ALTERNATIVE FUTURES: CONTEXTS IN WHICH SOCIAL INDICATORS MUST WORK

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"Social indicators," "social reports," and "social accounts" are three terms which are increasingly used to describe a comprehensive but empirical approach for describing, understanding, and managing society.[1] The road ahead for the rapid development and early widespread use of these tools does not appear to be an easy one. They are being proposed at a time when there is an increasing distrust of excessively rationalistic macro-policy management methods.[2] Also, there seems to be a real possibility that they are being oversold with exaggerated claims made as to their utility.[3] And finally, there are a host of politically related value problems which are attendant upon their use which have no presently viable way to be resolved.[4]

One thing seems clear however. Although these tools may never become useful for such far-reaching purposes as the development of a master social accounting scheme (with a balance sheet for comprehensive national, social, and economic accounting), they may well prove useful for more limited purposes such as an improved descriptive reporting and conventional understanding of society. Either way, any set of social indicators which are devised today and used as a bases for present social policy decisions for future decades, must be designed with that future in mind. Since social indicators are specifically intended to provide "bench marks" of various qualitative aspects of society that may be compared over time, they must be of sufficient range and diversity to include the spectrum of circumstances which seem of highest plausibility in the future. Thus, social indicators need to be designed in terms of what tomorrow may bring, and not be limited to what today has already brought.

The purpose of this paper is to briefly describe how projections of the future can usefully be made, to present a synopsis of a selected set of alternative future histories for the United States, and to illustrate their relevance to the design and use of social indicators. Understanding of the method, however, is not essential for appreciation of the results.

Precis of the Methods Used to Project Alternative Futures

We seek to describe alternative futures because it is impossible to predict a single most probable course of future evolution for the world, the nation, or for any significant aspect therein. However, even brief reflection reveals that the number of different but plausible future histories that can be written exceeds the number that can usefully be used. Therefore, we construct a "planning cone" which contains a reduced set of alternative lines of societal development which we hope will "bracket" the one future that comes to pass. This reduced set of future histories is made up of those future possibilities which (1) seem most plausible, (2) differ significantly from each other, and (3) have important characteristics with respect to policy analysis and planning.

Each projected alternative must be schematically commensurate with what actually will emerge. That is, each must be (insofar as imagination and analytical skill can manage) an internally consistent whole; each must merge aspirations and the more mundane considerations of feasibility; each must evolve partly because of purposive efforts and partly because of forces beyond the reach of conscious desires.

Two different, but complementary types of analysis are followed to realize the above constraints. One is quite formal and methodical, the second somewhat more holistic and intuitive. The first and more methodical type of analysis is based on a newly developed approach called Field Anomaly Relaxation.[5] It employs a "morphological" expansion of basic societal descriptors in ways that use the principles of relaxation often used in the modeling of complex dynamic systems as in thermodynamics. The procedures constitute a method for qualitative analysis of complex fields of partly or wholly non-quantifiable information. They allow one to describe both the state and the dynamics of a complex society in initially simple and imprecise terms. Then, the method is recycled to eliminate internal inconsistencies and errors in approximation as well as to add new constructs and new input data. Thus, the analyst continuously applies his "common sense" as well as relevant theoretical and empirical data--with the confidence that through such recycling, serious faults will gradually be corrected.

The first step of the initial development of the method involved choosing a set of six sectors as a minimal descriptive framework for the United States (see the outer ring of the "map" in Figure 1). Each of these six sectors were then elaborated with five or six alternative states for each (shown in Table 1), thus covering the likely range of variation.

In the first re-cycling of the method, which is now being completed, the first six sectors were somewhat revised, while the six inner sectors shown in Figure 1 (and the roster of factor "states" shown in Table 2) were added to more adequately model society.

If full alternation of all combinations (one factor in each of the 12 sectors) were undertaken, it would lead to more than a billion possible descriptions of society. To bring it within realistic constraints, this number was reduced first by identifying sets of factors which were internally self-consistent. (For example, "economic depression" is not consistent with "rapidly expanding technology" and hence could not co-exist in a plausible societal configuration). This process limited the number to several hundred patterns from each of the two types of sectors. The two sets were then merged, and the

number of societal configurations reduced still further to less than 50 by including only those which might conceivably occur through specifiable and plausible scenarios.

