

Stage G
of A to T.

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SEPR No. 75

SOCIO-ENGINEERING PROBLEMS REPORT NO. 75

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PROBLEMS OF CIVILIZATION:
FUTURE PERSPECTIVE.

Date: 1/27/58 4/13/60 3/2/61 2/24/62 5/17/62 12/27/62

Stage: Memo SEP 9 SEP 34 Rev. Plan SEP 82 SEPR 68A
Gaussian Fig.21

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Stage: SEPR 91 SEPR 92A SEPR 75
Sd. 5 Fig. 2 Updated

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Problems of Civilization: Future Perspective.

The stages of development of a gaussian perspective of mankind's mental and social development are listed by reference to appropriate memos and reports. Fig. 1 of this report shows the basic diagram. A series of these diagrams for different reference years are sketched in Fig. 2, for use in tracing the validity of earlier projections.

Form Associater projection for five years from 1958 turned out to be conservative on account of optical scanning techniques for type and adaptive form recognizers such as Adaline which have reached significant stages of development.

The projection for "Social Responsibility" has reached "now." I associate this projection with the increased recognition of the necessity for interdisciplinary and multidisciplinary research which has resulted this year in the expansion of the activities of the Society for General Systems Research, addition of general systems concept to the First International Congress for Social Psychiatry, and the formation of the American Society for Cybernetics. Also the National Society for Professional Engineers in the October 1964 Legislative Bulletin asks for inclusion of professional engineers on the proposed Advisory Staff on Project PASSIM.*

* Vice-President Elect Humphrey has a Joint Resolution (S.J. Res. 202) urging Congress to establish an agency in the Executive Office of the President to be known as the President's Advisory Staff on Scientific Information Management. Project PASSIM, as the program would be called, is designed to help Government and industrial leaders find solutions to the major problems confronting society through the use and development of new scientific and engineering decision-aiding and information management techniques. (Congressional Record, Sept. 10, 1964, pp. 21281-21285)

Sen. Humphrey says, "The close interdependence between social, economic, scientific, technological and political factors is a phenomenon of our new environment. It is a fact which demands new attitudes and requires a partnership for progress between Government and industry, labor and management, agriculture and nonagriculture, public and private institutions, if we are to sustain our position of domestic and international preeminence."

