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A WORKING PAPER DRAFT

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SOCIO-ENGINEERING
PROBLEMS.

AN UNWRITTEN PAPER

ON

"The Lost Symbols and the Noosphere"

As we pass into a new epoch of the
geological history of the earth- - -
= the Noosphere, man needs a new
perspective.....

Layout of Illustrations.....

SOURCE MATERIAL

for the proposed paper
in the form of an order of service for
a Unitarian Church

7/7/57

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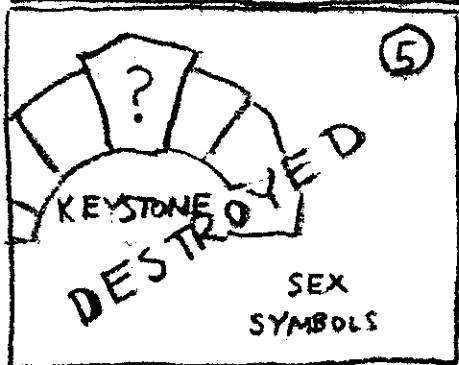
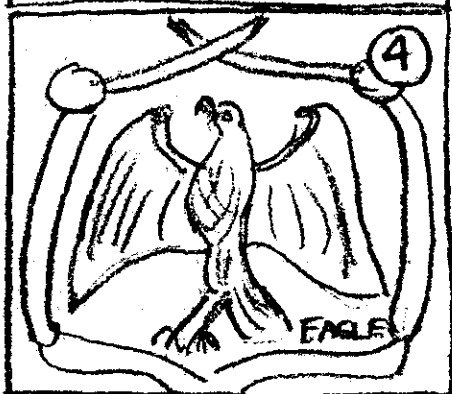
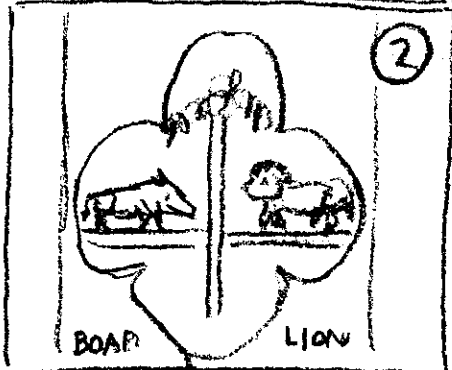
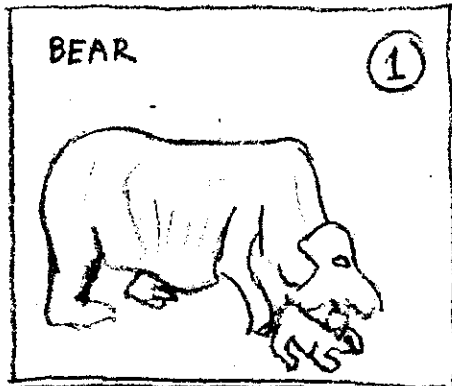