In the second and more informal type of analysis the constraining limitations of present-time realities were added, reducing the number of plausible configurations still further. The approach used here is hard to describe because it partakes of the methods used in intelligence work as well as those of conventional social science. Suffice to say that competing views regarding events and trends of the recent past and present are examined, and compared with both long-standing national goals and the more short-term desires and expectations of various stakeholders in society. Thus this task involves continued monitoring of contemporary events and literature, as well as contact with persons who hold divergent viewpoints concerning society. It often involves examination of social issues from the standpoint of the various basic value premises and "organizing images" which are prevalent, and earlier involved a major research effort devoted to analysis of forces which might lead to discontinuous or revolutionary change in society.[6]

Both methods involve numerous judgments by the investigators as to what constitutes "plausible" sequences of states in society. Criticism of these judgments is possible, however, as the important steps in both underlying analyses and the resulting scenarios are explicitly stated.

Tentative Results

By use of these methods we have projected the "tree" of alternative future histories which is shown on Figures 2 and 3. The five main lines to the year 1985 and secondary branches represent a distillation of some 40 highly plausible histories, and are being used as a working "planning cone." Again, by planning cone is meant simply the bracketing set of alternative future histories that should be useful as societal contexts which can be assumed in long-range planning.

A "Tree" of Alternative Future Histories

The five main lines to the year 1985 and secondary branching lines shown in Figures 2 and 3 represent a distillation of some 40 highly plausible future histories, and are being used as the basis for a working "planning cone." While not clear from the shorthand labels, given to the various "year 2000" states they tend to differ in two especially significant dimensions. One dimension concerns the degree to which society is adept in the Faustian sense (i.e., both competent and motivated to attempt control of its own destiny). The other dimension relates to the degree of social "openness," or "civility"--both terms which imply flexibility, the social coherence which flows from trust, tolerance for diversity, and the ability to sustain decentralization decision-making without undue internal violence.

A "planning cone" type representation of the "year 2000" slice of the future tree, with the alternative states arrayed in these dimensions, is shown in Figure 4.

A World Macroproblem

Before giving a brief description for each of the five alternative primary future histories, it is useful to describe the central set of societal problems which have had to be considered throughout this research.

When we initiated our studies in early 1969, we accepted the essential plausibility of the relatively optimistic forecasts which dominated most of the "futurist" literature.[7] It was clear that there were societal problems which had to be solved, and many would need social as well as technological innovations, but there seemed to be no reason to believe that any given difficulties were in principle insurmountable by conventional means.

As our work progressed, however, we came to recognize that while most contemporary problems are interrelated, their import can more readily be grasped if they are viewed--not as individual problems--but as a network of social forces that have been brought about by a combination of proliferating knowledge, industrial development unmoderated by a larger sense of social responsibility, rising population levels (which in turn are a consequence of technology-produced mortality rate), and an expanding have-have not gap.

These forces are mutually exacerbating and systemic in nature and therefore are not likely to be "solved" by special programs aimed at one or more component parts. Also, they appear in all the plausible futures and hence will be encountered in one fashion or another.

With Peccei,[8] we have come to view the composite of these social forces as a world macroproblem. One aspect of this world macroproblem is the host of familiar problems of the ecosystem: ecological imbalances, fouling of the environment, resource depletion, overpopulation with consequent famine and plague.

A second is the area of technological threats; weapons of mass destruction; vulnerability of a complex society to sabotage or breakdown; misused capabilities to "engineer" the human body, mind, foetus, and genetic transmission; threats to privacy and individual rights; mental stress of complex living; etc.

A third is the persistent and increasing "have-have not" gap with the resulting internal and external dissension, intensified by the belief that the world agricultural-industrial system could easily produce enough of the necessities to meet the needs of all.

A fourth is the incipient crisis of specialization and rapid growth, in which increasing "bits" of knowledge are created, used, transmitted and stored without adequate "overall" perspectives with which to satisfactorily relate the pieces.

It further became apparent that the expectation that there would be a shift from industrial to post-industrial development[9] and that either technological or governmental

interventions would be adequate to ameliorate the world macro-problem was no longer very credible. One block to such a shift is the difficulty which Garrett Hardin has described as the "tragedy of the commons,"[10] in which collectively held resources (such as clean air, or low population density) are depleted by individual behaviors which, though personally profitable, are in the long-run self-defeating for society. Another major problem is that of rapid technological and cultural change which provides a sense of "future shock"[11] and makes conventional management techniques obsolescent.[12] A third problem is what Mendel has termed the "great refusal" of youth to go along with social institutions as presently operative.[13]

For a variety of reasons, technological solutions are impossible for a significant subset of the world macroproblem.[14] Political solutions, without pervasive changes in the underlying culture and political institutions, are similarly not feasible,[15] nor are increasing extensions of basic "golden rule" morality.[16]

From the perspectives of our various analyses as well as those of others, the various aspects of the world macroproblem have gradually appeared more as surface manifestations of a fundamental cultural condition rather than as difficulties which are open to conventional solutions. This was revealed when we looked for plausible alternative future histories, where desirable future histories appeared hard to come by and given the problems just mentioned, requires significant changes in operative values and cultural morality. It appeared again as we attempted to analyze the roots of our present problems and began to see that these problems of the commons were implicit in both the premises and successes of our present form of Western technological-industrial culture, awaiting only increased levels of population and technological application to become intolerable. It showed up again as we grappled with the significance of contemporary revolutionary forces and found that the crucial gap is not between generations,[17] nor between liberals and conservatives, but between those who anticipate a continuation of present trends, and those who insist that a drastic change is inevitable and possibly desirable.

