

Note: In this inter-disciplinary report, the stage and phase of each sub-section is indicated A thru T for stage, and by A thru G for phase.

THE ROLE OF GEOPHYSICAL CYCLES IN TRIGGERING HUMAN VIOLENCE

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STAGE OF DEVELOPMENT OF
THIS PART OF REPORT:

(EXPLAINED IN APPENDIX TO
THIS PAPER.)

A B C D E F G H I J K L M N O P Q R S T.
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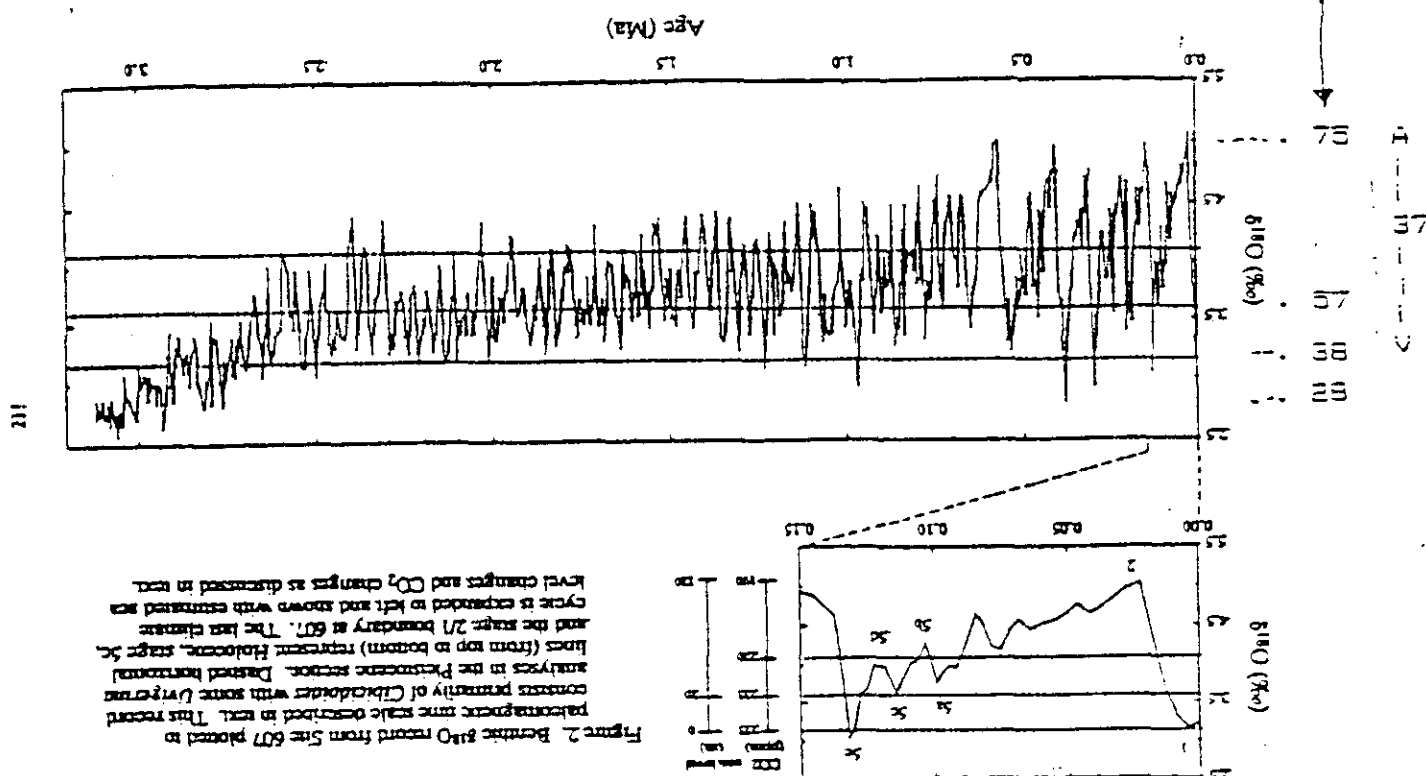
PHASE OF PROBLEM DEALT WITH IN THIS PART OF REPORT:

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PHILOS:	MYTH:	SCIENTIF:	DECISION	ENGINEER:	PRODUC:	EMERGEN:
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In the 1970's the U.S. Central Intelligence Agency (CIA) and more recently the North Atlantic Treaty Organization (NATO) have studied the geophysical cycles that could lead to serious climate changes, food shortages, and massive starvation over large parts of the planet. Military solutions to these problems could easily wipe out the gains in the areas of peace and freedom that WILPF * has struggled to obtain.

