

AD/A-003 096

**GROUPING PROJECTIONS ACCORDING TO THEIR
PURPOSE**

I. Bestuzhev-Lavada

**Foreign Technology Division
Wright-Patterson Air Force Base, Ohio**

18 November 1974

DISTRIBUTED BY:

NTIS

**National Technical Information Service
U. S. DEPARTMENT OF COMMERCE**

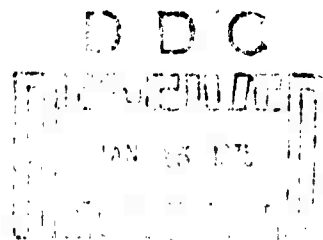
FOREIGN TECHNOLOGY DIVISION



GROUPING PROJECTIONS ACCORDING TO THEIR PURPOSE

by

I. Bestuzhev-lavada

Approved for public release;
distribution unlimited.

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

| | | | |
|---|--|---|-----------------|
| 1. ORIGINATING ACTIVITY (Corporate author) Foreign Technology Division Air Force Systems Command U. S. Air Force | | 2a. REPORT SECURITY CLASSIFICATION Unclassified | |
| | | 2b. GROUP | |
| 3. REPORT TITLE GROUPING PROJECTIONS ACCORDING TO THEIR PURPOSE | | | |
| 4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Translations | | | |
| 5. AUTHOR(S) (First name, middle initial, last name) I. Bestuzhev-lavada | | | |
| 6. REPORT DATE 1971 | | 7a. TOTAL NO. OF PAGES 7 | 7b. NO. OF REFS |
| 8a. CONTRACT OR GRANT NO. | | 8b. ORIGINATOR'S REPORT NUMBER(S) FTD-HC-23-2347-74 | |
| a. PROJECT NO AP5E | | | |
| c. | | 8b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) | |
| d. | | | |
| 10. DISTRIBUTION STATEMENT Approved for public release; distribution unlimited. | | | |
| 11. SUPPLEMENTARY NOTES | | 12. SPONSORING MILITARY ACTIVITY Foreign Technology Division Wright-Patterson AFB, Ohio | |
| 13. ABSTRACT 05 | | | |

DD FORM 1 NOV 66 1473

Unclassified

EDITED TRANSLATION

FTD-HC-23-2347-74

18 November 1974

GROUPING PROJECTIONS ACCORDING TO THEIR PURPOSE

By: I. Bestuzhev-lavada

English pages: 9

Source: Sovet Ekonomicheskoy Vzaïmopomoshchi,
Postoyannaya Komissiya po Koordinatsii
Nauchnykh i Tekhnicheskikh Issledovaniy.
Teoriya i Praktika Prognozirovaniya
Razvitiya Nauki i Tekhniki v Stranakh-
Chlenakh Sev, 1971, pp. 148-152

Country of Origin: USSR
Translated under: F33657-72-D-0855
Requester: FTD/PDTA
Approved for public release;
distribution unlimited.

| | |
|---|---|
| <p>THIS TRANSLATION IS A RENDITION OF THE ORIGINAL FOREIGN TEXT WITHOUT ANY ANALYTICAL OR EDITORIAL COMMENT. STATEMENTS OR THEORIES ADVOCATED OR IMPLIED ARE THOSE OF THE SOURCE AND DO NOT NECESSARILY REFLECT THE POSITION OR OPINION OF THE FOREIGN TECHNOLOGY DIVISION.</p> | <p>PREPARED BY: TRANSLATION DIVISION FOREIGN TECHNOLOGY DIVISION WP-AFB, OHIO.</p> |
|---|---|

FTD-HC -23-2347-74

Date 18 Nov 19 74

ia

All figures, graphs, tables, equations, etc. merged into this translation were extracted from the best quality copy available.