In short, the results of these various analyses raise the question as to whether the operative values which have served to bring us to the present point of development in the "great ascent" (Heilbroner) of civilization will continue to serve well in dealing with the problems created by that development.

While the logic of this analysis has seemed persuasive to many analysts, it is not possible to empirically demonstrate either the present severity of what we have termed the "world macroproblem" or the degree to which our cultural premises are undergoing transition; nor is it possible to predict the outcome of these forces. The various alternative future histories which are projected as a minimum set for long-range planning therefore reflect a plausible range of variation for these realities as well as variation in the other types of societal descriptors listed on Figure 1. Similarly they reflect a variation in the degree of success that is assumed for remedial attempts, again a hedge to cover our inability to predict the outcome of major attempts at social change.

Of the many plausible alternative lines of future history for the United States, the following five have been selected to provide the widest and most balanced coverage of alternatives was possible, yet small enough to be useable for the majority of policy analytic uses. Of course these results must be considered tentative and preliminary given this stage of the research and the rapidly developing state of the art. Hence one should be hesitant about drawing hard and fast conclusions from either the "tree" or from the brief descriptions of the five primary scenarios given next unless adequate analysis accompanies such inferences. Nevertheless these materials are useful as a framework from which to derive useful implications for long-range plans.

Five Alternative Mid-Range Futures[18]

1. A "War" on Eco-System Imbalance. This scenario differs from the others in that a national effort (a "moral equivalent to war") is undertaken to re-establish an ecological balance and to re-distribute the flow of material wealth so as to eliminate extreme domestic poverty. This effort is undertaken during the 1970s and early 80s, and is pervasive, judicious, self-sacrificing, and ultimately relatively "victorious." While some easily seen calamity would trigger such a "war," both a national consensus supporting it and a favorable combination of education and leadership must also be assumed if characteristic American impulses toward one-shot solutions, bureaucratic competition and scapegoating (e.g., young hoodlums or private industry) are to be superceded by a continuing national effort which is supported by a wide consensus.

As ecological sensitivity in society increases, the "war" on eco-system imbalance comes to be seen, not as a "war" to be "won" but as a set of cultural lessons to be learned.

The outcome of this scenario is uncertain, but seems to include substantial changes in operative cultural premises, hence the title "new" society.

2. "Surprise-Free" High Growth. This relatively optimistic line of development seems to best describe the future imagined by most "futurists." If it turns out to closely resemble the actual future, the various elements which combine to form the "world macroproblem" will prove in retrospect to have been grossly exaggerated. Both the economic and political patterns during the next 15 years prove to be quite similar to those of preceding decades, except that the continued increasing rate of both technological and cultural change slows down due to limitations of retraining and of management. The current trends toward growth and urban problems continue although the more severe problems of pollution are brought under control. Except for an assumed re-emergence of the international cold-war (a plausible "binder" for an otherwise

marginally coherent future), this might be thought of as a "good-luck" version of scenario 4 below.

3. Imprudent Optimism, Leading to a Left-Centrist Recession and Bureaucratic Stultification. This scenario explores a sequence of events in which efforts which are too hurried, too many, and too fragmented are made through governmental channels to correct presently perceived environmental and social ills. Hence it can be thought of a "bad-luck" version of the first scenario in which the "war" was "victorious."

Although initially optimism regarding the domestic reforms is high, the remedial programs prove inept and the commitments to the numerous competing stakeholder groups turn out to have exceeded the national productivity. Although a number of very plausible lines of evolution flow from this beginning (some of which are reflected on Figure 2 and 3), this scenario follows a persistent pursuit of welfare policies under bureaucratic control, which "locks in" to a slow drift toward recession. Social dissatisfaction becomes more and more general as the level of capitalization decreases, with concern for stability and economic growth then taking precedence over the "world macroproblem," which continues to worsen, but the pattern is relatively stable as each individual sees retention of existing conditions a least disadvantageous choice in the short-run.