B1460D: UPSIDE DOWN FIG. 2: OF VARIATION OF
ICE VOLUME ON PLANET EARTH FOR 3.2
MILLION YEARS.

ICE VOLUME
x 1,000,000
CUBIC KILOMETERS



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Impact 7-2

As a starter we should look at the book, The Weather Conspiracy - The Coming of the New Ice Age, by the IMPACT TEAM, New York: Herron House Publishing and Ballantine Books (1977), which includes two 1974 CIA reports on the climate.

For the "Hamaker Thesis" on how the glaciation cycle works see the book, The Survival of Civilization by John Hamaker and Don Weaver, Burlingame, California (1982).

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For terminology and structure of the ice eras, ice epochs, etc., see the book, Ice Ages, by the Editors of Time-Life Books, Alexandria, VA (1983), pp. 21-22. This book was edited by science writer/editor Windsor Chorlton, a fellow of the Royal Geographical Society (London) with the consultancy of Geologist Colin Bull, University of Ohio, Professor of Geology and Mineralogy and Dean of the College of Mathematical and Physical Sciences at Ohio State University. Professor Bull has led several scientific expeditions to Antarctica.

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* Note: Early in October 1994, Jean Gore, National President of the Women's International League for Peace and Freedom, gave important talks on the problem of violence in our civilization at a conference on the work of Mahatma Ghandi at the Center for Nonviolence, Santa Cruz, California, and at a meeting of the San Jose, California, Chapter of the Women's International League for Peace and Freedom. This paper was written to supplement her paper with an overview of some geophysical processes that need to be considered in relation to problems of human violence. FBW

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The article by R. E. Rayme, "Global Climate Change: A three million year perspective." in a recent NATO report, Start of a Glacial, by George J. Kukla and Ellen Went, Berlin: Springer-Verlag (1992), NATO ASI Series, Series I: Global Environmental Change, is very useful in looking for the changes of ice volume, temperature, climate, and sea level on planet Earth. When the ice volume on planet Earth increases, the spreading of the ice from the poles toward the equator changes the Earth's climate.

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Even before there is much increase in ice, the changing weather shortens the food crop growing seasons, leading to massive crop failures and in turn massive starvation of humans and animals.

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This starvation leads to an increase in human violence as different groups of humans fight for control of the remaining arable land for growing food.

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Fig. 2 (from page 211) is reproduced, UPSIDE DOWN, below to make the vertical scale correspond to increasing volume of ice on planet earth. Although it takes 70,000 to 125,000 years for the glacial ice to reach a maximum, it may take only about twenty years at the start of glaciation to produce enough climate change to shorten the crop growing season enough to cause crop failures and human starvation.

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It is in this starting period that the migration of peoples toward the equator and the fighting for control of the remaining crop growing areas that the forces for human violence accelerate.

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The main part of Fig. 2, above runs from 3.2 million years before present to the present time, and the data is derived from analysis of Cibicidoides skeletons in the ocean bottom core drillings. At 3.0 million years ago the Earth had about 22 million cubic kilometers (MCK) of ice, and was increasing in an oscillating mode to a range of from 38 to 75 million cubic kilometers of ice. The increase of ice volume from that of 22 MCK at 3.0 million years before present (bp) to 44 MCK at 2.4 million years bp represents the change from a "warm epoch" to and "ice epoch".

The ice volume on our planet has made 23 cycles between the ICE MAX and the ICE MIN in 2.4 million years.

