered, e.g. console noise, hardware
reliability, and reproduction, are easily solved. (17)

(b) Face-to-face contact between opposing teams or
between a team and the Control staff was permitted under
special circumstances, although deliberately minimized to
avoid prolonged discussions and to capitalize on written
documents for post-exercise analysis.

Carefully conceived and controlled face-to-face communications---for example, between "U.S. Ambassador" and "LDC Foreign Minister"---tempered the impersonality of written exchanges, gave the playing teams another realistic option, and reduced frustration attributable to the gamers' common suspicion that a malevolent and insensitive Control had preordered all outcomes. Above all, it enables a substantial increase in the number of steps that can be taken by teams during a single move period by not requiring that a crucial question and answer be delayed until the next move period.

EVALUATION

Past criticisms of PE focused on its uncertainties and ambiguities: its only truly demonstrable value, apart from personalized education, was entertainment, with any policy inferences an unexpected (and possibly unearned) dividend. One consequence of hanging back from the brink of better science was a persistent reluctance to draw policy conclusions from the games, even while policy resources were increasingly committed to this kind of gaming, and in an era in which the more traditional "policy planning" shops around Washington were to close their doors, one after another.

Some pro and con trade-offs of the free-form game had become increasingly evident. Its freedom of play gave the PE almost unique value as a probing tool. But just because of that quality in a kind of structured "brain-storming," and the attendant absence of rigor in design specifications, the PE's policy planning and research values continued to be ambiguous. The community of "simulators," particularly those who had played in serious policy games, seemed to have reached a consensus that for purposes of policy analysis the PE was, at best, a form of organized mind-blowing, with serendipity the chief objective.

Within the wider social science fraternity, criticism grew of the "free game" as a social science method precisely because so little effort had been made to define inputs and measure results in other than gross or intuitive terms. Many "gamers" preferred a more rigorous version which rested on explicit theory, assigned quantitative values, asserted greater control over variables, and thus improved the potential for analysis. (18) The latter efforts produced impressive hypotheses about international relations and foreign policy processes. But one principal disadvantage, particularly on college campuses, was the generally low

expertise of players, who were most often undergraduate students (and often high school-level youngsters in boot camp). This clearly threw in doubt the validity of their decision behavior as a reasonable analogue to governmental processes. More serious was the high degree of abstraction in the simulation. It became clear that neither computer programs nor inexperienced players could reproduce the behavior of policy makers with sufficient fidelity to constitute evidence of trends or to forecast possible outcomes---to the extent that any game or other planning device could illuminate those murky realms.

Of all the past criticisms of the PE, however, the basic fault which no rationalization could overcome was that as a foreign policy research device it remained unproven because untested, given its highly unscientific nature. As investments of time and energy, the senior PE's were costly and complex: each had direct costs of approximately $5,ØØØ, had forty-five to fifty people participating, and required several hundred hours of preparation. Nevertheless, the results were not validated empirical evidence which closed the loop on a research question. The lack of rigorous controls made it impossible to conduct a controlled test of specific hypotheses except in the most general way.

For the first generation of gaming we were probably justified in designing "free games" in which the point was to present players with a horrendous crisis problem and turn them loose in order to "see what would happen." For one thing, it was the tool itself that represented our main preoccupation. Second, we assumed that human players would respond only to a high-intensity crisis situation, on the grounds that anything less traumatic would fail to get them past the takeoff point into the role-playing. But the result was that the Control team improvised throughout with interventions that were unplanned and unmeasurable, thus running the peril of being unrelated to the main strategy, however imprecise, of the game designers.

In short, without a more purposeful research strategy in which game design and structure were subordinate to the experimental variables under study, it was not possible to use the PE for serious research purposes. The impressive values of the PE as a political-psychological art form were not enough to offset a growing feeling of dissatisfaction with the PE as a social science.

In reporting above on our efforts to confront that dissatisfaction, we were careful nevertheless to restate the general consensus among scholars that games cannot test policy hypotheses. This is in turn linked to the judgment that the PE is "unscientific." If the purposes of all experimental social science is to test specific

hypotheses about policy or decision-makers, this criticism is devastatingly valid. The PE, whatever its acknowledged power as both a teaching aid and a heuristic device in research, still lacks the theoretical base that is common to sound experimentation in virtually any scientific field, natural or social.

But the issue is really what kinds of hypotheses can thereby be tested. The PE can demonstrably be used to test propositions about the predicted behavior of individuals or groups who simulate official decision-makers. On the other hand, it may be a long time before the PE, however improved, can readily test substantive propositions about foreign policy. (One of our associates, R. Lucas Fischer, suggested that what it can do at best is "examine" them, and we have accepted this formulation.) (19)

One element of sound social science method is of course replication. (20) In the political exercise this can be either of events, or moves, or teams, or games. Replication has long been the ambition of those who conduct PE's, on the not unreasonable grounds that iteration would permit the PE analyst to employ statistical tests which could produce a probability value for the experimental conclusion, thereby giving a ring of authenticity to the resultant explanation or prediction. Unfortunately, it was invariably sacrificed in the early competition for scarce "policy-gaming" resources, in which the highest value was placed on trying out the technique on as wide as possible a range of problem areas. Moreover, although there are some fairly well accepted guidelines, it was---and is---not easy to find an irrefutable scientific canon that tells one the exact number of replications making for scientific respectability. In the CONEX series we sought a degree of replication within practical limits; by including some hypotheses in more than one game, by repeating observation of a hypothesis during a PE, and by duplicating some senior-level experiments in student-level exercises.

Another issue of scientific rigor was the PE's characteristic failure to identify in precise terms the salient variables involved in the experiment. This presented special conceptual difficulties. The heart of the professional-level PE is its believed capacity to come closer to constituting a believable, albeit reduced, model of the real-life system of top-level decision-making than any other available tool or method. Indeed, it was the absence of any believable systematic theory or model of high-level U.S. foreign policy decision-making that made the PE look so interesting. In place of the nonexistent model, one substituted the knowledge, the experience and the routines that lay inside the heads of the players (and

nowhere else). The mystery of the process remained unbreached. But the process itself was now being approximated.

Yet the latter difficulty was not a good reason for our earlier failure to be more explicit even within the limits of the experiment. The game designer ought to have said just what independent variables he was introducing, through his Scenario-Problem, into the implicit model; what precise dependent variables one should be looking for, in the form of specific kinds of policies, choices or actions produced as outputs of the teams; and (most elusive of all) what "intervening" or "transforming" variables were identifiable in the process that converted input into output. In CONEX we tried to do these things. In addition, we felt it would be particularly instructive to try to control one independent variable for comparative and, perhaps, measurement purposes. Here Professor Steinbruner took the lead, both in clarifying the general concepts at issue and in developing an actual design for a game that would do just that. (21)

We were also influenced by injunctions on the part of fellow social scientists critical of earlier experiments, notably Professor Harold Guetzkow, that we must connect the PE with the ongoing body of social science theory. PE's, we were told, should be designed to take specific account of cognate theoretical constructs such as those found in game theory, small-group dynamics and behavior, cultural anthropology and social psychology, international relations and foreign policy theory (if the latter can be said to exist), and other forms of simulations and games.

This point seems to us to have validity, but in a partial sense. We clearly would benefit from more theoretical awareness, along with more rigorous design criteria. From the start, PE's have drawn on psychological theory in terms of team size and role specification, but the relationship of the PE to mathematical or economic game theory is a distant one. The PE can draw modestly on decision theory, if one keeps in mind that it will bear essentially the same relation to rational utility-maximizing as does real-life crisis-decision-making. In its present form, decision theory is only now finding interesting applications to specific cases of foreign policy decision-making. Existing models---"rational," "bureaucratic," "organizational," or whatever---are imperfect approximations of reality, and still in the process of acquiring the necessary explanatory and predictive powers. (22) As with game theory, models based on decision theory represent a crude approximation of the real thing.

But the single most highly valued quality of the PE is
that professional players are seen to act essentially
as they act in real life. Real life offers a far richer
source of data for the validation and elaboration of theories
about decision-making than the small and deliberately
foreshortened microcosm which is the PE. On the other hand,
real-life data are difficult to come by. If the differences
between real life and the PE can be continously adjusted, the
PE may become a more valid instrument for the elaboration
and controlled testing of decision theories.

There is, however, one major theoretical dilemma that
so far has left a high barrier between even the CONEX series
of games and the ideal experimental situation. So long as
teams are permitted to interact dynamically with the scenario,
and with one another's strategy, conditions may be generated
in the game that were not in the design plan. Even if the
Control group limits itself to implementing its own agreed
and previously calibrated game research design (as essayed
in CONEX), the interacting teams may move the game away from
that design. The price of keeping that from happening may
in turn be to undercut the dynamic role-playing process
which models the reality one seeks to capture.

The trade-off has not been resolved in games involving
scholars and experts (although at the student level
Steinbruner's EXCON series experimented with one-team, one-
move games in which players responded solely to the designer's
pre-programmed moves). In the senior CONEX series every
variable was not at all times under the experimenter's
control. The search is still on for even better experimental
methods to minimize deviations from the planned pathways
of game behavior, while not allowing the reaction to drop
below "critical mass," so to speak, and thus lose its
dynamic quality.

We conclude that wherever related bodies of theory can
help one to design an improved form of PE with rigor, elegance
and measurable results, one must be eager to see them
brought to bear. On the basis of the CONEX series, clearly
far more rigor and methodological self-consciousness on the
part of the game designer are mandatory if his research
effort is to be intellectually coherent.

But a danger exists in excessive scientism: it would
in our opinion be a shame to distort the values that already
inhere in the PE for the sake of fidelity to often imperfect
and sometimes dubious theory. Above all, one should not
tamper with the phenomenal "reality" the PE can reproduce
at the professional level, given lifelike scenario situations,
a continuing air of plausibility, and minimum of overt
temperature-and-pulse-taking of the expert players involved.
This injunction would appear to be especially applicable
to "non-crisis games" where the player unconstrained by

time-sensitive pressure is more likely to perceive and
resent artificiality.

Thus it was that despite its improvements on the previous
model, the CONEX series was in some degree also vulnerable
to the traditional criticisms of social science methodology:
the hypotheses remain too general, many important assumptions
remain implicit, controls were imperfect, measurement was
imprecise, and results were neither integrated into an
existing conceptual framework nor statistically impressive.

Nevertheless, given that we never expected the PE to
predict behavior or test substantive propositions about
foreign policy rigorously, the CONEX results are both
encouraging and challenging. It is clearly possible to
simulate non-crisis planning and decision-making with at
least the same verisimilitude as the crisis game. Although
we achieved no solution for the troublesome question of
intervening variables, we were able to categorize what
appeared to have been the significant factors. It was also
encouraging to observe the extent to which correlation
could be, if not measured, at least identified. Our conclusion,
tendered with optimism rather than resignation, is that the
PE still represents a form of theory-building more than
a source of explication and validation of existing theory.

NOTES

(1) Lincoln P. Bloomfield and Norman J. Padelford,
"Three Experiments in Political Gaming," American Political
Science Review, December 1959, pp. 1105-1115. The RAND
approach was reported in Herbert Goldhamer and Hans Speir,
"Some Observations on Political Gaming," World Politics,
October 1959. The words"game" and "simulation" customarily
refer, first, to a formally-structured competitive interaction

with specific payoffs, and, second, to explicit computer or
other models with well-defined components interacting in
a predictable way. The first author's efforts since 1958
fit neither definition and he has therefore styled them
"political exercises," "POLEX," or "PE." For variety the
other two words are occasionally substituted.

(2) A full report of the research is found in Lincoln P.
Bloomfield with Cornelius J. Gearin and James L. Foster,
Anticipating Conflict Control Policies: The CONEX Games
As a Planning Tool, Vol. II, M.I.T. Center for International
Studies, Pub. No. C/7Ø-1Ø. The policy inferences were
elaborated in Lincoln P. Bloomfield, "After Neo-Isolationism,
What?" in Science and Public Affairs, Bulletin of Atomic
Scientists, April 1971.

(3) While this article does not deal with teaching
and training games as such, an extensive bibliography is
available. It includes Bloomfield and Padelford, op. cit.,;
William D. Coplin, "Inter-Nation Simulation and Contemporary
Theories of International Relations," American Political
Science Review, September 1966, and the same author's
Simulation In the Study of Politics (Chicago: Markham, 1968);
Harold Guetzkow, et al., Simulation In International Relations:
Developments for Teaching and Research (Englewood Cliffs,
N.J.: Prentice-Hall, 1963); James A. Robinson, et al.
"Teaching with Inter-Nation Simulation and Case Studies,"
American Political Science Review, March 1966; John R. Raser,
Simulation and Society (Boston: Allyn and Bacon, 1969);
and Charles F. and Margaret G. Hermann, "An Attempt to
Simulate   the Outbreak of World War I," American Political
Science Review, June 1967.

A massive inventory of games is found in an equally
massive simulation bibliography by Martin Shubik, Gerry Brewer,
and E. Savage at the RAND Corporation, Gaming Literature Review:
A Critical Survey of Literature on Gaming and Allied Topics
(unpublished). See also David W. Zuckerman and Robert E. Horn,
The Guide to Simulation Games for Education and Training
(Cambridge, Mass.: Information Resources, 197Ø).

(4) See Lincoln P. Bloomfield, "Political Gaming,"
U.S. Naval Institute Proceedings, September 196Ø. Also
Lincoln P. Bloomfield and Barton Whaley, "The Political
Exercise: A Progress Report," Orbis, Winter 1965. Reports
on individual POLEXes at M.I.T. are listed in the
Publications List of the M.I.T. Center for International
Studies.

(5) One of the few public discussions of the JWGA/SAGA
experience and techniques appears in Andrew Wilson,
The Bomb and the Computer (Newton, Mass.: Delacorte Press,
1968). See also Sidney F. Giffin, The Crisis Game: Simulating

International Conflict (New York: Doubleday, 1965).

(6) See Report from Vienna---An Appraisal of the International Peace Academy Committee's 197Ø Pilot Projects (New York: International Peace Academy, 197Ø). An example of an European POLEX is found in A. J. R. Groom and Michael Banks, "CONEX I, A Simulation of a Middle East Conflict Situation: Nottingham (England), March 25-27, 1966."