4. Excessive Reprivatization, Leading to a Right Centerist Recession and Garrison State. This alternative future exemplifies one of the kinds of recessional developments that might find its roots in present conditions, if the events of the early 1970s indicate clearly the inadequacy of bureaucratic intervention as a strategy to deal with social problems and control of the economy. Here extensive reprivatization is undertaken as a major reform movement. "Funding of the people" instead of centrally administered programs is followed, attempting to stimulate "individual" initiative and to obtain the flexibility and efficiency that the profit motive often provides. An initial optimism continues as long as most stakeholder groups have some chance of realizing their objectives. Gradually, however, recession threatens as the government fails to successfully tune the economy, and stakeholder coalitions pre-emtively try to "get theirs." Scape-goats are easier to blame than failures of the socio-economic system and progressively more severe forms of repression are brought against those who protest violently. The domestic "garrison state" is paralleled late in the century by an international one, as recession imposes politico-military disengagement and then economic isolationism and the North Atlantic Community finds itself in continual change from the inward seeping of politicized violence from the chaotic Third World.

5. Escalating Violence. The character of this alternative future flows from an escalation of present trends in the use of confrontation politics as a means of accomplishing pervasive societal reform and premature "nourishment" of sub-cultural differences. As the thrust and confidence throughout the society breaks down, societal authorities increasingly come to rely on force as a means of maintaining control, and power soon replaces consensual authority. The outcome of this line of development depends to a large extent on the type of authoritarian form that gains power. However, both the paralyzing effects of violent terrorism and the repressive inflexibility inherent in an authoritarian response make generally recessive trends seem most plausible. A Caesarist take-over (analagous to that of Hitler) would be one alternative, leading toward supernationalization and extremely Faustian domestic and foreign politics.

Implications for Social Indicator Development

Two implications of this work for the development of social indicators stand out in importance. One is substantive, the other methodological.

First--We do not yet know the severity of what we have termed the world macroproblem. Nor do we know which of the several alternative futures is most probable. Nevertheless, it appears highly plausible that the various aspects of the macroproblem are intrinsic in the basic operative premises of present industralized culture. If this is correct, they may in the short-term be ameliorated or postponed by appropriate technological advances but will in the long run get more intense as the problems associated with cultural change also rise. If the experience of the past is any guide, numerous "one-shot" programmatic solutions will be attempted--efforts that will surely aggravate the situation unless they stem from an adequate understanding of the larger situation. Systems of well-selected, well-designed, and well-executed social indicators can help provide that understanding but only if they are designed with the overall societal context in mind. Thus, it seems important that any comprehensive set of social indicators should reflect the status of what we have termed the "macroproblem" and should monitor changes in social values as well.

Second--It is no new insight that normative social indicators should be used with caution because what is "good" for society at one time may not be so good for society sometime else.[19] The alternative future histories provide a convenient way to illustrate the need for this precaution, and suggest a methodological corrective as well.

Figure 4 illustrates how the five primary alternatives differ along the dimension of openness or civility. Note that a future with an efficient authoritarian government would likely be very high in Faustian competence, but low in civility; that a successful war on ecosystem imbalance could be expected to produce a society which limited its Faustian propensities, but attained a relatively high degree of civility; and that the other three futures suffer in both dimensions.

To illustrate the import of these differences consider one component of the dimension of civility--that of tolerance for diversity or pluralism. Obviously, it is not in society's best interest to be highly tolerant of diversity

in times of social crisis such as war. In such an instance the avoidance of diversity would be sought, not the reverse. So it is with other values. A realistic priority of values must reflect the state of the system at the time and place they are to be operative, hence social indicators should not have a necessarily fixed direction of evaluative scoring. Consequently, if a system of normative social indicators are to be used to help guide the setting of national policy, their direction of evaluative scoring should not be fixed, but should have alternative directions specified in advance of use according to what embracing societal context was assumed. The five primary alternative future histories presented here may prove helpful in this regard.

By way of conclusion it seems worthwhile to assert that the way to a desirable future and avoidance of catastrophe will not be found exclusively through "top-down" control of such issues as population, technology, or "law and order." Control will be useful and acceptable only if it is in harmony with the basic cultural changes which seem to be taking place. If deeply help premises and values are to be re-examined and perhaps altered, it is to be expected that social goals, and hence some of the aims of social policy will also change. During the continuing transition, as with any adaptive organism, there will be "error signals" which document various discrepancies between the state of the present system and what is required. Social and policy scientists must help practicing politicians and the populace as well to see these discrepancies as necessary data for social management and not as evidence of failure (hence to be hidden from view). Social indicators, societal reporting and social accounting can help in this task, but only if they are sufficiently flexible and realistic that they adequately describe future possibilities as well as the present.

FOOTNOTES

1. R. A. Bauer (Ed.), Social Indicators (Cambridge: M.I.T. Press, 1966);

   B. M. Gross, and M. Springer "A New Orientation in American Government", (The Annals of the American Academy of Political and Social Science, 371 and 372,

   U. S. Department of Health, Education, and Welfare, Toward a Social Report. Washington, D.C.: U.S. Government Printing Office, 1969).