U. S. BOARD ON GEOGRAPHIC NAMES TRANSLITERATION SYSTEM

| Block | Italic | Transliteration | Block | Italic | Transliteration |
|-------|------------|-----------------|-------|------------|-----------------|
| А а | <i>А а</i> | A, a | Р р | <i>Р р</i> | R, r |
| Б б | <i>Б б</i> | B, b | С с | <i>С с</i> | S, s |
| В в | <i>В в</i> | V, v | Т т | <i>Т т</i> | T, t |
| Г г | <i>Г г</i> | G, g | У у | <i>У у</i> | U, u |
| Д д | <i>Д д</i> | D, d | Ф ф | <i>Ф ф</i> | F, f |
| Е е | <i>Е е</i> | Ye, ye; E, e* | Х х | <i>Х х</i> | Kh, kh |
| Ж ж | <i>Ж ж</i> | Zh, zh | Ц ц | <i>Ц ц</i> | Ts, ts |
| З з | <i>З з</i> | Z, z | Ч ч | <i>Ч ч</i> | Ch, ch |
| И и | <i>И и</i> | I, i | Ш ш | <i>Ш ш</i> | Sh, sh |
| Й й | <i>Й й</i> | Y, y | Щ щ | <i>Щ щ</i> | Shch, shch |
| К к | <i>К к</i> | K, k | Ъ ъ | <i>Ъ ъ</i> | " |
| Л л | <i>Л л</i> | L, l | Ы ы | <i>Ы ы</i> | Y, y |
| М м | <i>М м</i> | M, m | Ь ь | <i>Ь ь</i> | ' |
| Н н | <i>Н н</i> | N, n | Э э | <i>Э э</i> | E, e |
| О о | <i>О о</i> | O, o | Ю ю | <i>Ю ю</i> | Yu, yu |
| П п | <i>П п</i> | P, p | Я я | <i>Я я</i> | Ya, ya |

* ye initially, after vowels, and after ъ, ы; e elsewhere.
 When written as ѐ in Russian, transliterate as yě or ě.
 The use of diacritical marks is preferred, but such marks may be omitted when expediency dictates.

FOLLOWING ARE THE CORRESPONDING RUSSIAN AND ENGLISH
DESIGNATIONS OF THE TRIGONOMETRIC FUNCTIONS

| Russian | English |
|-----------|----------------------------|
| sin | sin |
| cos | cos |
| tg | tan |
| ctg | cot |
| sec | sec |
| cosec | csc |
| sh | sinh |
| ch | cosh |
| th | tanh |
| cth | coth |
| sch | sech |
| csch | csch |
| arc sin | \sin^{-1} |
| arc cos | \cos^{-1} |
| arc tg | \tan^{-1} |
| arc ctg | \cot^{-1} |
| arc sec | \sec^{-1} |
| arc cosec | \csc^{-1} |
| arc sh | \sinh^{-1} |
| arc ch | \cosh^{-1} |
| arc th | \tanh^{-1} |
| arc cth | \coth^{-1} |
| arc sch | sech^{-1} |
| arc csch | csch^{-1} |
| <hr/> | |
| rot | curl |
| lg | log |

Bestuzhev-lavada, I.
(USSR)

GROUPING PROJECTIONS ACCORDING TO THEIR PURPOSE

Until recently the term prognosis (predictions) was associated primarily with natural, biological, technical, generally spontaneous systems not dependent on goal-directed human activity (weather predictions, predictions of earthquakes, crop harvests, technical characteristics of a planned goal, prognosis of the course of a disease). With regard for social phenomena, the term was used either to the elementary processes of capitalistic economics (bourgeois projections/plans, which differ fundamentally from socialist directive-plans) or on the analysis of processes which do not fall under the influence of planning directive (for example, demographic projections).

At present the term projection is connected with every social process without exception. Given the conditions of the contemporary scientific-technical revolution management of any social process is impossible without systematic increase in scientific decision-making involved, and this means in part, projections. In this connection, predicting social phenomena stands out as one form of concretization of scientific projection. Marxist social projection is in this sense one form of concretization of Marxist-Leninist scientific prediction.

Among the various objectives of projection, 10 basic trends, falling into 5 pairs, can be defined according to their significance:

1 and 2. Predictions of the future development of science and technology as social phenomena (scientific-technical projection).

3 and 4. Projections of the development of physical and moral-psychological aspects of human nature and systems of health care in its broadest sense, including physical fitness and sports (medical-biological projection). Here also is the question of future developments of the world's flora and fauna as an organized system.