(7) See Lincoln P. Bloomfield and Robert R. Beattie, "Computers and Policy-Making: The CASCON Experiment," Journal of Conflict Resolution, March 1971.

(8) Reported in Lincoln P. Bloomfield and Amelia C. Leiss, Regional Arms Control Arrangements for Developing Areas: Arms and Arms Control in Latin America, the Middle East and Africa (Cambridge, Mass.; M.I.T. Center for International Studies, December 1964). Local conflict was defined as real and potential "small wars," predominantly in Latin America, Asia, Africa, and the Middle East. See Bloomfield and Leiss with L. J. Legere, The Control of Local Conflict: A Design Study on Arms Control and Limited War in the Developing Areas (Washington: GPO, 1967), and Bloomfield and Leiss, Controlling Small Wars---A Strategy for the 197Øs (New York: Alfred A. Knopf, 1969).

(9) Amelia C. Leiss and Lincoln P. Bloomfield, The Control of Local Conflict: Studies of Conflict, Vol. III, M.I.T. Center for International Studies, Pub. No. C-67-19-C.

(1Ø) See Amelia C. Leiss with Geoffrey Kemp, John H. Hoagland, Jacob Refson and Harold Fischer, Arms Control and Local Conflict, Vol. III: Arms Transfers to Less Developed Countries, M.I.T. Center for International Studies, Pub. No. C-7Ø-1, February 197Ø.

(11) Of 82 governmental officials who responded to an earlier questionnaire survey, 77 percent reported that participation in M.I.T.'s PE's had broadened their sense of alternative strategies and policies available to the United States in certain kinds of crisis situations. See Richard E. Barringer and Barton Whaley, "The M.I.T. Political-Military Gaming Experience," Orbis, Summer 1965.

(12) The details of the SAFE game were first published in Olaf Helmer and R. E. Bicker, How to Play SAFE---Book of Rules of the Strategy and Force Evaluation Game (Santa Monica, Cal.: The RAND Corporation, November 1961).

(13) The declining influence of the military in the councils of government has been persuasively argued by Samuel Huntington in "Power, Expertise, and the Military Profession," Daedalus, Fall 1963, and in "Civil-Military Relations," International Encyclopedia of the Social Sciences, 1968.

(14) That they did not differ substantially in relevant attitudes or perceptions was demonstrated by the results of pre-game questionnaires and by empirically observed team responses.

(15) See John D. Steinbruner, Some Effects of Decision Procedures on Policy Outcomes: A Series of Experiments Using Policy Games, M.I.T. Center for International Studies, Pub. No. C/70-9.

(16) "It doesn't matter what one actually does, so long as one doesn't do it in the streets and frighten the horses." Related to this is the clash between the gamer's desire to stop a game to replay a move, and the "re-entry" phenomenon; roles cannot be simply turned on and off.

(17) For reports on "network" gaming using computers and teletypes for inter-university real-time team moves, see Robert C. Noel, "Inter-University Political Gaming Through the POLIS Network," paper delivered to the annual meeting of the American Political Science Association in September 1971.

(18) See, for example, Harold C. Guetzkow's paper in Morton Kaplan, editor, New Approaches to International Relations (New York: St. Martin's Press, 1968); Kenneth W. Terhune and Joseph M. Firestone, "Global War, Limited War, and Peace: Hypotheses from Three Experimental Worlds," International Studies Quarterly, June 1970; Gerald H. Shure and R. J. Meeker, "On Line Computer Studies of Bargaining and Negotiation Behavior," Systems Development Corporation, Santa Monica, Ca. TM-2304-108-00.

(19) R. Lucas Fischer, "The RAND/M.I.T. Political-Military Exercise and International Relations Theory," Center for International Studies, M.I.T. A/69-11, September 1, 1969.

(20) See, e.g. Abraham Kaplan, The Conduct of Inquiry (San Francisco: Chandler, 1964). Also B. F. Wimer, Statistical Principles in Experimental Design (New York: McGraw-Hill, 1962).

(21) See Steinbruner, op. cit.

(22) See, e.g., Graham Allison, <u>Essence of Decision:</u>
<u>Explaining the Cuban Missile Crisis</u>. (Boston: Little, Brown,
1971).

*****

Dr. Bloomfield's remarks appear courtesy of the
Foreign Policy Research Institute, University of Pennsylvania,
the publishers' of <u>Orbis</u>, a journal of Foreign Affairs.

*****

INTERACT

Learning   Through   Involvement

INTERACT, a joint project of several San Diego
educators, is probably the most widely known gaming and
simulations developer and distributor in the educational
field.

They have an extensive line of games/simulations
as listed in the enclosed brochure and as illustrated in
the following folio of INTERACT products. Their products
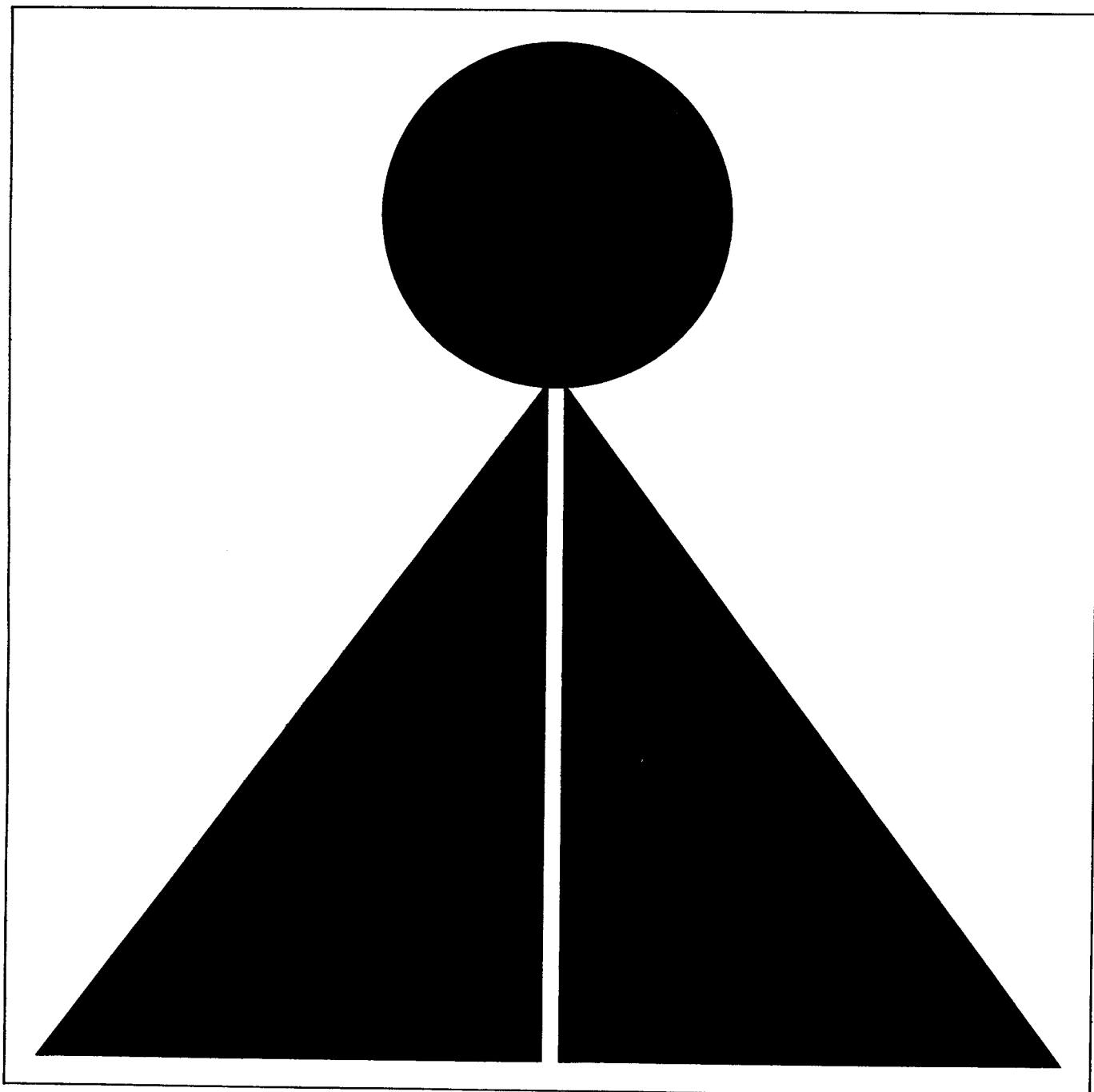are oriented toward elementary and secondary schools.

INTERACT has sent its brochure to more than 100,000
educational systems, school districts, etc., nation-wide
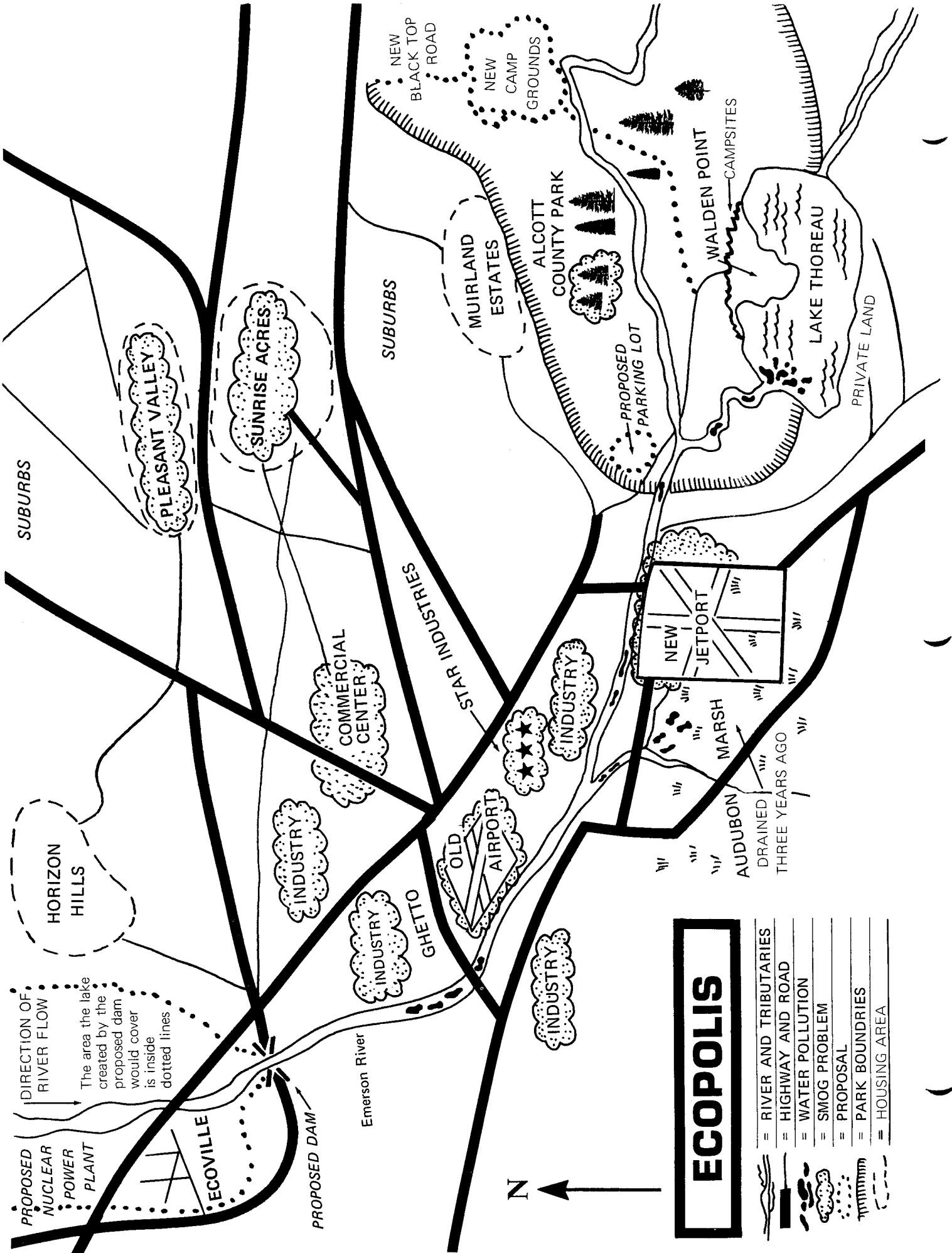and the results have been impressive.

With the type of foundation given in simulation
activities to youngsters by the INTERACT experience the
challenge to those of us working at more advanced levels
is to prepare useful and improved gaming projects for
their adult use. That challenge should keep us all busy
for along time.

Further inquiries may be directed to INTERACT.

BALANCE

A simulation of four families caught in ecological dilemmas

ECOPOLIS

N ←

Legend:
- 〜〜〜 = RIVER AND TRIBUTARIES
- ▬ = HIGHWAY AND ROAD
- ● = WATER POLLUTION
- ☁ = SMOG PROBLEM
- ⋯ = PROPOSAL
- ▦ = PARK BOUNDRIES
- ▤ = HOUSING AREA

SUBURBS

SUBURBS

PLEASANT VALLEY

SUNRISE ACRES

MUIRLAND ESTATES

NEW BLACK TOP ROAD

NEW CAMP GROUNDS

ALCOTT COUNTY PARK

WALDEN POINT

CAMPSITES

LAKE THOREAU

PRIVATE LAND

PROPOSED PARKING LOT

HORIZON HILLS

COMMERCIAL CENTER

INDUSTRY

STAR INDUSTRIES

INDUSTRY

NEW JETPORT

PROPOSED NUCLEAR POWER PLANT

DIRECTION OF RIVER FLOW

The area the lake created by the proposed dam would cover is inside dotted lines

ECOVILLE

PROPOSED DAM

Emerson River

INDUSTRY

GHETTO

OLD AIRPORT

INDUSTRY

MARSH

AUDUBON

DRAINED THREE YEARS AGO

To introduce the simulation BALANCE to you, your instructor helped you experience the concept of ecosystem in your classroom. Half of you were Indians and settlers; the other half were 15 lower animals. You simulated the ecological change that has swept across one area in America during the last 150 years. Some of you "died"; some "emigrated"; all of you saw a harmonious, unpolluted environment change to a discordant, unbalanced, contemporary American city with many pollution problems. Now you should be ready to look into your city's present ecology.