2. H. S. Rowan, "Some Futures of Operations Research" (Santa Monica, Calif.: Rand Corporation, Report No. P-4001, 1968); Aaron Wildavsky, "Rescuing Policy Analysis from PPBS," The Public Administration Review, (Vol. XXIX (2), 1969, 189-202).

3. E. B. Sheldon and H. E. Freeman "Notes on Social Indicators: Promises and Potential," Policy Sciences, (1, 1970, 97-111).

4. P. J. Henriot "Political Questions about Social Indicators, "Western Political Quarterly (23, 1970, 235-255).

5. The methodological details of this part of the analysis are reported in R. F. Rhyne, "Projecting Whole-Body Future Patterns--The Field Anamoly Relaxation (FAR) Method. (Santa Barbara, California: Johnson Research Associates; or Menlo Park, California: Educational Policy Research Center, Stanford Research Institute, 1971).

6. Reports which have resulted from analyses of this type include: W. W. Harman, "The Nature of our Changing Society: Implications for Schools," in P. K. Piele, et al (Eds.) Social and Technological Change: Implications for Education in Temporary Society (Eugene, Oregon: The Center for the Advanced Study of Educational Administration, University of Oregon, 1970, 1-67); W. W. Harman "The New Copernican Revolution," Journal of Humanistic Psychology (9 1969, 127-134). N. McEachron, and C. Persico, "Transitional Forces and Social Change in the U.S. 1950 - 1990" (Menlo Park, Calif.: Educational Policy Research Center, Stanford Research Institute, 1970).

7. See for example, H. Kahn and A. Wiener, The Year 2000: A Framework for Speculation on the Next Thirty-Three Years (New York: MacMillan, 1967); S. Chase, The Most Probable World (New York: Harper & Row, 1968); Also various issues of The Futurist.

8. A. Peccei, The Chasm Ahead (New York: Harper & Row, 1968).

9. Kahn and Weiner, op cit.

10. G. Hardin "The Tragedy of the Commons," In G. Hardin, (Ed.) Population, Evolution, and Birth Control (San Francisco: Freeman, 1964). (Also published in Science, 1968, 162, 243-1248).

11. A Toffler, Future Shock (New York: Random House, 1970)

12. W. G. Bennis and P. E. Stater, The Temporary Society (New York: Harper Colophon, 1969)

13. A.Mendel, "Robots and Rebels," The New Republic (Jan. 11, 1969). See also: T. Roszak, The Making of a Counter Culture (New York: Doubleday, 1969)

14. G. Hardin, op cit., Wiesner, J. and York, H. "National Security and the Nuclear Test-Ban" Scientific American, 211(4),(1964).

15. B. Crowe, "The Tragedy of the Commons Revisited," Science (3909) 1969, 166 (1103-1107); D. Michael "On the Social Psychology of Organizational Resistances to Long-Range Social Planning," (Ann Arbor, Michigan: Institute for Social Research, 1970); V. Ferkiss, Technological Man: The Myth and the Reality, (New York: Braziller, 1969).

16. G. Hardin, op cit.

17. S. Lipset, and E. Raab "The Non-Generation Gap," Commentary 50 (1970).

18. Scenarios describing these future histories, together with supporting materials are presented in a forthcoming report, "Alternate

Future Histories for the United States," which may be obtained by writing the author.

19. By normative social indicator is meant "A statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the condition of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction while other things remain equal, things have gotten better, or people are better off. Thus, statistics on the number of doctors or policemen could not be (normative) social indicators, whereas figures on health or crime rates could." (Department of Health, Education and Welfare, op cit, p. 97)

TABLE 1

FACTOR ROSTER: "EXTERNAL" SECTORS

U.S. Economics

E_1:	Prosperous, expanding-free enterprise
E_2:	Slow growth, stagnant-free enterprise
E_3:	Depression--start under free enterprise
E_4:	Prosperous, expanding--strong government control
E_5:	Unsuccessful government control
E_6:	A non-expanding, successful economy
E_7:	Communalism

U.S. Internal Politics

I_1:	Status quo
I_2:	Increased federal power
I_3:	Shift of power locus to state/local
I_4:	Single-party government
I_5:	Direct democracy, multi-party
I_6:	Cybernetic bureaucracy

Science & Technology

S_1:	Rapidly expanding technology
S_2:	Stasis; elite security
S_3:	Stasis; little advance, much application
S_4:	Active science; shift to behavioral science
S_5:	Active science/technology; anti-pollution focus

U.S. Demographic Patterns

D_1:	Status quo, 300 million by 2000
D_2:	Extreme urbanization
D_3:	Population dispersion, pastoral
D_4:	Like D_3, but technological and connective