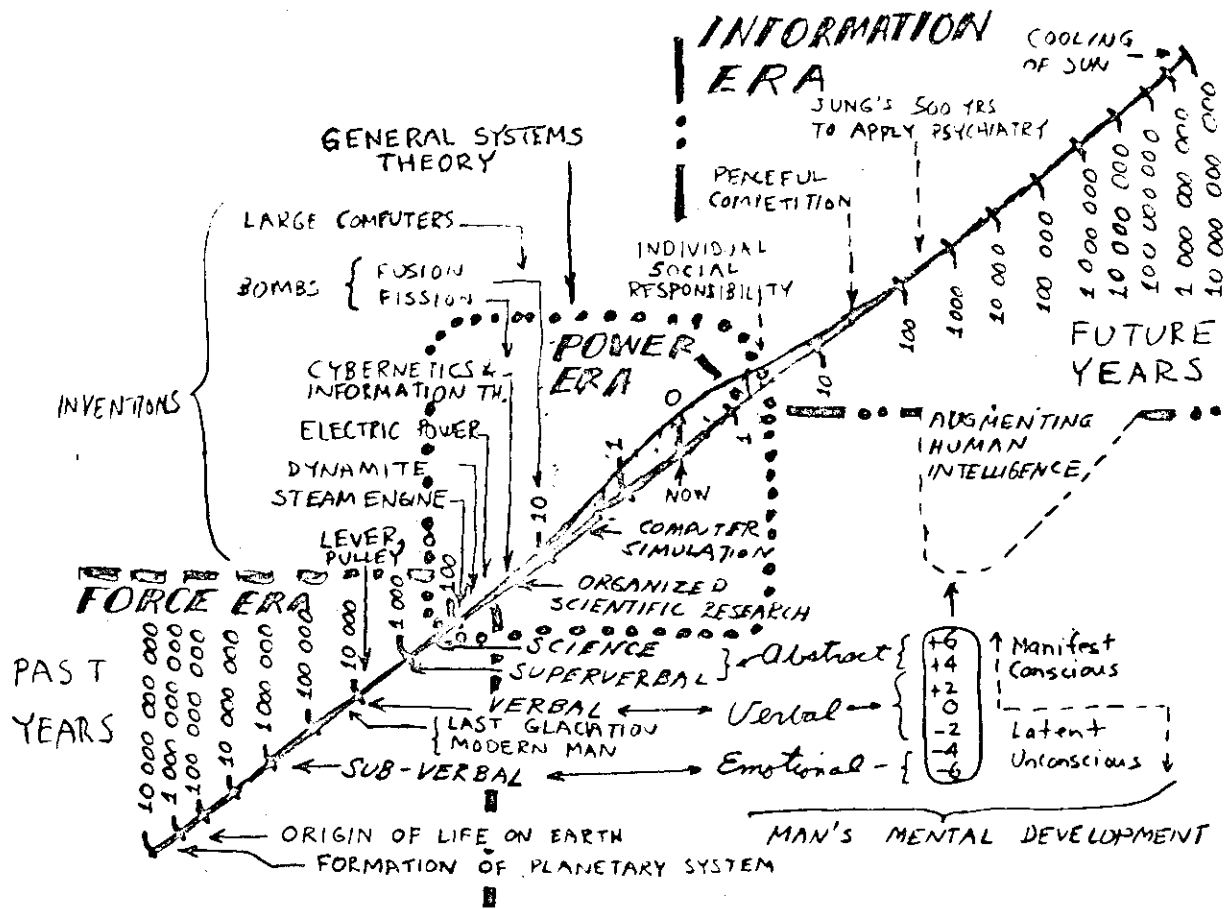


Fig. 1, Mankind's Mental and Social Development on a Gaussian Perspective Scale of the Life of the Planet Earth.