Carefully examine the map at the left. Ecopolis is a thriving, industrial-commercial city of 100,000 people, one of the fastest-growing areas in the country. For years most Ecopolitans have had a romance with rapid economic growth and population expansion. Everyone seemed to benefit from more of everything: people, toasters, automobiles, highways, shopping centers, housing and school construction. A year ago a few environmental activists stood alone as they pointed out that the Emerson River's waters were stained with wastes. They told citizens to look overhead and see blue ·skies no longer blue. They lamented that birds' songs and the wind's words were covered by the city's noisy voices. And they never stop screaming about the harm done to the ecosystem after Ecopolis drained the marsh and built the new airport for the giant jets.

Recently environmentalist ranks have been growing. Last week even a leading civic leader spoke out at a noon meeting of Rotary: "We're beginning to realize that growth for growth's sake is no longer desirable. Growth used to mean more jobs and more taxpayers. Now growth means air and water pollution, ugly landscapes, traffic congestion, crowded classrooms, all kinds of noise, and rises in taxes because so many people keep flooding in. Perhaps the time has come for a breather. I'm not saying flatly that we don't want more people and more industry. I'm just saying we ought to concentrate on assisting the people and industry we already have." Many grumbled after his talk, but several Rotarians came up and praised his "insight and courage." Of course, the majority of Ecopolitans do not agree with the Rotarian, but no longer will boosters' pleas for more factories, more highways, and more industrial plants go unchallenged.

You are about to join a "classroom family" living in Ecopolis. In your family you will role-play four identities: father, mother, young adult, and adolescent. Your classroom family will role-play four typical American families, white and black, who discuss how answers to certain questions would affect family members' lives. Here are a few of the questions that come up in BALANCE:

— Must the internal combustion engine be banned to clean up Ecopolis' air?
— Should families picket spark plug companies? Would building either a hydro-electric dam or a nuclear power plant hurt Ecopolis' ecology?
— Should America use so many natural resources to produce more and more electrical appliances, automobiles, aluminum travel trailers, and other consumer goods when so many citizens of the world have so little?
— Should black Americans even be concerned about nature when so many black brothers face such miserable, bleak futures?
— Should Ecopolis' last wilderness area be opened to the automobile and trailers, or should it be saved for only hiking and tent-camping?
— Is it anyone's business other than the family's how many children a family has?
— Is spaceship earth ecologically doomed?

After discussing such questions four times, your family will make decisions and fill out the simulation's FAMILY DECISION FORM. Filling out this form tests your ability to balance personal goals, family goals, and environmental goals. Balancing the three will not be easy, for we human beings often forget that something our value system tells us will be "good" for us may not be "good" for other human beings or the ecosystem in which we all live. Things get thrown out of balance very easily.

When not simulating family decision-making, you will do other things: research ecology background information; interview adults in the "real" world; present a large group on either air pollution, water and power use, land use, or population growth; express your ecological convictions to others in a small group discussion; express in a community FORUM your position on the ecological problems of your real community.

As you complete the following specific activities, you will earn GASPS (Goal And Satisfaction Points):

— Bring in articles on ecology for other class members to read.
— Read widely and then complete as many GS-SD OUTLINES as you can on the 40 ecology generalizations given you by your instructor.
— Participate in the environmental action Large Groups as speaker or respondent.
— Conduct a dialogue with your parents and/or other adults about ecological problems.
— Help your class family successfully balance its economic, personal, and environmental goals when it fills out FAMILY DECISION FORMS.

- Explain openly and forcefully what you believe about American ecology during "real-self" discussion groups.
- Speak up for what you believe about your real community's ecological future during FORUM DAY.
- Write a thorough evaluation of your experiences on the ESSAY EVALUATION of BALANCE.

In conclusion, both the authors and your instructor hope that this simulation will be a more meaningful introduction to the study of American environmental issues than more passive instruction. After experiencing BALANCE in your classroom and seeing things out of balance in the real physical environment of your city and countryside, you may understand what Henry David Thoreau meant when he said: "There are thousands hacking at the branches of evil for every one who is striking at the root." You may suddenly want to use what you know and believe to help other Americans "strike at the root," that is, get at the *causes* of our ecological problems. Because you both *care* and *know*, you may bridge the generation gap and *act* with adults for a better environment in your community.

INTERACT
Post Office Box 262
Lakeside, California 92040

COPE

A simulation of adapting to change and anticipating the future
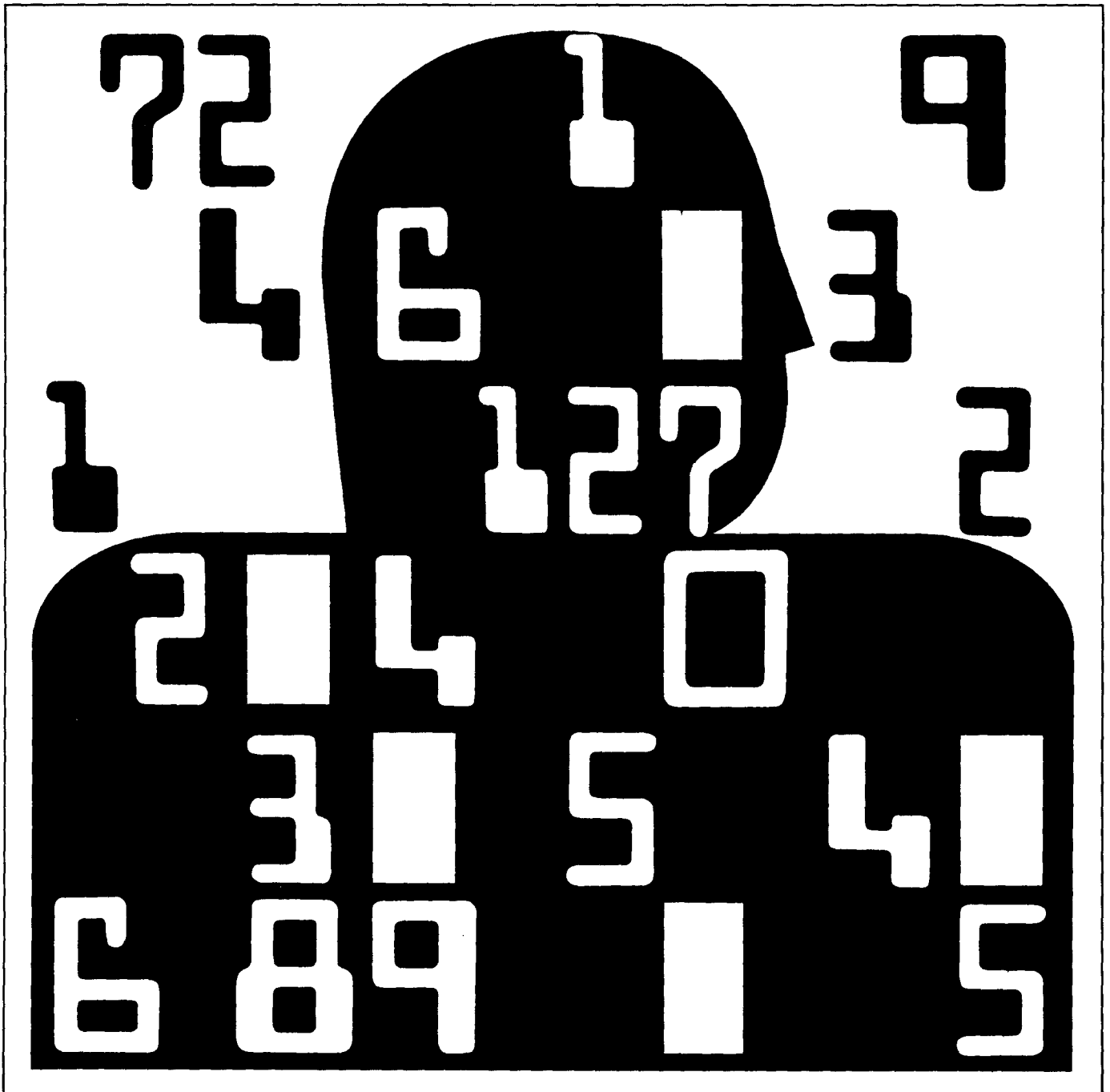
STUDENT GUIDE

THE FUTURE   The future is becoming a concern of more and more people. As technology becomes increasingly sophisticated and as our lives become increasingly complicated, informed people talk with one another, worrying about the answers to such questions as:
- What is a *good* future?
- What is a *bad* future?
- Can we *adapt* quickly enough to keep up with the pace of change?
- Can we *cause* the kind of future we prefer to have?

You are about to participate in a simulation called COPE, which will encourage you to ask and answer these same questions for yourself. The answers you arrive at may indicate how well you — and the rest of the world — are prepared to face the future, which is *not* some distant point in time but is practically right on top of us.

TECHNOPOLIS   In a few days you will be "born" a resident of a future city called TECHNOPOLIS. You will experience life in this city during five different future time periods. Each time period will be different because ten years of progress will have passed in between each of your "visits." Each ten years is a CPM, a Creative Production Module. During each CPM you will be directed to complete various *creative* and *productive* tasks. For example, you may be asked to do one or more of the following:
- think about the different alternatives we might have for life in the future;
- solve some problems that arise, both for yourself, and for the rest of the city and universe;
- learn a completely new, but not foreign language to help you communicate with your fellow residents;
- evaluate new forms of technology for their effects on human beings;
- and MOST IMPORTANTLY, attempt to cope with a pace of change that is even more dramatic than today's.

CWUs   As you experience COPE, you will notice that its activities parallel playing a game. You will find yourself competing for CWUs — Creative Work Units —, for CWUs represent your wealth in the simulation and a substantial protion of your grade for this unit. Gradually, you will understand the two-fold object of th⌐ simulation: to increase your CWUs, and to solve the problems of living in the future. Your CWUs will increase dramatically if you follow directions and complete the tasks assigned to you, and if you devise ways to cope with the many and rapid changes built into the simulation.

RESPONSIBILITIES TO YOURSELF   Earning CWUs might be compared with earning a salary in today's world. These points are called *creative* work units because the future world will require creative responses to new situations and problems — about which we can only *guess* at the present. Thus, be as creative as you can during each of the five decades you live in. Complete all tasks you are assigned or any that you create for yourself. Here are several examples of possible individual tasks. (They will be explained more fully during the simulation.)
- Collect articles and pictures, and arrange them so that they show different future life styles.
- Read science fiction and other stories and novels. Then evaluate them in terms of possible future alternatives (Is science "fiction," really *fiction*?).
- Develop your own personal style of effectively dealing with change and its effects on yourself and others.
- Analyze films and other media for future alternatives and for the pace of change in our present world.
- Prepare and present creative solutions to present and possible future problems.
- Prepare and present your own ideas about what future life styles *should* be.

RESPONSIBILITIES TO YOUR GROUP   In order to survive in tomorrow's world — at least the future world COPE presents — residents of TECHNOPOLIS will have to develop new possibilities in interpersonal roles and relationships. You, therefore, will have many responsibilities as a member of this simulated society.
- The group to which you will belong must develop a working style that is efficient and productive.
- Your group will have to compete with other groups to earn CWUs.
- Your group will have to learn to share and voice common concerns, ideas, knowledge and abilities.
- Your group will have to develop some continuity of effort, with the possibility of constantly changing members.
- Your group will have to help all members adapt quickly to new situations.
- All groups in the community must remain on guard to protect human values because of the increasing influence of technology.

A FINAL COMMENT   Your instructor and the author of this simulation hope that COPE will stimulate you to think seriously about facing the future *now*. Coping with change is a serious problem for which no easy solutions exist. Changes may take place during the simulation which seem needlessly confusing and frustrating. But that seems to be happening in the real world at the present time. We must face and handle the confusion and frustration that change unleashes if we are to successfully make the transition from the present into the future. This simulation will succeed if you enter TECHNOPOLIS willingly and try to learn how to cope with change.