World Population/Subsistence

H_1:	Optimistic, "Green Revolution" a success
H_2:	Like H_1, but technical failure of G. R.
H_3:	Like H_1, but G. R. negated by violence
H_4:	Reductions in help to developing nations
H_5:	Population Stabilization without G. R. success

U.S. Foreign Relations

F_1:	Status quo
F_2:	Only AID involvement in underdeveloped world
F_3:	Selective AID/Military involvement in underdeveloped world
F_4:	Isolation re underdeveloped world; involvement with developed nations
F_5:	General isolationism
F_6:	"Manifest Destiny"

TABLE 2

FACTOR ROSTER: "INTERNAL" SECTORS

P: Cultural Pluralism

- P_1: Uniformity
- P_2: Non-Plural Diversity
- P_3: Unified Pluralism
- P_4: Non-Hostile Pluralism
- P_5: Hostile Pluralism

V: Internal Violence

- V_1: Sporadic Crime
- V_2: Pervasive Apolitical Violence
- V_3: Visible, Low-Intensity Insurgency.
- V_4: Covertly Supported, Low-Intensity Insurgency
- V_5: Higher Intensity Insurgency
- V_6: Private Armies

A: Profiles of Personal Concerns ("A"ims)

- A_1: Anxiety, Individual Solution
- A_2: Anxiety, Collective
- A_3: USA 1965
- A_4: Achievement Orientation, Individual
- A_5: Achievement Orientation, Collectivity
- A_6: Apollonian Calm
- A_7: Person-Centered Unfolding

M: Personal Morality

- M_1: Punishment Oriented
- M_2: Opportunistic Pragmatism
- M_3: Approval Oriented
- M_4: Fixed Social Order Orientation
- M_5: Contractual Social Order Orientation
- M_6: Transpersonal Orientation

C: Cultural Transmission and Change (E = Enculturation, A = Acculturation)

- C_1: Uninhibited Change (E-,A+)
- C_2: Moderated Change (EO,A+)
- C_3: Neutral (EO,AO)
- C_4: Assimilated Change (E+,A+)
- C_5: Conventional (E+,AO)
- C_6: Tradition-Controlled (E+,A-)

O: Organizations and Institutions (P = Pervasiveness, C = Control external vs internal, S = Strength

- O_1: Strong Mandatory ($P_1C_1S_1$)
- O_2: Weak Mandatory Institutional Orientation ($P_1C_1S_2$)
- O_3: Strong Homeostatic Institutional Orientation ($P_1C_2S_1$)
- O_4: Weak Homeostatic Institution Orientation (Relaxed Norms) ($P_1C_2S_2$)
- O_5: Non-silent Minorities ($P_2C_2S_1$)
- O_6: "Laissez Faire" ($P_2C_2S_2$)

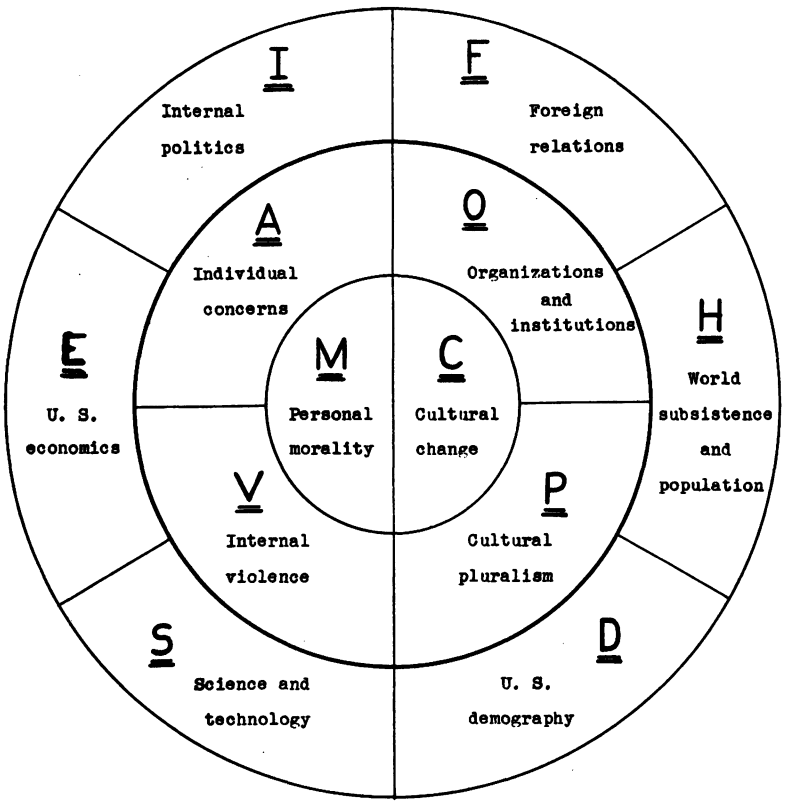

FIGURE 1. ASPECTS OF U.S. SOCIETY FOR GENERATING ALTERNATIVE FUTURE HISTORIES.