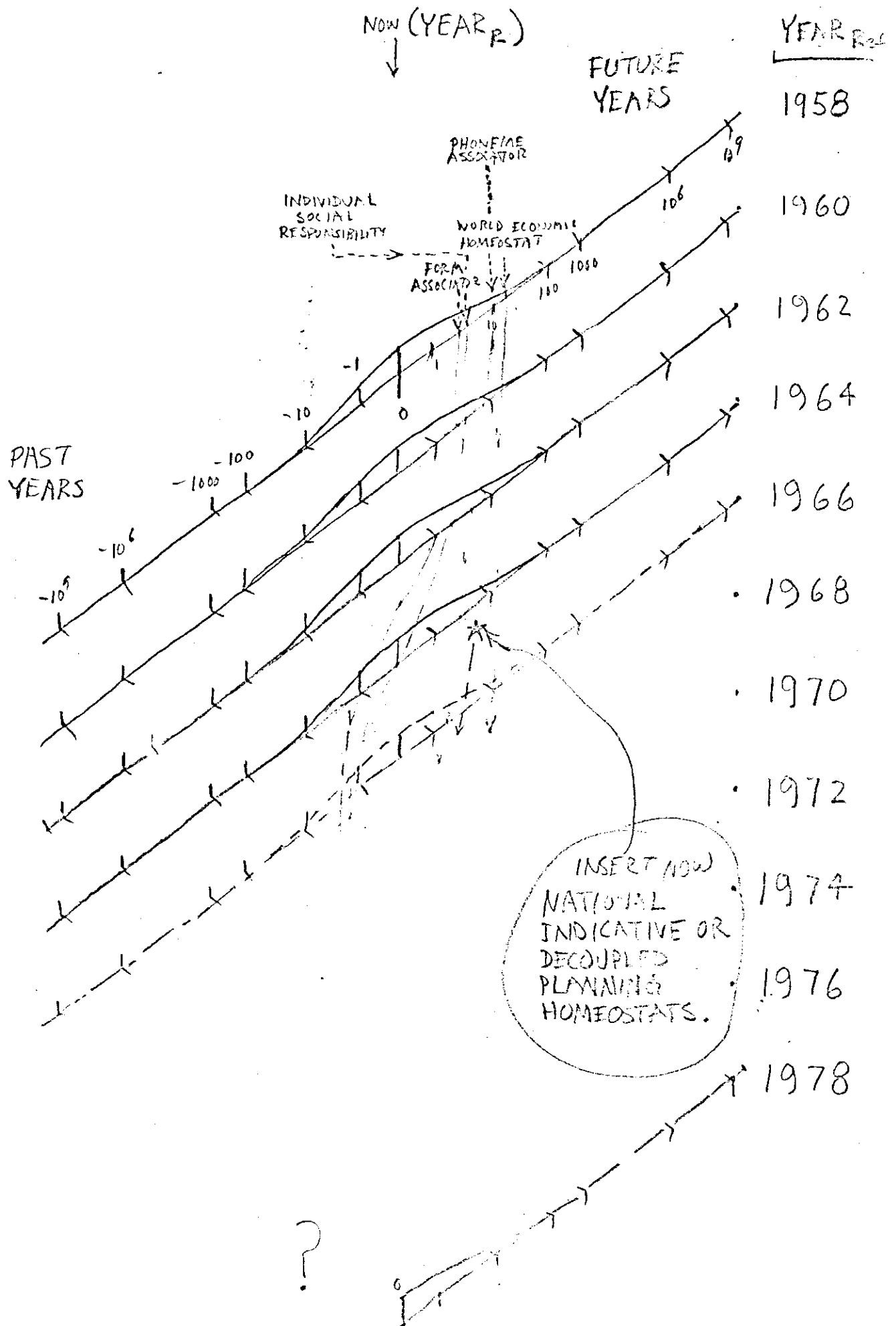


Fig2. Test of Projections for the Future

I shall pass over the phoneme associator at this time. A more important issue is the "World Economic Homeostat," which I projected for twenty year ahead from 1958. Recent developments indicate the need and technical feasibility shortening the twenty year estimate of 1958. The success of static techniques such as Leontief's input-output matrices in many countries relaxes the technical requirements. The work of the Soviet Cybernetic institutes of the last few years has accelerated the practicability of central economic planning. See references in my SEP No. 20-B, "The Two Cultures and the Social Responsibility of Engineers." October 5, 1962.* See also USSR Soviet Life Today, Sept. 1964, pp. 8-17, 52-57.

Figure A shows the different approaches that are converging and conflicting in the area of future data processing and computing techniques for maintaining national and international economic systems in stable operating condition.

* for a more general indication of the trend of Soviet Cybernetics, see SEPR No. 90-A, "Historical Perspective of Cybernetics and Information Theory." (9/9/62-6/21/64) 7pp.

"An engineer is an interpreter of science in terms of human needs, and a manager of men, money and materials in satisfying these needs"

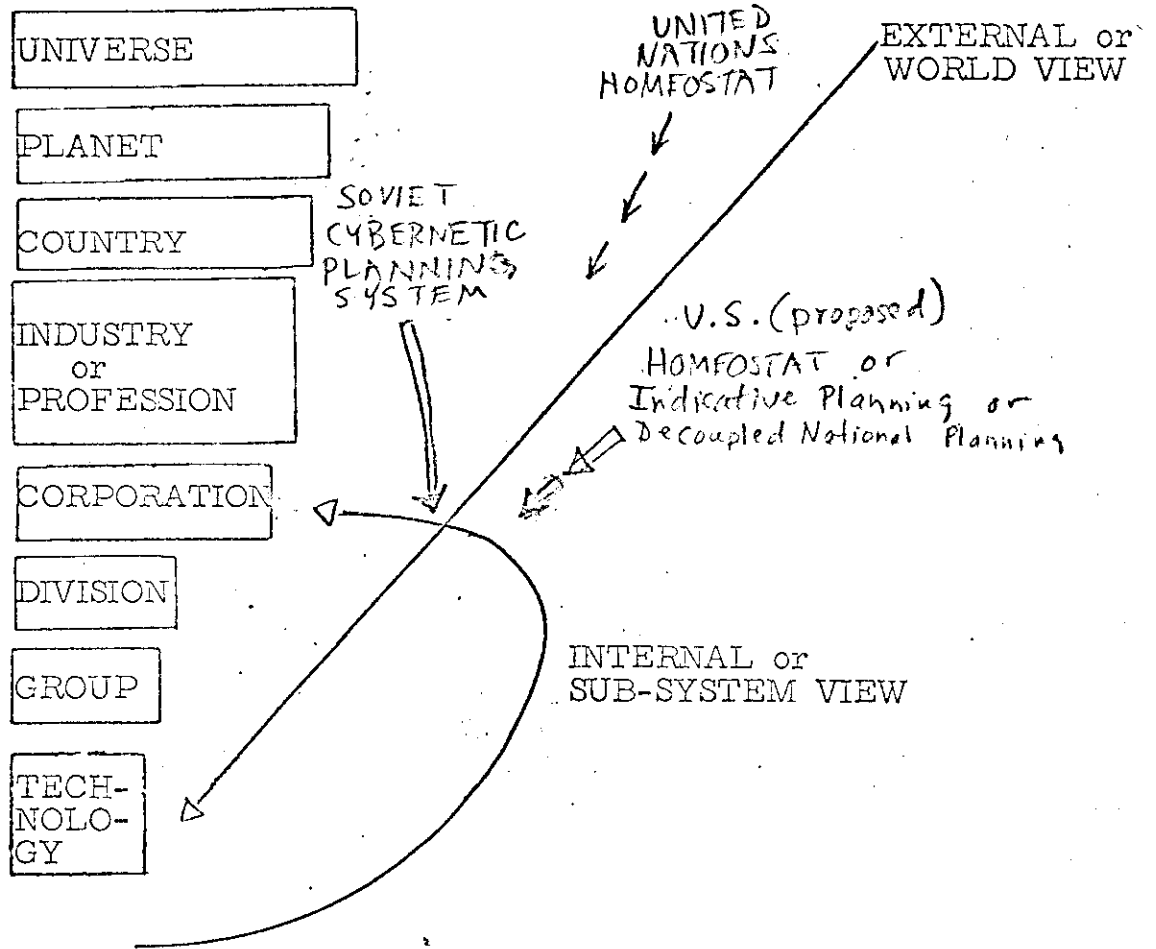


Figure A. Intersection of "World View" and "Sub-System View"