BUDGET

A simulation of the struggle for money in the national budgetary process
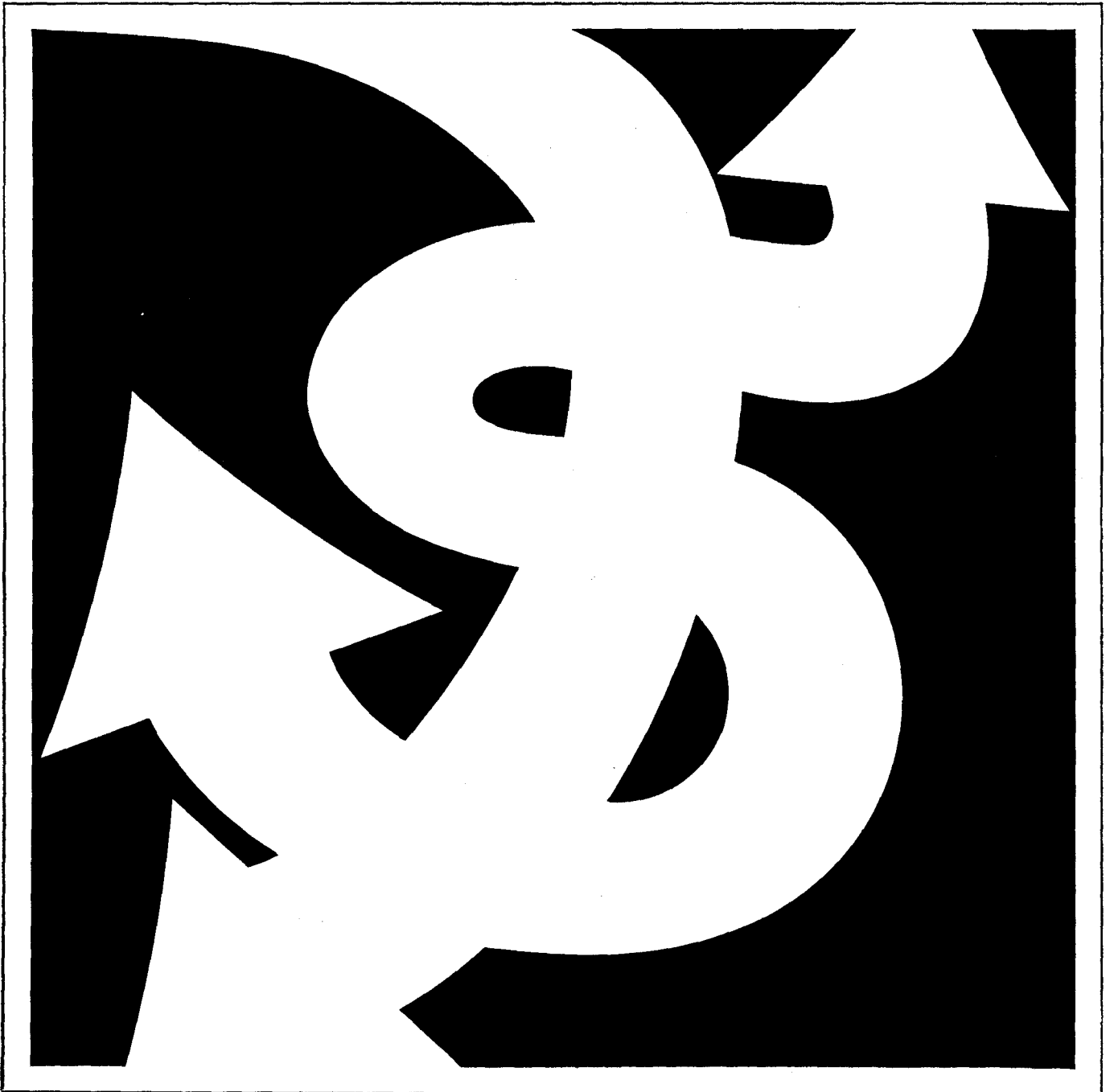
STUDENT GUIDE

INTRODUCTION   You are about to be placed in a position of high responsibility and importance where bargaining-compromising is a way of liffe. You will become a member of one of the following seven political occupation groups: **the President and his aides; the Cabinet; the Senate Appropriations Committee; the House Appropriations Committee; Congressional leaders; Chairmen of Independent Commissions; Lobbyists.** During this simulation you will work to pass a national budget that best fulfills your personal interests and the goals of the voting bloc or blocs to which you align yourself. You will experience the ecstasy of victory when your goals are accomplished, and the agony of defeat when your coalition falls victim to majority rule. You will acquire an understanding of how people respond in positions of grave responsibility when forced to resolve conflicts in a situation of the utmost national importance. Consequently, experiencing BUDGET will do more than teach you a governmental process; it also will help you understand what motivates human behavior.

IDs AND GOALS   After receiving your IDENTITIES sheet and GOAL CARD, you should carefully examine your goals in order to determine your basic strategy. Assume that the following is on your GOAL CARD:

    Increase HUD (Housing and Urban Development)
      to 10.1 billion
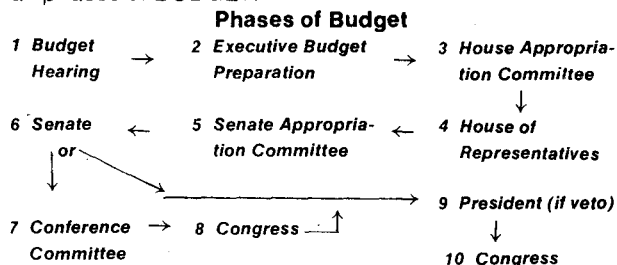   *Increase Commerce to 6.1 billion*
    Cut Labor to 4.7 billion

Having received this GOAL CARD, your major concerns would be not with the total budget but with the three departments involved. You would work with the Secretaries of the Departments of H.U.D. and Commerce, trying to form a powerful bloc that exerts pressure to increase departmental appropriations. Also you would search for possible allies in your attempt to cut the Labor Department's budget. (In helping to determine your possible allies and opponents, you should study the character descriptions on the IDENTITIES sheets and constantly refer to these descriptions in order to determine who the key people are in a particular situation.) Besides allying with persons having goals similar to your own, you may also ally with individuals who are undecided or uncommitted to any major alliance or bloc.

Recognize that how well you achieve each of your goals will directly influence your final score in the simulation. Other students will be after you to join forces with them, but before joining coalitions or blocs, try to determine the relative strength of the departments and their possible allies by examining the VOTING POWER RECORD and IDENTITIES sheets. All of you have been assigned a number of votes in both the Senate and House of Representatives. You will cast these votes in each chamber after the budget has been approved by the respective Appropriations Committees and has reached the floor for debate and voting. Thus, you should keep an accurate record of the votes controlled by the different coalitions in order to determine who is developing the majority necessary to pass the budget.

PLAY SEQUENCE   Carefully examine the phases of the budget process below which you will simulate. Note the various points where you can exert pressure to have your views adopted. Thus, even if your budget account goals are cut in an early phase, you can still work

to reinstate or increase them in a later stage. Therefore, you must lobby, bargain, and exert full pressure during all phases of BUDGET.

Phases of Budget

1 Budget Hearing	→	2 Executive Budget Preparation	→	3 House Appropriation Committee
				↓
6 Senate	←	5 Senate Appropriation Committee	←	4 House of Representatives

7 Conference Committee → 8 Congress
9 President (if veto)
10 Congress

SPECIFIC ASSIGNMENTS'   Besides role-playing a member of a political occupation group during BUDGET, you will also be asked to perform the following assignments:

1. Read appropriate sections of your text.
2. Do research reading in magazines and books, if they are available in your classroom or school library.
3. Role-play a person holding a specific political position in Washington, D.C.
4. Write a JOB DESCRIPTION of this position.
5. Write APPROPRIATIONS REQUESTS for departments you are particularly interested in.
6. Present these REQUESTS to a Hearing conducted by your classmates.
7. Bargain with your classmates for exchange of political power.
8. Participate in floor debate in a simulated House of Representatives and/or Senate session.
9. Participate in seminar (small groups of 6 to 8) discussions and, possibly, acting as your group's representative, on a panel.
10. Take objective and essay tests to evaluate your new knowledge and attitudes.

Since you will be using knowledge gained from completing these assignments to help you attain your simulation goals, you will find that "knowledge is power" and that learning doesn't have to be boring after all.

CONCLUSION   Finally, the author believes that participating in BUDGET will stimulate your interest in and increase your understanding of a most vital and important aspect of the American political system. This system has recently been severely criticized as unresponsive to the needs of the people, indecisive in action, and accountable only to the moneyed elite. It is not the system that should be condemned, however, but rather the apathy and lack of understanding of the American public. This apathy and ignorance can be overcome only if you become concerned and interested enough to question the inequities of power in this system and learn how to use political power wisely. Once you begin to question, you are only a short step away from the active involvement essential to accomplish your dreams of the way things should be. But you cannot become effectively involved unless you understand the human motivation involved in our political process. This simulation is dedicated to that end. Play well.

DESTINY

A simulation of American foreign policy during the Cuban Crisis of 1898
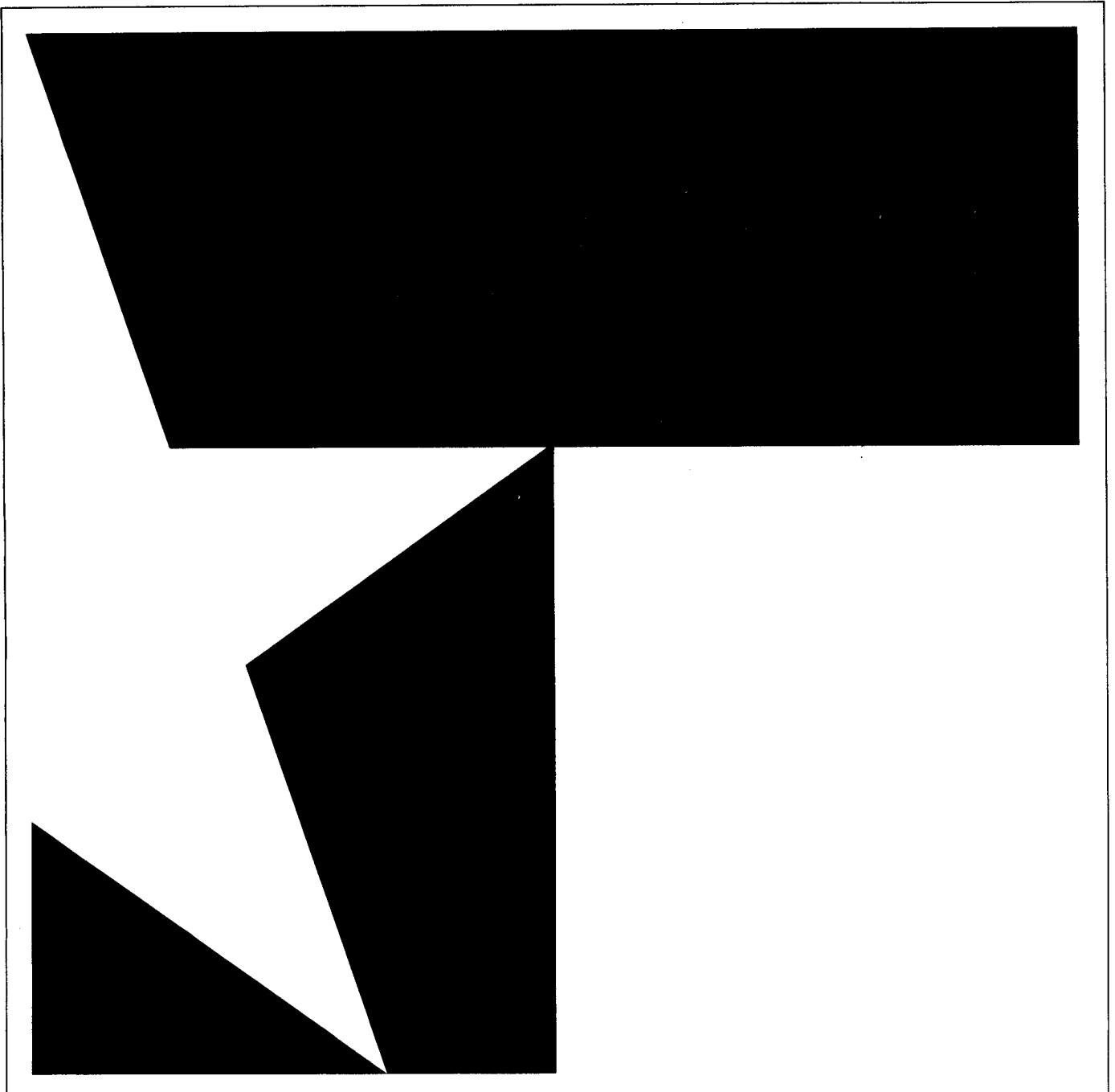
You are about to participate in a "simulation," a manner of instruction in which the classroom imitates (i.e., "simulates") an environment in our history. During the next few weeks you will "live" in 1897-1898, a crisis moment when Americans hesitated at a crossroads, trying to decide whether or not to adopt a more aggressive foreign policy in order to expand into a world power.

At the beginning of DESTINY you will join one of six factions who disagree about what American foreign policy should be relative to a revolution going on in Cuba. Within your faction you will assume and then role-play a historical identity. Two factions will pressure President McKinley, a fellow student, to adopt a more aggressive foreign policy and, if necessary, go to war (Cuban Junta and the Imperialists); two factions will pressure him not to be warlike (Spanish Diplomats and Anti-Imperialists); two factions will have divided memberships, with some members pro-war and some anti-war (Newspapermen and Businessmen). Your instructor will give you several instruction sheets explaining activities and responsibilities you will experience in the simulation, which you will discover is comparable to playing a game.

Your grade in DESTINY will depend upon how many APS (Advice Points) you add to your APS BALANCE SHEET as a result of the following:

Individual effort

    scoring a certain number of points on tests and fact-opinion exercises

    presenting facts and opinions during three Presidential Conference Periods

    attacking or supporting the facts and opinions presented by other factions' members during Presidential Conference Periods

    writing PARAGRAPH OUTLINES for several of the 20 BASIC QUESTIONS

    writing research paragraphs (LETTERS-TO-THE-EDITOR) answering any of the 20 BASIC QUESTIONS or responding to a Pressure Card

    writing a MEMO-TO-THE-PRESIDENT recommending that he make a specific decision following a certain Conference Period

    writing a COMMITMENT STATEMENT explaining why, if you had been in Congress in 1898, you would have voted for or against declaring war on Spain

Group effort (each individual *present* receives an equal number of APS)

    the three factions with the highest average test and skill exercise scores will receive bonus APS

    the faction with the highest total APS earned during each Presidential Conference Period will receive bonus APS

Your grade will also be influenced somewhat by forces beyond your control. Fate is simulated in DESTINY when you gain or lose APS due to Pressure Cards from "the gods" (your instructor). Pressure Cards are historical bulletins which you should study carefully for two reasons: 1) they provide information you may wish to use or must be prepared to have used against you during conferences with President McKinley; 2) they represent a barometer of public opinion pressuring the President to lead or not to lead the nation into war. As a result of losing or gaining APS from these Pressure Cards, you should do two things: 1) learn to adjust well, psychologically, to the "playfulness" of fate; and 2) work harder to influence President McKinley to see the correctness of your position.

In conclusion, both the authors of this simulation and your instructor hope that participating in DESTINY will be a more meaningful introduction to the study of American foreign policy than more passive historical instruction. For if you willingly enter the period and "live" its problems, when DESTINY ends you should understand the following: a) how President McKinley had to consider America's security, markets, and mission when making his difficult decisions in April, 1898; and b) the reasons why it is difficult to make such awesome decisions. You will also have learned certain research and analysis skills that you may continue using as you influence governmental policy-makers in the future.