5 and 6. Projections of the development of the economy, especially of social relationships, demographic and ethnic processes, public education, urban planning, literature and art, culture, government and law in general, etc. (social-economic projection).

The philosophical and methodological problems of projections: gnoseology and the logic of scientific prediction, the methodology and methods of making predictions--form as special set of considerations.

Of course, in each separate category of research it is necessary to deal with more than social phenomena. In making scientific and technical projections, it is essential to consider the specifics of scientific and technical processes, in medical and biological predictions, biological, in geocosmic, natural ones, etc. Most frequently, it is necessary to handle a complex of factors of one type, then another, then yet a third. But in all cases the social processes remain the main ones, the primary ones. It is impossible, for example, to make a

prediction of the future development of railroads without analyzing trends in their development first as a social phenomenon (taking into consideration, of course, appropriate technical, natural, and biological factors). This is why the area of research with which we are dealing is most often viewed as social research.

The problem of systematization of the basic trends of social projection has not been researched yet. With the aim of simplifying bibliographic work on reference works and catalogs of the literature on these questions in the Institute of Social Research of the Soviet Sociological Association, the following outline of the problems of social projection is given--as a preliminary working scheme for classifying materials (subject to future review and refinement):

I. Philosophical aspects of social projection

1-1. the gnoseology of scientific prediction; 1-2. the logic of scientific prediction; 1-3. methodology; 1-4. methods for working up projections; 1-4-1. documentation; 1-4-2. extrapolation; 1-4-3. modelling; 1-4-4. patent analysis etc.

II. Scientific-technical projection

2-1. projections of the development of science; 2-1-1. scientific trends and discoveries (their future relationship); 2-1-2. the structure of science; 2-1-3. scientific work teams; 2-1-4. scientific establishments; 2-2. projections of technical development; 2-2-1. energy; 2-2-2. raw materials base; 2-2-3. industry; 2-2-4. construction;

2-2-5. agriculture; 2-2-6. consumer economy; 2-2-7. transport;
2-2-8. communications; 2-3. information problems; 2-3-1. information gathering; 2-3-2. information storage; 2-3-3. information dissemination; 2-3-4. information reproduction.

III. Medical-biological projection

3-1. man; 3-1-1. physical state; 3-1-2. psychological state;
3-1-3. nutrition; 3-1-4. medicine and health care; 3-1-5. physical fitness and sports; 3-2. fauna and flora; 3-2-1. fauna; 3-2-2. flora.

IV. Social-economic projections

4-1. demographic projections; 4-1-1. population growth; 4-1-2. population structure; 4-1-3. population migration; 4-2. ethnic projection; 4-2-1. national relations; 4-2-2. language; 4-2-3. literacy; 4-2-4. personal names; 4-2-5. national traditions, ethics, customs; 4-3. economic projection; 4-3-1. economic aspects of scientific and technical progress; 4-3-2. economical aspects of natural reserves; 4-3-3. economic aspects of human reserves; 4-3-4. basic capital stocks; 4-3-5. consumption and living standards; 4-3-6. foreign trade; 4-3-7. finance; 4-3-8. the national economy in general; 4-3-9. sectors of the national economy, etc.; 4-4. sociological projection; 4-4-1. social structure; 4-4-2. leisure time; 4-4-3. social organization and management; 4-4...sociological aspects of social awareness, social psychology and ideology, relation of the individual to society, marriage

and the family, labor and every day life, cities and villages, politics, and law, etc. (details require a further working out and refinement of the separation among the various branches of social projection); 4-5. education projection; 4-5-1. instruction process; 4-5-2. acculturation process; 4-5-3. teachers and child-training workers; 4-5-4. schools, etc.; 4-6. urban planning; 4-6-1. immigration; 4-6-2. city of the future; 4-6-3. house of the future; 4-7. projections in the field of art (culture as a whole); 4-7-1. the material-technical basis of art; 4-7-2. the problem of information in art; 4-7-3. the problem of reflecting reality in art; 4-8. ethical projections; 4-9. socio-legal projections; 4-9-1. criminology; 4-9-3. (sic) social basis of the legal superstructure; 4-9-4. evolution of the legal superstructure; 4-9-5. future development of the state and law in general.