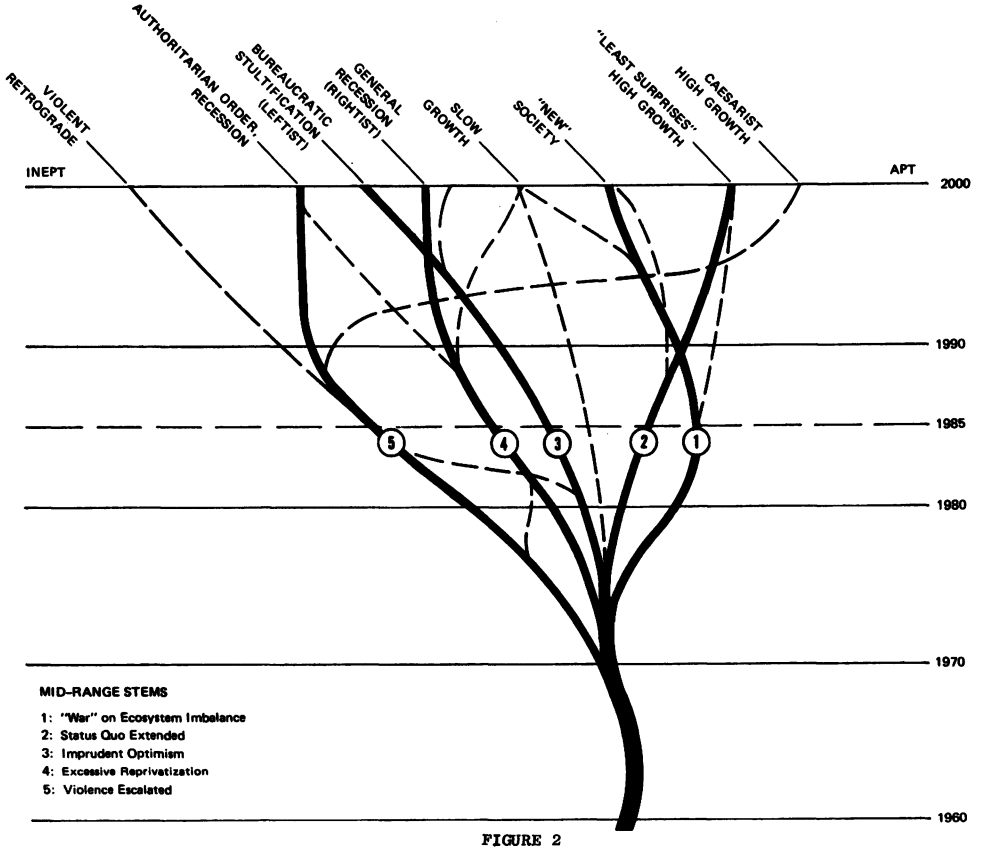

FIGURE 2

"Tree" of alternative futures
(Apt-Inept dimension)