DIG

A simulation of the archeological reconstruction of a vanished civilization
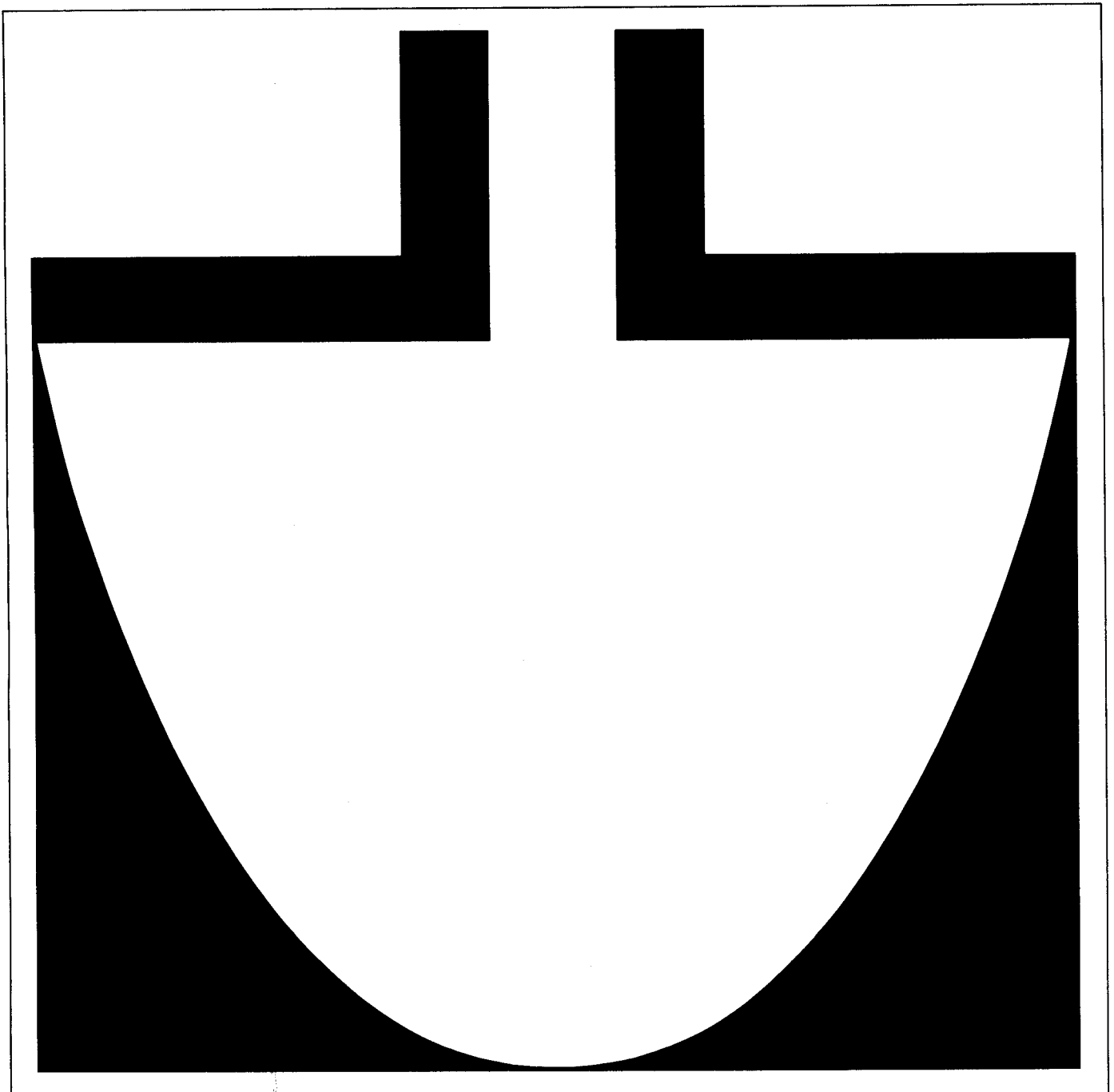
STUDENT GUIDE

Prepare to get your hands dirty! You and your fellow students are about to go on an archeological excavation, or dig. Using the techniques of modern archeology, you will unearth and bring back to the classroom strange and mysterious artifacts for reconstruction and analysis. But this dig will be unusual. For the cultures you excavate will be the result of *your* imagination and knowledge concerning the nature of culture.

During the next few weeks your class will become two teams that create cultures and artifacts in complete secrecy from each other. YOU will create a geographic setting. YOU will decide on the time (past, present, or future). YOU will determine the values and beliefs of the people. Each team will bury its artifacts for the other team to excavate and reconstruct. Then a final confrontation will reveal the accuracy of each team's reconstruction and analysis.

Specifically, what will be expected of you? The challenge to your imagination and abilities is almost unlimited, for throughout DIG tasks will require individual creativity and effort. In fact, your creativity and effort will gain you CAPS (Creativity-Artifact Points), the accumulation of which will determine the grade you and your team receive for this unit.

After your team has determined the setting, time, and themes of its culture, you will create a specific culture universal such as religion, government, language, or recreation. You must next convince your fellow team members that your fantastic ideas fit the culture and do not conflict with or cancel out their fantastic ideas.

Once team approval has been granted, you must design an artifact that accurately reflects your culture universal. Constructing this artifact will take imagination and skill. Those prehistoric objects you have seen in the museum will seem quite amazing by the time you have constructed your own work of art. You may wish to help create your culture's language and number system. How tricky can you be in composing an alphabet for the other team to decipher? Or you may give most of your attention to devising a secret tomb that will confound the "grave robbers." If you enjoy art, you may choose to help construct a huge 4' x 8' plaster of paris mural to be found by the other team. Some of you will construct the screens and special tools that are used on a dig. Skillful draftsmen will draw artifact blueprints. This is only a partial list of the many activities ahead of you.

On the actual excavation, known as the Big Dig, you will discover the significance of careful measurements and record keeping. You must plan where to place or "salt" the broken artifacts that the other team must unearth. Which of your relics should be found at the lowest level of the pits? Which should be near the surface? Will putting two artifacts close to one another provide important clues? (Of course the other team will do similar thinking and planning.)

As you excavate each other's strange cultures, you may find yourself working as a Washer-Bagger, Recorder, Photographer, Digger, or Measurer. You may even be a Crew Chief. Whatever your job, you will work as any professional archeologist works on a scientific dig.

Back in the classroom you will have the responsibility of reconstructing and restoring at least one artifact. One of your most challenging assignments will be analyzing what the artifact represents in the unknown culture. And even if you are certain of its function, can you convince your fellow team members that you are correct? The work and insights of the entire team will be brought together to reconstruct the excavated culture. During a final confrontation, your team's views will be presented and then answered by the other team. How close will your analysis be? How valid will the other team's artifacts be? Which culture will be more creative? Which will have made better artifacts? Answers to many of these questions will be provided by the Museum Display Open House. This Open House will provide opportunities for showing the restored artifacts and comparing the ideas of the creators with the ideas of the excavators.

By the time you have finished participating in DIG, you will have lived with the intricacies of human culture and will have gained first hand knowledge of how people past and present have shaped their beliefs and behavior in the face of universal human problems and needs. You will have a new respect and admiration for the individual who is capable of creative thinking, a type of activity that must be maintained if we are to have a truly democratic and open society.

DISCOVERY

A simulation of early American colonization

You are about to participate in a simulation game which will help you recreate in your classroom the mystery of exploration, the excitement of discovery, and the unknown hazards of colonization. During this experience, you, your fellow students, and your teacher will face many problems similar to those faced by seventeenth century New England colonists. And while facing these pressures and hardships, you will have to make many important decisions which will affect your own colony's success or failure.

At the beginning of DISCOVERY, you will be divided into groups of five or six students each. You will remain in this group and work together throughout the simulation. Once you have learned why people explore and set up colonies, you will then select one of these reasons for your group's attempt to colonize the New World. You will have to make numerous decisions about how your group is run and how your new colony will operate.

In your group you will each have a number of responsibilities including making a map of an imaginary land and completing daily tasks as one of the group's officers. Each person in the group is given one of six offices by the other members of the group: leader, general assistant, banker, recorder, trader, and mapper. Unless each office's specific tasks are successfully completed, the whole group and its colony can suffer greatly. The colony can even be lost!

In setting up your own colony, you will learn how to read and make your own maps. You will learn why geography, natural resources, and nature are so important to explorers and colonizers. You will find your colony competing, trading, and fighting over land, resources, and food supplies. As colonists you will be asked to make many individual and group decisions:
- Why are *we* establishing our colony?
- Where is the best place for us to set up our colony?
- What materials, supplies, animals, and people do we need to begin our colony?
- Should we fight or trade for the land we need?
- What kinds of daily work should we do?
- What can we do to make the largest profit for our colony?

These and other decisions will affect your colony's success or failure. Enough right decisions can make your colony rich and powerful; enough wrong decisons can mean the destruction of your colony.

Of course, other less controllable elements will affect you and your colony's progress. Will the weather hold while the crops are harvested? Will the Indians be friendly or hostile? Will your colony find some hidden wealth? Will floods, fire and marauding pirates destroy you? Add all these uncontrollable elements to all the problems requiring group decisions and you will begin to realize how complex and hazardous your colonial life may become.

From the very beginning of DISCOVERY your work, both as an individual and as a member of a colonizing group, contributes to the final results of the simulation. In the beginning you will study maps and what they mean to colonists. You will make a map of an imaginary land using the knowledge you have just gained. These maps will be evaluated on a scale from 1-10, depending upon how well you used the knowledge you gained and how well you used your imagination. (In DISCOVERY your imagination and creativity will *continually* play an important part. For in a colony often an imaginative individual makes an ingenious recommendation that the colony's leader uses to solve a dangerous problem and save the colony.) The scores that you and the other members of your colony make here plus the scores you make on a short quiz will determine the amount of supplies and people your colony receives at the beginning of the colonization period.