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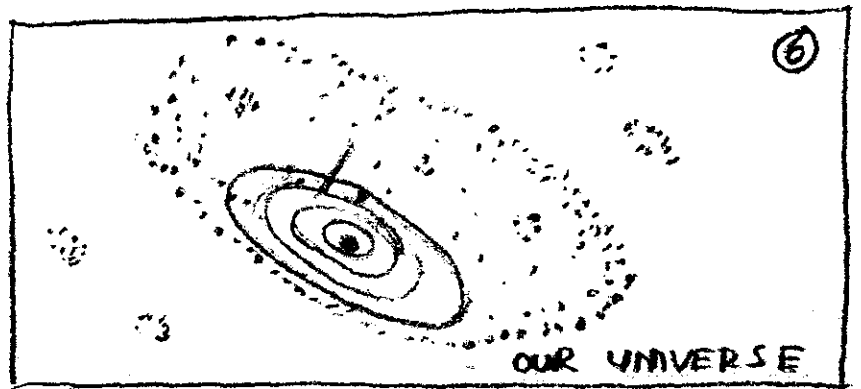
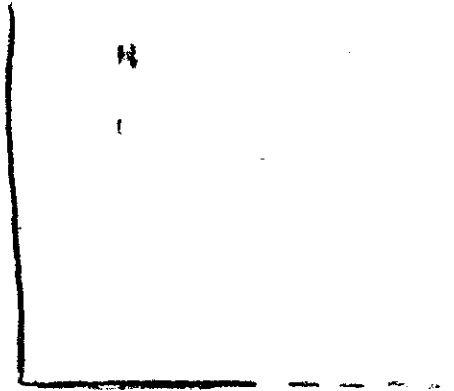
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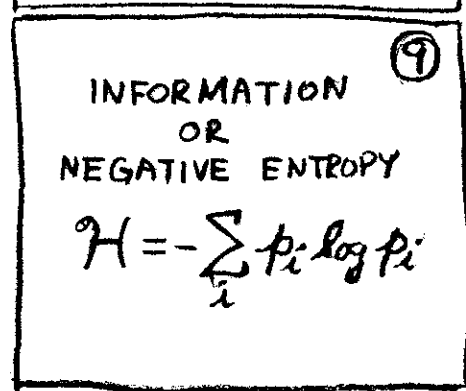
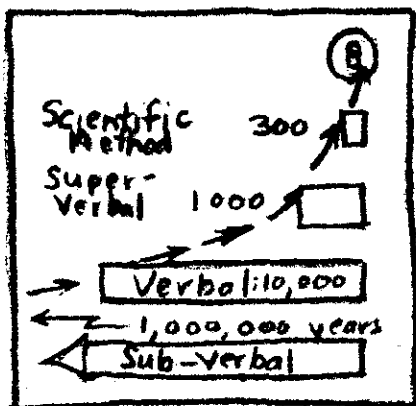
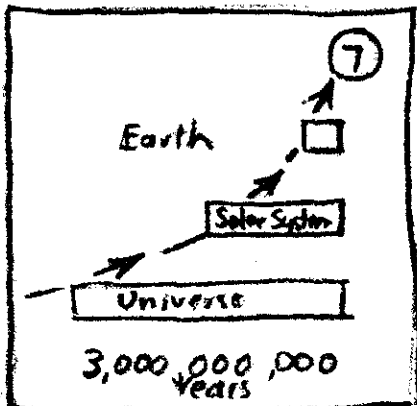
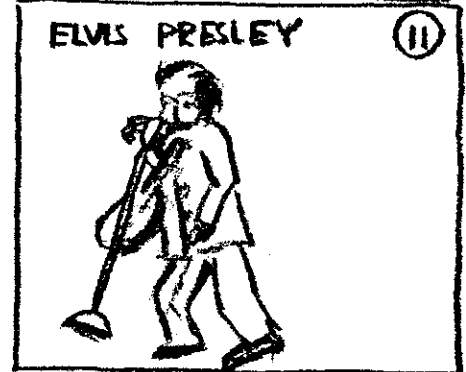
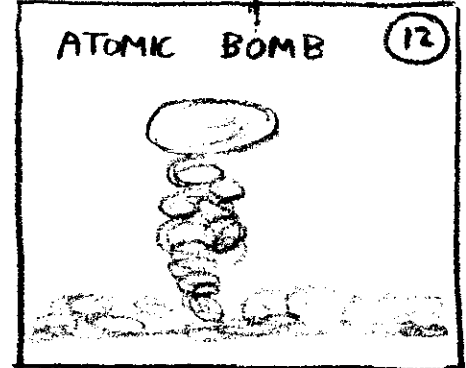
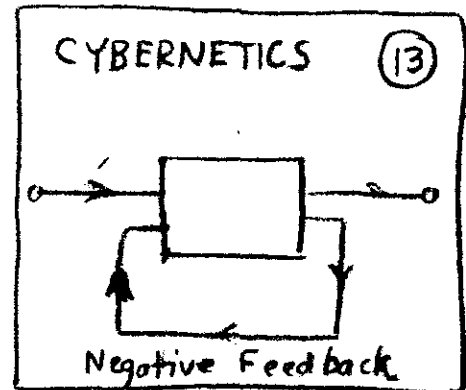
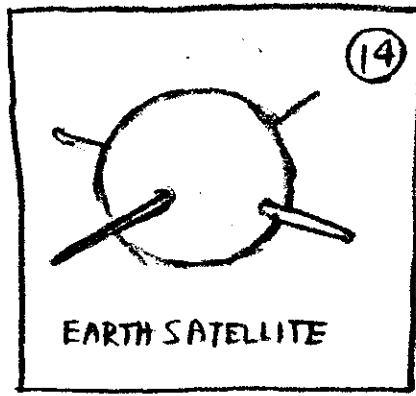
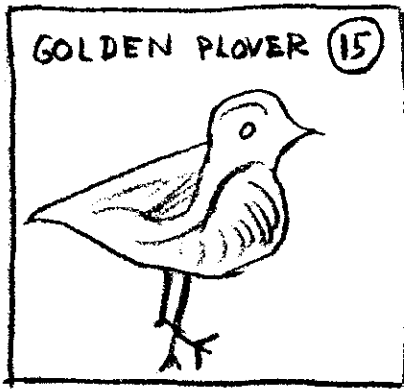
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The lost symbols and the noösphere
 As we pass into a new epoch of the geological
 history of the earth -- the Noösphere
 man needs a new perspective.
 By F. B. WOOD