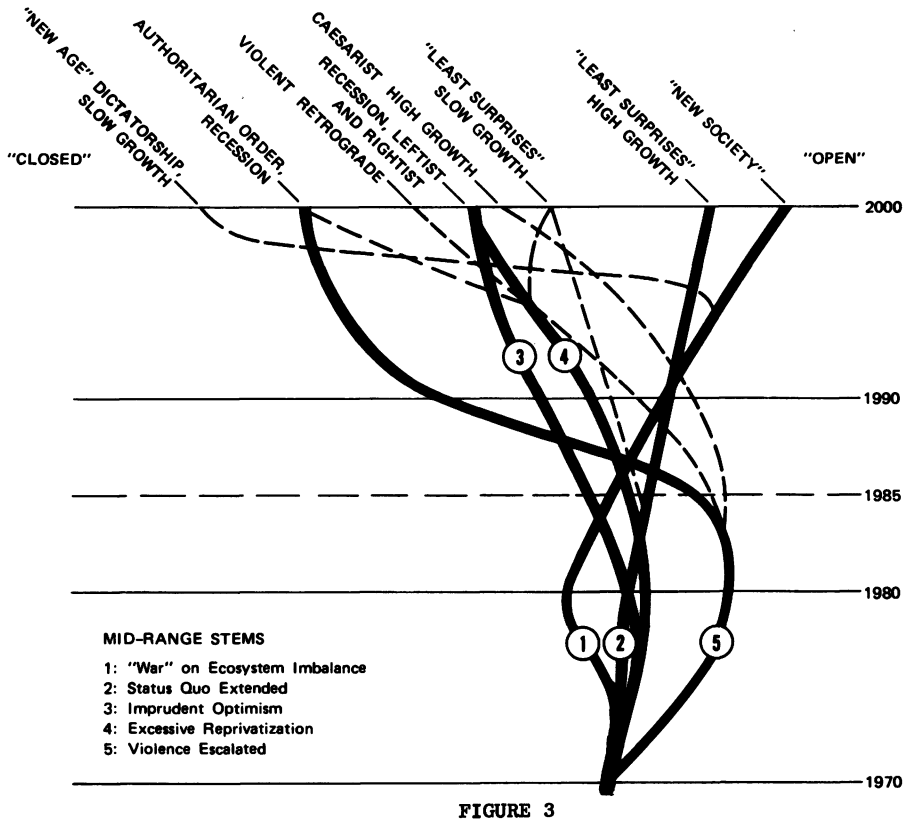

FIGURE 3

"Tree" of alternative futures
(Open-Closed dimension)

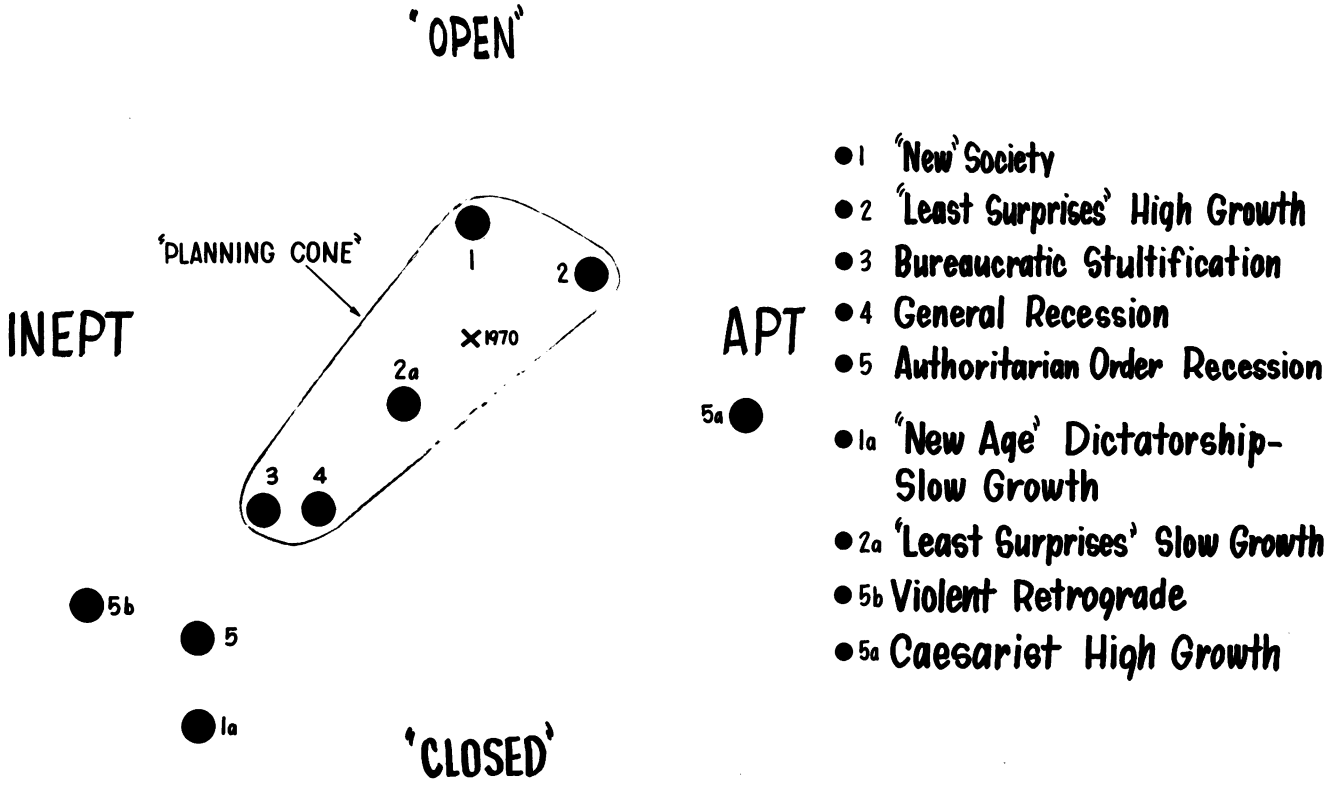

FIGURE 4
Year 2000 slice of "tree"