Your group's goal will be to use these units of wealth which you have earned to establish a colony and to make it grow and prosper. As the simulation progresses, you will set sail for the New World. While at sea, you will begin to feel the great influence that the forces of nature had upon early colonists and explorers. Will the winds be strong and favorable, or will you become stranded in the doldrums without a wind to carry you on? Once you have reached the New World, round by round playing really begins. You will have to feed your colonists, protect them, and still have enough men left over to build and grow. You will earn COLPS (Colonization Points) by producing extra food, by acquiring land, by building boats and ships, and by increasing your population. At the end of twenty rounds of playing, the points in all of those areas will be totaled. The colony with the most COLPS will be declared the winner.
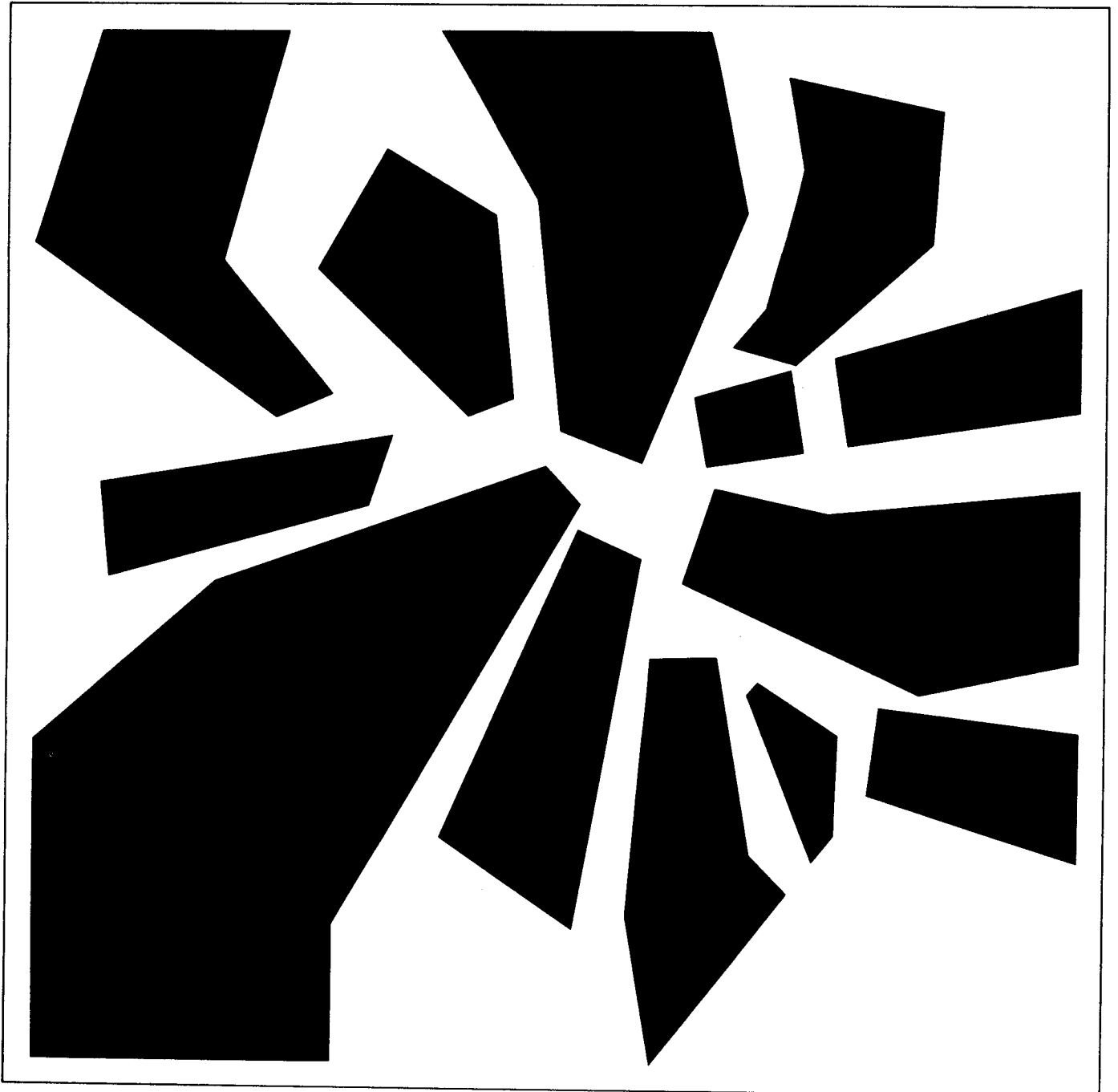
You should enjoy DISCOVERY and, at the same time, come to appreciate the complexities that make exploration and colonization the intriguing, exciting adventures that they are. Your experiences will most closely simulate the conditions in seventeenth century New England. But you can apply what you will learn about exploration and colonization to many of man's adventures: those primitive man had in the dim and ancient past in caves and those you will have in the promising future on the moon and on the planets.
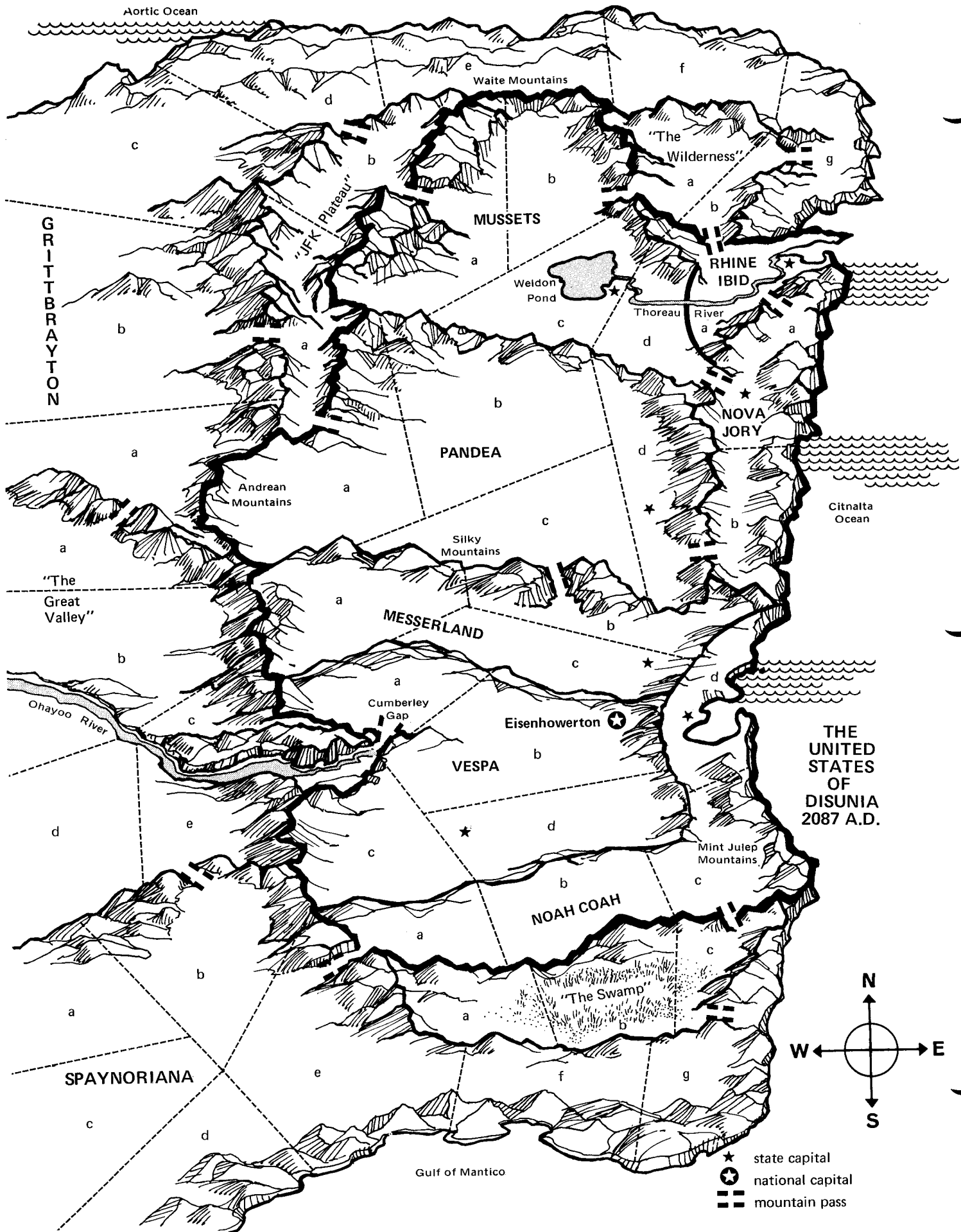
DISUNIA

A simulation of the 21st century paralleling the problems of sovereignty in 1781-1789

Aortic Ocean

GRITTBRAYTON

"JFK Plateau"

Waite Mountains

e

d

f

c

b

"The Wilderness"

a

g

MUSSETS

b

b

a

b

RHINE
IBID

a

Weldon
Pond

c

a

Thoreau River

a

a

d

NOVA
JORY

b

a

PANDEA

b

d

Andrean
Mountains

a

a

Citnalta
Ocean

a

c

"The
Great
Valley"

Silky
Mountains

b

d

b

a

MESSERLAND

b

c

c

d

b

Ohayoo River

a

Cumberley
Gap

a

Eisenhowerton

THE
UNITED
STATES
OF
DISUNIA
2087 A.D.

c

VESPA

b

d

e

d

a

c

Mint Julep
Mountains

c

b

b

NOAH COAH

c

a

N

b

a

"The Swamp"

W ← → E

SPAYNORIANA

e

f

g

S

c

d

Gulf of Mantico

★ state capital

⊛ national capital

mountain pass

The map on your left represents your "home" in a simulated 21st century world you are about to enter. You are beginning an educational simulation, a manner of instruction in which the classroom imitates (i.e., simulates) a real or imaginary environment. In the days ahead you will "live" in this simulated world and try to solve economic, military, and political problems. But first you must understand some background information dealing with the nation in which you will live.

BACKGROUND

RECENT HISTORY   Disunia is a country located on Edonia, a planet formed in 2080 A.D., when a miscalculated underground explosion of a hydrogen weapon split our planet Earth into four parts. Only people flying in spaceships during the catastrophe escaped death. The explosion destroyed all man-made objects on the four, newly-formed planets, but miraculously — in the mysterious way of Mother Nature — many characteristics of Earth were preserved in somewhat distorted configurations on the new planets. The 70,000 American survivors who made their way to Disunia, seeing all their former civilization eradicated and only God-formed objects remaining, promptly destroyed their spaceships in tribute to God for saving them and for forming a new land for them to settle. (Within a short time many were to regret this religious decision.)

GEOGRAPHY   Impassable mountains surround much of the country, cutting off access to the seas except through two natural harbors, one in Rhine Ibid in the North and one in Noah Coah in the South. The rugged mountains also form natural boundaries for most states, make trading slow and hazardous, and have walled off contact with other human beings living west of the Andrean Mountains, which extend from northern Mussets to southern Noah Coah. The northern area of Disunia is characterized by high, rugged, heavily forested mountains and fertile valleys. The central area is relatively flat with rich soil, many rivers, and the ever-present high mountains at state boundaries. The southern area has vast expanses of sandy soil, mostly located on rolling hills in danger of regular erosion due to the heavy rains and subsequent floods which plague the region.

THREE ECONOMIES   Economically northern Disunians have pursued vocations other than farming because they lack good soil to produce enough foodstuffs for their population. They have become excellent shipbuilders and merchants. Enterprising individuals have restored some industry, but insufficient capital and labor have restricted industrial activity to small but growing factories. In central Disunia, farming is the main occupation; consequently, southern Nova Jory and all of Pandea are known as Disunia's "bread-basket," for they supply much of the nation's grain and fodder. The southern area's economy is controlled by many large landowners (they flew the first spaceships to arrive and were attracted to the verdant, rolling hills they saw) who have large ranches for animals and large farms for cotton and tobacco — all of which are in short supply in Disunia. Southerners, with considerable space in which to expand, are eagerly seeking an expanded labor force so that they can raise more animals and grow more crops.

GOVERNMENT   After they arrived in 2080, Disunians modeled their new nation after the original 13 American Colonies of the 17th and 18th centuries. But because of the configuration of the land and the seven settlement patterns that emerged, they established seven states rather than 13. During the seven years since landing on Edonia, the states have been relatively isolated from one another due to the mountains and the primitive transportation available. With the Anglo-American tradition of constitutions as an integral part of their heritage, the seven individual states inevitably wrote seven individual state constitutions. However, just recently, as the states recognized the necessity of trade between the states, the seven states developed a loose confederation based on a brief, but supposedly binding constitution called The Articles of Confederation of Disunia.

PROBLEMS

ECONOMICS   Your new nation has tremendous problems. The northern states have a surplus of manufactured goods and a deficit of foodstuffs; other states have the reverse. Yet while all citizens realize the need for inter-state trade, individual states have had trouble controlling their economies. Part of the problem derives from the economic philosophy of most individualistic Disunians: coming from America, they insist on making their own individual business contracts without state regulation or control. Therefore, one big problem for state leaders has been trying to find a way to keep the whole state economically healthy while at the same time maintaining individual liberty. Then, too, the natural inclination of each state to work to become "the best in the confederation" has triggered various trade barriers (i.e., tariffs and transportation taxes) being levied on other states' goods. Of course, the fact that some states are better located for commercial activity than others has caused the "haves" to make the "have nots" pay dearly for such privileges as access to the sea via mountain pass, land, river and seaport.

LABOR   Another serious problem has been the shortage of labor. Most Disunians would like to rebuild an industrial civilization similar to the America they left. However, developing such a civilization requires a labor supply far greater than now available. Currently, a rumor has been circulating throughout the states that some daring Southern ranchers claim to have seen human-like creatures in "The Great Valley." They say these creatures might become a cheap labor supply, but so far most Disunians merely scoff at the rumor as a by-product of the mountain brew Noah Coahans and Vespacians drink.

FOREIGN NATIONS   Finally, various citizens have reported seeing roving bands of non-Disunians crossing and recrossing mountain passes at state boundaries near "JFK Plateau" (west of Mussets), near "The Wilderness" (northwest of Rhine Ibid), and "The Swamp" (south of Noah Coah). Disunians remember that seven years ago citizens from other nations of Earth also landed on Edonia, destroyed their spaceships, and formed the separate nations of Spaynoriana and Grittbrayton because their political and economic philosophies differed from Disunian beliefs. Militant persons from the states above who feel their borders should not be violated by aliens have argued for "a common defense policy to meet the military threat to the country." However, since an adequate defense plan would require considerable sacrifice and political cooperation, nothing yet has been done.

ACCUMULATING INDIVIDUAL WEALTH

Now that you have read Disunia's background and problems, you are ready to be "born" by pulling a slip of paper. On it will be a number that will give your state citizenship, a vocational identity and an amount of wealth (a certain number of CGSs, i.e., Consumer Goods and Services points, the scoring system used throughout the simulation).

EARNING CGSs   Your first responsibility will be to yourself. You will want to increase your CGSs total as much as you can. A significant percentage of your unit grade will depend upon how much you increase your beginning CGSs total by doing the following:
- **completing basic assignments** on the Declaration of Independence, the Articles of Confederation, the *Federalist Papers* and the Constitutional Convention of 1787;
- **researching and writing paragraphs** on statesmen and their governmental problems during the 1780s;
- **fulfilling the duties of one of the five state offices** described below, helping other citizens solve state or national problems by preparing and carrying out "excitement" projects such as congressional legislation, an economic or military alliance, an attack or defense plan.

After you receive paper money for all such efforts, you will carefully keep your current CGSs balance on your individual CGSs BALANCE SHEET.

TRADING   Another way to affect your CGSs balance is to make trade agreements with other states' citizens for CGSs of a color opposite to your own. Since you receive one of the two colors of paper money for all work you do (green if your occupation is agricultural; blue if industrial-mercantile) and since your state's objective is to achieve an economic balance of the two CGSs colors, considerable economic and political pressure will be exerted upon you to trade often and wisely. Your state's economic analyst will help you plan and complete such trades, using the TRADE FORMS that must be filled out to officially record any such trading.

ACCUMULATING STATE WEALTH

In addition to working for individual wealth, you will also work to help your state increase its **State Wealth Units** (**SWUs**). At the beginning of the simulation, a STATE POWER CHART will reveal all seven states' SWUs ranking. Each of Disunia's seven states has one SWU for every green CGS it can pair with every blue CGS. When you complete trades beneficial to your state's economy (e.g., if you're in a "blue" state with surplus blue CGSs, you would trade surplus blues to a citizen in a "green" state that has surplus greens that need to be traded), you will help your state increase its national power ranking. A grade bonus will go to all citizens of the state that most increases its number of SWUs from its beginning of the simulation total.

SOLVING DISUNIA'S PROBLEMS

FIVE STATE OFFICES   Besides the long-standing problems discussed above (government, economics, foreign affairs), your state also faces immediate problems that fate brings into the simulation. (Your teacher, playing the role of fate or "the gods," will regularly simulate chance's impact upon your lives by reading BULLETINS that demand daily decision-making.) In order to help solve all these problems, each of you will have a state office. Soon you will have a state meeting during which you will fill your state's five offices:
- a **governor** to be your state's ruling official, whose signature binds your state to official decisions;
- an **economic analyst** to supervise trading;
- a **political analyst** to levy tariffs and to form alliances;
- a **military analyst** to develop, maintain, lead and disperse your state's military forces (**MFs**);
- a **congressperson** to be your constitutional expert who writes and presents legislation in the national Congress that meets in the national capital, Eisenhowerton.

FINAL COMMENTS   As you can see from all the above, you citizens are going to be busy as you face survival in a hostile, 21st century wilderness. Detailed STATE PROCEDURE SHEETS and other handouts will explain how you will procede from decision point to decision point, solving the political, economic and military problems surrounding you. Don't be overly concerned if the simulation procedures introduced in this STUDENT GUIDE seem confusing. Remember that a simulation is like a game, and a complex game's rules seem obvious to you once you have played a while. Good luck to you in your arduous days ahead. You are about to learn a great deal about the origin and nature of government.