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For reasons described in the "Hammaker Thesis", this cycling is necessary to insure that life can continue on planet Earth, but the cycling causes extinctions and human violence at certain points in each cycle. We now have the knowledge of these geophysical cycles such that we can design the engineering processes to change the glacial cycles and replace any necessary processes with substitute processes that would make the human violence that accompanies the glacial cycles unnecessary.

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Dr. Elizabeth Sautoris on the Board of The Global Family has an alternative hypothesis about the engineering work to be done, which deserves a serious engineering analysis. Her proposal involves using the rise and fall of sea level of 300 feet on each cycle to arrive at a different solution than in the "Hamaker Thesis."

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If we don't analyse these glacial cycles to get more accurate predictions, and fail to make contingency plans, our civilization could disintegrate like ancient Greece and Rome, and possibly two to three billion people will die of starvation in the next fifteen years.

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Due to the fragmentation of science into specialties, we probably have no scientists who have a sufficiently comprehensive view of the whole picture. Therefore it is a fatal step to accept the "expert testimony" of any living scientist without studying his field and the relationship of his field to the whole picture, and then challenging him to show you every step in his analysis.

Appendix to A-1460-C EXPLANATION OF PHASE AND STAGE OF PROBLEMS:
File No. A-0003-H

Rev	1958
Rev	1979
Reprinted	06/09/92
Reprinted	04/19/94
Revised	08/15/94
Rev	08/26/94

Identification of Stage of Development and
Completeness Test of Research Manuscripts

The reason for the existence of this series of "working paper drafts" is that preliminary interdisciplinary studies of the interaction between engineering science and society have to be done by conference or by correspondence between individuals who are interested in the subject but may be geographically distant from each other. After so much correspondence and exchange of notes, the material may be referred to someone in the social sciences who may be better prepared to continue the investigation of the problem or it may be revised for submission to one of the engineering or scientific journals.

Where articles may be at different stages of development, we have to pay more attention to the process of solving problems, including the statement of the problem, forming and testing hypotheses in the process of scientific research. It is important that such work be properly identified so that preliminary hypotheses are not confused with logical conclusions. An investigation of the social consequences of such an invention or a new scientific concept might go through the following stages:

A: Background reference material.	K: Checking science data w. art.
B: Brief reading of references.	L: Testing of hypotheses.
C: Study and discussion.	M: Preliminary report writing.
D: Summarizing of earlier work.	N: Circulation for criticism.
E: Definition of current problem.	O: Revision or presentation.
F: References for specific problem.	P: Publication.
G: Study of specific problem.	Q: Group discussions.
H: Preliminary hypotheses.	R: Review in practice.
I: Checking hypotheses with data.	S: Popular version for public.
J: New data and experiments.	T: Technical version for soc. sci.

It is proposed that documents contain a horizontal listing of the stages with those already covered underlined.

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LEVEL OF PHENOMENA:[1]

1:	2:	3:	4:	5:	6:	7:	8:
ETHERIC	PHYSICAL	CHEMICAL	BIOLOGICAL	PSYCHO-	SOCIO-	GLOBAL	ETHERIC
ENERGY				LOGICAL	LOGICAL		INFORMA-
WAVES							TN WAVES

STAGES OF CHANGE CYCLES AND EVOLUTION:

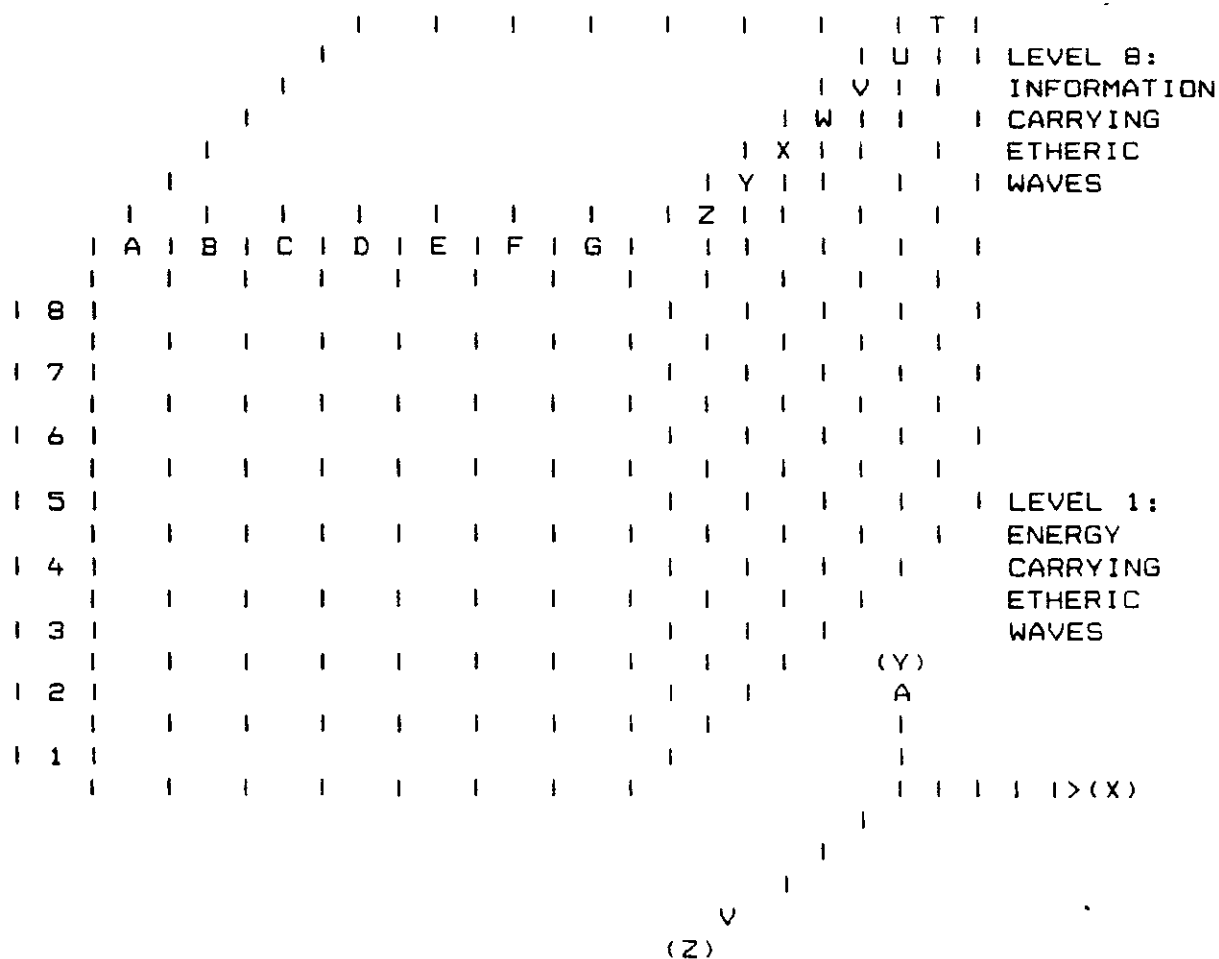
2:	Y:	X:	W:	V:	U:	T:
CONSCIOUS	TECHNO-	SOCIO-	BIOLOGICAL	GEOPHYS-	PHYSICAL	ASTRO-
COEVOLUTION	LOGICAL	LOGICAL	EVOLUTION	ICAL	CHEMICAL	PHYSICAL
WITH THE	EVOLU-	CYCLES &		CYCLES &	EVOLUTION &	COSOMO-
BIOSPHERE	TION	EVOLU-		EVOLU-		LOGICAL
		TION		TION		CYCLES &
						EVOLU-
						TION...

[1] Carlos Aliaga Uria by e-mail of 8/17/94 has suggested that the 3-dimensional diagram on the next page should be turned upside down. I propose that the levels of phenomena be partially turned upside down shown below:

1:	2:	7:	8:
ENERGY	PHYSICAL		GLOBAL	INFORMATI
CARRYING				CARRYING
ETHERIC				ETHERIC
WAVES				WAVES

THESE THREE COORDINATES CAN BE REPRESENTED ON A THREE DIMENSIONAL FRAMEWORK:

REVISED BLOCK DIAGRAM:



Above diagram is 8/26/94 version.