V. Military and political projections

5-1. internal politics; 5-1-1. internal Soviet politics; 5-1-2. internal politics in other countries; 5-2. foreign and international politics; 5-2-1. Soviet foreign policy; 5-2-2. foreign policy of other countries; 5-2-3. general system of international relations; 5-3. military projection; 5-3-1. military-technical projection; 5-3-2. military-economic projection; 5-3-3. military-political projection.

VI. Geocosmic projection

6-1. geographical projection; 6-1-1. air, water, soil (future

control of environment, erosion); 6-1-2. reclamation of underutilized areas; 6-1-3. regulation of natural processes; 6-1-4. reconstruction of land surfaces; 6-2. cosmic projection; 6-2-1. reorienting production to space; 6-2-2. space exploration; 6-2-3. the nether cosmos; 6-2-4. the moon, Mars, Venus; 6-2-5. mastery and reconstruction of the solar system; 6-2-6. mastery of the galactic system.

VII. Historical aspects of social projection

7.1. prehistory of social projection; 7-1-1. religious views of the future; 7-1-2. utopian views of the future; 7-1-3. philosophical-historical views of the future; 7-2. history of social projection; 7-2-1. scientific views of the future (the struggle of marxist conception with bourgeois); 7-2-2. utopias and antiutopias science fiction; 7-2-3. religious views; 7-3. the present level of development of social planning; 7-3-1. Marxist-Leninist social planning; 7-3-2. bourgeois conceptions of social planning; 7-3-3. documents of international conventions, etc.

This preliminary scheme serves as a basis for further work.

The basic trends and subrends listed constitute a well-known abstraction, a unique anatomy of the past. In practice not one of these trends exists in its pure form; they form a single, indivisible complex and any division of them is arbitrary, for the purpose of analysis. With regard to concrete projections they are always complicated and each projection takes place within the more or less visible framework

of a definite grouping devised for a specific goal (projection grouping based on purpose).

Actually, to attempt to make a prediction of the future development of science, for example, without admitting data from demographic, economic, technical, sociological, geographical, and other projections would be an empty exercise. It is impossible to research the future of public education without knowing the expectations for technical and scientific development, social relations, economics, urban planning and culture, politics and law, etc. And so on for each concrete aspect of social planning..

Theoretically each aspect of social planning draws in every other aspect. The degree of reliability, accuracy, and validity of social projection is always directly proportional to (all else being equal) the degree of thoroughness with which the all other aspects were dealt with, the degree of completeness of the goal-directed grouping.

Goal-oriented grouping (according to purpose) is composed of the main and the auxiliary trends. In principle the leading or main trend can be any one of the mentioned ones, and in fact, as was mentioned above, in the course of planning, depending on the aim of the projection, each one should be considered a main trend. In practice, three basic trends, the most vital at the present time, can be picked out from the goal-oriented groups, and then the rest will play secondary roles.

The most important and heavily researched of the current goal-oriented groupings is agricultural planning, in which the main consideration is economic, the secondary ones, scientific-technical, demographic, military, sociological, and partially geocosmic trends (the rest of the trends or factors are involved here to a much less significant degree or not at all).

The second grouping in importance and the extent to which it has been investigated is military planning in the context of scientific-technical, demographic, economic, political and geocosmic factors. In the West this grouping is somewhat less heavily stressed than the first, but it is fast catching up both in scale and in the amount of time devoted to it; it is here that the overwhelming portion of energy and means are being concentrated.

Finally, the third, only now coming to the fore, is the goal-oriented grouping of projection the future social-economic consequences of the present scientific-technical revolution. Here the leading role is played by sociological and partially, by economic factors (depending on which aspect of the very complex research is being pursued), and the auxiliary roles by all the others, especially scientific-technical, demographic, educational, urban planning and geocosmic projections.

The whole issue of social planning is very complex, varied and aimed at many different ends, which cannot be made to conform to a strict scheme. Analysis of a configuration of such complexity requires

specialized research, absolutely essential to the continuing progress
of social projections in general.