IDA

SPI

AH

UP   THE   PEERISCOPE: THE   YEAR   IN   REVIEW

Collision Course   or   Peaceful   Co-op?

DO   LESS,

DO   IT   BETTER....,

DO   IT   WITH   GUSTO!!!!!!

UP THE PEERISCOPE: THE YEAR IN REVIEW

Introduction

In our view 1973 was a year of uneven growth for gaming and simulations in all areas: professional, educational, military and amateur. Most key organizations and individuals devoted their energies to widening their contacts in the field and proselytizing to potential followers.

The following article is designed to give a brief over-view of some of the main gaming activities in the nation, to review some of the key contents of XENOGOGIC in 1973, and to indicate further sources of information for those interested in expanding their own knowledge about gaming.

Knowledge about gaming and simulations comes in four main vehicles: through organizations, through magazines, through books, and through games and simulations. A proper balance of all four sources is needed to obtain a balanced view of the Gaming Community.

The illustration on the previous page diagrams in a simple fashion the basic thesis of this article: That the members, individual and coperate, of the Gaming Community have, in recent years and especially in 1973, concerned themselves too much with "empire building" (top diagram showing various gaming centers with expanding interests inevitably colliding) rather than working to develop their interests in depth (bottom diagram showing various gaming centers with expanding interests in a non-competitive manner). Note we said too much. The question is one of degrees. It may be that the first pattern of growth is the only realistic one. Is the second pattern even achievable, if it is desirable? We do not know. We do know that only we can make the choice to change from the one path to the other. Whether we should is a decision each one of us must make for ourself.

We have increased our numbers, magazine circulations, organizational memberships, and game sales are proof of that. We have increased our areas of interest, new organizations, new manufacturers, and new game subjects prove that. But I suggest the price has been too high.

We have lost our comraderie, our "human face."

We are more concerned with winning than having fun.

Many of our gains have been at the price of boring us.

Instead of directing events we are directed by them.

All the cliches we never thought would apply to us---do.

The Pattern Makers

Still, there is hope. In the Gaming Community there is a vast reservoir of independent talent and initiative. A small portion of it is described below. These are the groups which, by their actions, or inactions, determine the paths gaming and simulations follow.

DIPLOMACY

1973 was not a banner year for either numbers of postal Diplomacy games begun nor publication of new magazines although in the three remaining months of the year no doubt more games will start and more magazines will begin publishing. The two major events of 1973 or, if you will major developments, were the expansion of the International Diplomacy Association within the United States and Canada as a means of bringing permanence and legitimacy to the hobby, and the continuing spread of Diplomacy in Europe, especially in the United Kingdom. (See Vol. VI, No. 2, April, 1973)

Diplomacy has often been a trend setter in gaming and simulations and 1973 was no exception. There were more players, but the quality of them tended to be lower than previous years. There were more magazines, but the quality of them tended to be, if not inferior than duller certainly. Still, organization and regimentation seemed to be the order of the day and this will, in the long run, bring some badly needed stability to the hobby.

For more information on postal Diplomacy (which is based on Games Research Inc., 500 Harrison Ave., Boston, Mass. game, Diplomacy as designed by Allan Calhamer) contact any of the following. Enclose a large, stamped, self-addressed envelope with your inquiry.

Conrad von Metzke, Box 8342, San Diego, Ca. 92102, publisher of Costaguana, one of the few truly unique postal Diplomacy magazines. Von Metzke is the official records keeper for the postal hobby and has been active in it for some ten years.

Walt Buchanan, R.R. 3, Lebanon, Indiana, 46052, publisher of Hoosier Archives, the largest circulating postal Diplomacy magazine and a center of information on the hobby. Buchanan has the largest collection of Diplomacy

materials in the world. He is also Vice-President and Treasurer of the International Diplomacy Association.

John Boyer, 117 Garland Dr., Carlisle, Pa. 17013, publisher of the very respected Impassable, as well as Editor of the official IDA journal, Diplomacy Review. Boyer also handled the publishing of the IDA Player's Handbook, a useful source of information to novice players.

Membership in the IDA, reccommended, is $2.00 to Buchanan, and the Handbook is $1.00 to members from Boyer.

Burt Labelle, #23 Forest Park, Biddeford, Maine, 04005, publisher of Pellicudar is one of the few publishers who manages to instill some "personality" into his work.

AVALON HILL

Avalon Hill has, for some ten years, been the mainstay of amateur gaming, especially in the wargaming field. They have published a whole series of games over the years and built up a large following. This year's high-lights were the improved The General, their official publication cum advertising medium, and the addition of one new game, Business Strategy to their line this Fall, and the re-issue of the perennial favorite Tactics II. A Catalogue of Avalon Hill publications is included in this mailing.

SIMULATIONS PUBLICATIONS INC.

SPI are the publishers of Strategy and Tactics as well as a whole series of wargames for the young adult and adult group. Their heavy advertising nationally has boosted their circulation and sales to near the million dollar mark. Other groups have been benefiting from this advertising and no doubt it is one of the primary factors in the growth of this part of the field. Long a mail order operation SPI is now moving to challenge Avalon Hill's domination of the retail outlet market. The results should be interesting. SPI is discussed very intensively in the last issue of XENOGOGIC. (See Vol. VI, No. 3, July, 1973)

AND ALL THE REST

Diplomacy, because of its quality, Avalon, for its national coverage through retailers, and SPI, for their publicity campaign and mail order operations, are the most important elements in amateur gaming. However, the size, and quality of the pack has improved in the past year. Among important new groups are:

Simulations Design Corporation

SDC was also described in the last issue at some length and a flyer on their publication, Conflict, is enclosed. SDC has great potential as a gaming operation if they can avoid the pitfalls that have trapped so many others. Only time will tell regarding that.

Lowry Enterprises

Don Lowry is the key to this operation which was also discussed in the last issue. Publisher of Panzerfaust, a quality gaming magazine, and the new Conflict, a military history magazine, as well as a line of games, Lowry has managed to accomplish a great deal as a one man effort. A Catalogue of Lowry Enterprises is enclosed.

Both SDC and particularly Lowry Enterprises have been around for some time. Five issues of Conflict have appeared and Panzerfaust is nearing its sixty issue mark. Two new groups are GAMMA II and Game Designers Workshop, both potential strong contributors to the field.

Gamma II

Gamma II is a Canadian operation, based in Vancouver, that uses the traditional mapboard, along with wooden pieces in the Stratego or Diplomacy mode, to create games dealing with historical situations: Quebec 1759, the Montcalm-Wolfe confrontation, and 1812, the Second American Revolutionary War. Quality is high and the games appear to be very popular and a nice change from the Avalon Hill-SPI patterns.

Game Designers Workshop

The products of GDW will only appeal to some 10% of amateur gamers although in time that figure will rise. They should also prove very popular with historical buffs and serious gaming students. Flyers on their first efforts, Drang Nach Osten! and Unentschieden! are included. We have had an opportunity to examine, although not to play-test as yet, DNO. We intend to do so and include a full review of it in the next issue. But, unless appearances are deceiving this will be the game of 1973. A warm fire on a winter evening, a bottle of Rhine wine, a copy of Panzer Leader, a copy of DNO, and a congenial partner; this is a wargamer's heaven or, at least, Valhalla. In addition to the World War II series GDW has marketed a space war game, Triplanetary. Given time, and experience, the GDW may become amateur wargaming's Rolls-Royce.

AND WHEN YOU DECIDE TO BUY

For those unable to buy their games through a discount
retailer for any reason or for those wishing to expand their
opportunities to purchase different types of games a new
organization in Baltimore offers a mail order discount gaming
service. The Wonderful World of Games, Inc., Drawer E,
Odenton, Md. 21113, offers a lifetime membership for $5.00,
which includes their Catalogue which includes 9 pages listing
various types of games available from them, often at substantial
discounts. WWG seems to offer just about everything to everybody.
And, frankly, if their service is as good as what they are
offering you can hardly go wrong. At least investigate it.
See the ad in this issue for more details.

FOR THE COMPETITIVE MINDED

Many gaming students, amateur and serious, do not like
to play by themselves. They seek opponents or partners,
as the case, and need, may be. Most of the larger groups,
IDA, Avalon Hill, SPI, etc. can reccommend where and how to
find playing partners. Another good source for those seeking
a professional approach to gaming is Spartans International,
an amateur wargaming group devoted to tournament play. They
publish two interesting journals: Spartan and Gamers Guide.
For more information write Gamers Guide, Bx. 5076, Long Beach,
Calif. 90805.

ON THE SERIOUS SIDE

In discussing DNO above I mentioned it would only appeal
to about 10% of all amateur gamers. The same thing is true
of what follows. Hopefully, however, it will appeal to a
far higher percentage of the readers of this article.

The serious side of gaming and simulations consists of
those individuals who work in the field professionally, who
are serious students of gaming studies or who are interested
in the more advanced forms of gaming. This is a small group,
so far, but it is an important one and a growing one.

For them we have some reccommended materials also.

BOOKS

The two major publishing efforts during the past year,
if we stretch the year a bit, were Alfred Hausrath's
Venture Simulation in War, Business and Politics, a RAC-
oriented history of gaming which is reviewed in Vol. VI,
No 2, April, 1973. In addition the RAND study for the ARPA
commissioned study on gaming discussed in the RAND article

in this issue is well worth reading. All three volumes
are an invaluable source of information on gaming and its
products.

EDUCATION

As far as we are concerned there are three major centers
of gaming studies in the United States: Massachusetts Institute
of Technology, Northwestern University, and the University of
California at Santa Barbara. An article by Dr. Lincoln P.
Bloomfield in this issue discusses the M.I.T. work. Articles
to be published next year will discuss the Northwestern University
and University of California at Santa Barbara experiences.

At lower levels, in high schools and junior high schools,
games and simulations are also used, as the INTERACT Folio
and McGuire articles illustrate.

SERIOUS GAMES AND SIMULATIONS

The best source of serious games and simulations remains,
for the moment, the Institute which publishes this magazine.
The Institute is currently publishing a whole series of games
and simulations based on the finest experiences available to
date. Systems Analysis Gaming Agency, Office of the Joint
Chiefs of Staff; Industrial College of the Armed Forces;
United States Navy; and many others are contributing to this
series.

A Final Thought

In the Introduction it was suggested that the Gaming
Community was expanding too rapidly in a direction that
would only lead to conflict and disorder. We also suggested
that while the Gaming Community was growing in numbers and
quality it was paying too high a price for that growth. The
cost was chiefly an intangible one but a vital one nevertheless.
It concerns, simply, the spirit. Gaming has lost its spirit.
In an enlightening article in Panzerfaust No. 59 a number
of prominent gaming representatives discuss "The Future of
Wargaming." In their own words they confirm what We suggest.

They have their proposed solutions to this problem,
if it is a problem. We have ours. Ours is simple; The
Gaming Community should do less, should do it better, and
should do it with gusto!

Numbers have their place. Quality should never be
sacrificed. But, above all, the spirit must be there for
there to be real life and real growth.

BOOK REVIEWS

*****The Science of War and Peace
      Robin Clarke (New York: McGraw-Hill Book Co., 1972)
      335 pp., $10.00

Those of you who have seen Lord Kenneth Clark's BBC
television series, Civilisation, or read the book by the
same name, may find The Science of War and Peace to be the
antithesis of Lord Clark's book. Civilisation is the
chronicle of man's creative genius through the ages, on the
whole a positive accomplishment showing man's ability to
add to his surroundings and improve himself. The Science of
War and Peace is the chronicle of man's current creative
genius as demonstrated in his ability to perfect new and
always more terrible weapons for wars of the future.

Following in the tradition of Merchants of Death and
Thinking About the Unthinkable, The Science of War and Peace
is fully worth a "Five Star Rating;" for not only its own
worth buy for the reaction it will evoke in the mind of
its reader. That reaction will be violent---pro or con---
because no one can read Science of War and Peace and remain
unaffected. Some will praise it, some will damn it; but
they will think about it.

The author, Robin Clarke, has been editor of the British
scientific magazines Discovery and Science Journal, as well
as BBC broadcaster on Scientific Discovery. He is also the
author of The Silent Weapons, published in 1968.

Before judging Clarke's book accurately one is obligated
to read his sources. When attempting to do so one is immediately
impressed by the fact that Clarke has gone to the professional
journals, not the popular magazines, to document his claims.
He has taken these sources, and his own specialized knowledge,
and woven them into a series of most interesting chapters:
Introduction: The War Explosion; The Nuclear Future; Missiles
and the Moon; Military Control of the Oceans; The Environment
Wreckers; Science in the Warfare State; The Psychology of
Aggression; the Natural History of War; The Science of
Conflict; Revolution and Change; Epilogue: The Technology
Explosion.

As for his purpose, let Mr. Clarke speak for himself:
"What is the life expectancy of the human race? Robin Clarke
has taken a frighteningly objective and well-documented look
at this question. His conclusions may seem more nightmarish
than science fiction, but they are based on incontrovertible
facts and figures. The human race has now accumulated
sufficient nuclear explosives to destroy itself 50,000 times
over. Since the frequency of war has been increasing
constantly throughout history, this "War Explosion Curve"
suggests that 400 million people will be killed in during
this half of the twentieth century; 4,000 million in the
following half century; and that the experiment of human

evolution will come to an end shortly after that. The various ways this catastrophe may come about are outlined in this book: deliberate nuclear war---which is seen as unlikely; miscalculation, either human or mechanical; the potential madness of national leaders in the quest for power; and nuclear or chemical accidents, such as the one in which thousands of sheep were killed by gas in Utah. As man arms himself, he also may succeed in totally polluting the atmosphere, bringing about cataclysmic earthquakes, and killing off all life in the oceans---for the military are the most efficient and ruthless wreckers of the environment.

"In the period since Hiroshima, science and war have become very close. Neither can now exist without the other and neither can see where the other is leading it. Eighty percent of the world's scientists are working for the military. The majority of research---even so-called pure research--- is underwritten by the military. It has now reached the point where it is science and industry that initiate weapons systems. As these various systems proliferate, are tested or even put into practice, the probability of environmental catastrophe increases.

"The natural question that arises is what is being done to avert catastrophe. And Clarke, in the second half of this book, examines the work of the biologists, psychologists, peace researchers, and young scientific radicals who are attempting to produce for us a software of peace.

"To avoid the destruction of man, the entire direction of scientific research must be changed, and even then, Mr. Clarke feels that our hope for total disarmament is impossible because of the suspicion that exists among armed nations. He pessimistically concludes that the best way we can hope for is not total elimination of war, but rather the prevention of massive disaster and the death of the human race.

"For all concerned with the future of man, this book is required reading."

Clarke's thesis can be summarized best in his own words:

"...we have seen how the invention of the bomb led to a new way of life for our scientists and technologists. It took them first into space and then into the oceans in the search for greater security against the invention of their own making. We have seen, too, something of the perils that lie ahead in the shape of military technology that wait to be invented---technologies that are forcing the pace of unwanted discovery and application, technologies that fly in the face of our current concern with preserving the natural environment against the ravages of economic growth and earthly rape on which our advanced societies depend. We have looked at the implications of all this for the 'warfare states' in which we live. We have seen how technology has become warfare by other means, how the arms race has degenerated into a laboratory race against the unknown rather than an armaments race against foreign powers.

/88/

"Within all this lies a familiar message that daily becomes more relevant: science and technology are immensely powerful instruments of cultural evolution. Our laboratories contain the seeds of social revolutions so overwhelming that, when they begin to sprout, we find ourselves quickly dwarfed by our own inventions. After twenty-five years of the technical arms race only now are we beginning to understand that it promises not to lessen the impact of the age-old problem of war but rather to seal conflict into our society as a universal way of life that promises a universal way of death."

Two portions of Clarke's book especially interested me; his comments on military oceanographic research and his comments on "peace gaming." San Diego is a center of both activities and as best I was able to determine his facts are correct, although his interpretations may be open to challenge.

If Robin Clarke's The Science of War and Peace is the antithesis of Lord Clark's Civilisation, then our second book for review is the antithesis of Robin Clarke's book.

***The Strategy of Technology, Winning the Decisive War
Stefan T. Possony and J. E. Pournelle
(Cambridge, Mass.: University Press, 1970)
189 pp., $7.50.

The Strategy of Technology represents the views of our "hawks" on the same materials and subjects that Clarke covers. Stefan T. Possony, now at the Hoover Institution on War, Revolution, and Peace at Stanford University, is one of the group that has long been the chief spokesman for, and defenders of, the American Warfare State. Others in this group include Robert Straus-Hupe, whose Protracted Conflict is the Bible of American hawks, and William R. Kinter, the co-author of a book reviewed below. The co-author of The Strategy of Technology is a well-known figure in wargaming publications and needs no introduction.

This book is, I think, an attempt to add a scientific dignity to what is, in reality, a "gut issue." Questions of war, and peace, are, more often than we care to admit, value judgments, gut reactions, and other non-scientific assessments of different problems and possible solutions. Maxwell Taylor writes the Uncertain Trumpet, and Curtis LeMay rattles SAC's bombers and missiles. The attempt is impressive, until one really begins to look at what the authors are saying. They have superimposed the Principles of War on the Technique of Systems Analysis and, voila, created the Strategy of Technology. The structure looks sound but when broken down into its component parts and its examples are examined carefully the structure does not appear so solid.

A good example of this is the section entitled: "Systems Analysis and Military Decisions: The TFX," which to the layman may appear reasonable. However, anyone who has read the serious literature on the TFX would be aware of the fact that Possony and Pournelle have over-simplified the situation to make it fit their own scheme. If this book has one fault it is one that it shares with most books dealing with these types of matters: An over-emphasis on one single aspect, theory, idea, or force which becomes so central, so important, etc. to the subject that an artificial balance is created; the real relationship between the affecting force and the affected object is obscured.

Still, the Possony and Pournelle book is worth reading; although probably more to those who would disagree with it than to those who already accept its principles.

The thesis, as stated by the authors, is: "As a consideration of technology in the totality and as a foremost national and international security task, this book is the first of its kind in emphasizing that American objectives, including the prevention of war and catastrophe, can be achieved only if America optimizes technology to fit its purpose. The authors compare the technological strategy of the U.S.S.R. with that of the United States and highlight the strengths and weaknesses of both approaches, investigating with special care such key problems as technological breakthroughs and technological races, strategic and tactical nuclear weapons, surprise attack and arms control."

*****The Nuclear Revolution in Soviet Military Affairs
    Translated and Edited, with Introduction and Commentary, by
    William R. Kinter and Harriet Fast Scott
    (Norman, Okla.: University of Oklahoma Press, 1967)
    420 pp., $6.95

Every so often someone publishes a book about Soviet military affairs and, rarely, sometimes someone publishes a book about Soviet military doctrine. Anyone who read Military Strategy: Soviet Doctrine and Concepts as edited by Marshal V.D. Sokolovsky and published in two editions in this country, has probably read the Kinter book which is a successful and complimentary follow-up to the Soviet original. Although now five years old the Kinter work is, still, timely and interesting; especially in light of the continued and deepening feud between the Soviet Union and Peoples' Republic of China.

The editors are William Kinter, deputy director, Foreign Policy Research Institute, University of Pennsylvania, a graduate of West Point with a Ph.D. from Georgetown University. Harriet Fast Scott did the bulk of the translating.

"While the Russians exhibit an almost pathological concern for secrecy about their nuclear weapons, their plans for using those weapons have been published, though little translated and virtually ignored by the English-speaking world. Avoiding "propaganda and disinformation" sources,

the authors have collected from publications written by
and for Soviet military leaders the most significant
material published on doctrine and strategy since the Cuban
Missile Crisis of 1962.

"Those selected reveal the Soviet preoccupation with
nuclear weapons and their impact on politics and warfare---
a preoccupation that makes sense only in terms of the plans
and goal of the revolution in Soviet military affairs. Soviet
theoreticians have divided the military revolution into
three phases. The first phase, creation of the nuclear weapon,
and the second phase, development of the weapon-carrying
missile, are now accomplished facts. The third phase,
sometimes refered to as the cybernetics revolution and still
under way, provides for perfection of a guidance and control
system. There is reason to believe that the Russians are
coming increasingly close to reaching their goal.

"The Soviet orientation to an all-out nuclear program
and commitment to strategic superiority have already provoked
a crisis of strategy in the United States, and one that
will become more obvious in the next several years. "While
there is still time," say the authors, "let us ponder the
meaning of the revolution in Soviet military affairs."

The grim reality facing Soviet leaders is obvious in
the book. In the firsthalf, in a chronological order, the
emphasis is on the United States as the potential enemy.
In the second half the emphasis is on the Peoples' Republic
of China as the primary potential threat to Soviet security.
And, in the last five years, there is no indication that the
Soviets have shifted their priorities.

****Heirs Apparent, What Happens When Mao Dies?
    By Ching Ping and Dennis Bloodworth
    (New York: Farrar, Straus and Giroux, 1973)
    236 pp., $7.95

During August the Chinese Communist Party held its 10th
national Congress in Peking. The Congress agreed to a new
Party Constitution which, among other things, purges "forever"
Lin Piao, former Defense Minister and Mao's "close comrade-in-
arms and successor,"; endorses the Mao-Chou line in domestic
and foreign policy, a victory for moderates. Both the Soviet
Union and the United States were roundly denounced, along
with imperialism, modern revisionism, and all reaction.

A useful aid in understanding recent events in China is
the Ping-Bloodworth book, Heirs Apparent. Ching Ping Bloodworth---
teacher, journalist, radio commentator, and writer---has
brought to this book the inner knowledge and sources
accumulated as a Chinese who has maintained close contact
with the mainland. Dennis Bloodworth has been a Far East
correspondent of the London Observer since 1954.

"The object of this book is to examine, through Chinese
eyes and in Chinese terms, the often confusing and enigmatic

Chinese political situation in order to discover who will
probably control the destinies of a quarter of humanity in
the coming years. Heirs Apparent is not another history of
Chinese Communism, of the Long March, or of the Cultural
Revolution, although the introductory first chapter summarizes
these events. It is a study of the though and powerful
leaders---almost unknown in the West---who stand to inherit
this colossal totalitarian state, not only in terms of
their positions on the political chessboard, but as three-
dimensional, flesh-and-blood beings whose ambitions and
loyalties and rivalries can only be understood against the
setting of the Chinese social idiom."

Heirs Apparent includes extensive appendices and notes,
pertinent charts and tables, a map of China's provinces
and military regions, a chronology of events, and a detailed
list of published sources.

Heirs Apparent is another demonstration of the ability
of journalists to write scholarly works on difficult subjects.
Those familiar with the work of Robert S. Elegant, the
Los Angeles Times Far East correspondent, on the Cultural
Revolution, or of Eric Bourne, the Christian Science Monitor
correspondent in Eastern Europe, will appreciate the Ping-
Bloodworth effort.

Informative and well-written, Heirs Apparent is worth
reading.

*****The Return of Lanny Budd
By Upton Sinclair
(Philadelphia, Pa.: Curtis Brooks, 1973 ed.)

During 1973 Curtis Books will reprint, in paperback form,
the famous series of Lanny Budd stories which were originally
written by Upton Sinclair during the 1930s and 1940s. We
mention this fact for those of you who, being under 40, may
have missed the original editions. These inexpensive paperbacks
are a very good way to introduce yourself to what are, I
believe, the best series of mystery cum spy stories ever
written. James Bond, Perry Mason, et al. owe everything to
Lanny Budd. There are 11 books in the series, and most run
over 500 pages, so they will take some work to finish. But,
this colorful semi-fictious history of the period from 1913
to 1949 is worth the effort. If you liked the Hornblower
stories than you'll like the Budd stories. Here are some
typical reviews: "When people ask me what has happened in my
long lifetime, I do not refer them to the newspaper files and
to the authorities, but to your novels." (George Bernard Shaw),
"A great and well-balanced design...I think it the completest
and most faithful portrait of that period that has been done
or is likely to be done." (H.G. Wells).

TOWARD 2001

This issue of XENOGOGIC had three primary purposes:

1) To give a report on the GSDGSC and IDS activities
   for the year,

2) To discuss the role of games and simulations in
   the educational field, and

3) to present an over-view of the year in gaming.

We believe all three purposes were fulfilled.

Because of the nature of the subject matter, restrictions
imposed by time, space, and finances, we have decided to
delay presenting two of our most distinguished contributors'
remarks, those of Secretary of State Henry Kissinger and
those of former Senator Margaret Chase Smith, now Distinguished
Visiting Professor for the Woodrow Wilson Foundation.

Instead, those remarks, along with others from the director
of the Hudson Institute, Herman Kahn, will be contained in
the January 1974 issue which will deal with some future
oriented material. Hence the title, Toward 2001.

It is a simple fact, although we tend to forget it, that
for us, those between 18 and 30, the year 2001 will be our
primary period of influence, power, and responsibility.

Hadn't we better start planning ahead?

Militarily, economically, politically, socially, we'll be
taking a peek behind the veil of time.

JOIN US

XENOGOGIC

Index For Vol. VI

1973

WWG Inc. offers gaming students a simple way to
fulfill their gaming needs at a reasonable cost without
long delays for mail orders from gaming manufacturers.

A lifetime membership in the WWG costs $5.00 and
includes the annual Master Catalogue, a nine page list
of games available from more than a score of gaming
manufacturers, a supplementary catalogue listing late
additions to the Master Catalogue, The Game Board, the
monthly publication with the latest offerings.

There are also possibilities for additional discounts
by recruiting new members for WWG.

WWG prices usually run about 20% below retail prices
or discount prices. Sometimes even lower.

Among new WWG offerings are the products of:
SPI, Gamma II, Conflict Games, Dynamic Design, Skarney
Games and Urban Systems; more than 100 games.

A special offer is Quebec 1759 and 1812 from Gamma II.
Regular retail price is $10.00 each. WWG price is $7.95,
and both for $14.95 until 30 October.

*****

We, the Institute, are currently negotiating with
WWG for rights to distribute our products on a mail order
basis. If successful this will make our publications
available to many more people, and at a substantial discount.

WWG is a corporation, the first step to permanency
and legitimacy for a group of this type. We are pleased by
that.

We wish WWG well and believe that it can provide a
valuable service to the Gaming Community.

GAME DESIGNERS WORKSHOP

Box 582
Bloomington, Illinois
61701

DRANG NACH OSTEN!

The first comprehensive division level game of the German
invasion of Soviet Russia.

DNO is "Fall Barbarossa" in simulation game form, on a 16-mile-
per-hex grid scale. The German Blitzkrieg against the Red Army
is presented for complete recreation including:

* 1,600 die-cut and mounted counters, and you use them all!!
* 6 21" x 27" maps, Poland to Stalingrad, the Crimea to
  Leningrad and Finland.
* Air rules developed specifically for a game of this scope
  and allowing for unprecedented realism.
* .... A new concept recognizing their strengths
  and weaknesses as the infantry of modern warfare.
* Specialized rules for the Finnish Front. Coupled with the
  Finland maps, there's a whole game right here.
* Russian Guard units, NKVD units, a complete Far Eastern
  Red Army, Rumanian, Hungarian, SS units, etc.
* .... Four climate zones stretch across European
  Russia, bringing mud and snow at just the wrong moment.

With the Autumn of "Fall Barbarossa" Hitler commanded the
Wehrmacht to DRANG NACH OSTEN! (Strike Eastward)...And crush the
Red Army in a lightning campaign. DNO simulates this campaign
and the period of Blitz war from June 1941 to March 1942.
Available by mail for $13.75 plus $.75 postage. Illinois residents
add 5% sales tax.

UNENTSCHIEDEN (Deadlock) is the completion of the war in the
East. Mated to DNO however, UNENTSCHIEDEN continues the Russian
Front through the German struggle for strategic supremacy in
the steppes 1943-1944. 1,600 die-cut counters and maps mated to
DNO allow completion of the war in the explusion of the Wehrmacht
from Russia, or, or the final German solution to the Communist
problem. $10.45 plus $1.00 postage, plus 5% sales tax if
applicable.