ORDER OF SERVICE

First Unitarian Church
San Jose, California

Summer Service Series
1957

Sunday Evening

July 7, 1957

"The Lost Symbols and the Noösphere"

The streams of religious activity of the human race have always been focussed by symbols such as great leaders, saints, songs, sacred music, ceremonies, special architectural forms, sacred geographical spots, and symbolic myths. Symbols are not to be taken literally, because the picture of the symbol ~~is~~ is incidental to the thought it suggests. With the early development of science many symbols of the church were discarded when details of the stories of the Bible were found to be inconsistent with the observed facts of natural science. A series of these lost symbols will be projected from filmstrip during the service. *As civilization evolved from one phase to another, people invented new symbols.*

As we pass into a new epoch of the geological history of the earth - - the Noösphere, man needs a new perspective to symbolize the fact that man is important, now he has the power and the responsibility to make geologically significant changes on the earth. What will be the symbols of the new era that will link the myths man believes with the great creative potentialities of this new epoch? Will the symbol of era be an Elvis Presley, a Davy Crockett, or an Albert Schweitzer? Or will some new symbols of man's knowledge of himself and of nature be created?

As we pass to another epoch, we must make in the development of symbols, but we must be aware of the symbols which have been given us by evolution. We should take people and get them out of the...

Sunday Evening Services during July are conducted by the Worship Committee while the Minister is on Vacation.

Order of Service

OFFICIAL - Minister of Education and Culture

EXHIBIT - A book of life No. 10 "Praise and Wonder"

Let us, O Father, adore thee ceaselessly throughout creation with singing, dancing and laughing cries, with the whole world of nature in its exuberance and beauty,

1. We lift heart and voice in praise, for the prophets and seers, with all whose craftsmanship is their song, and all who by their cheer and kindness and good counsel are of use to others,

2. We lift heart and voice in praise, for the unceasing law by which the universe is maintained, which orders the rhythms of light and darkness, by which the crystals are formed, which keeps the ocean within its bounds,

3. We offer our wonder and our gratitude, for miracles of birth and growth, for the variousness of living things, for the long story of man's emergence, and his great potentialities,

4. We offer our wonder and our gratitude, for a world of good which summons forth man's best, for the inspiring challenge of the ideal, for faith and hope and love,

5. We offer our wonder and our gratitude,

RESPONSIVE PRAYERS - No. 30, page 98, Services of Holy Day for use in the Churches of the Free Spirit and Signs of the Spirit, Boston, Beacon Press "The Spirit of All the Ages"

YMCA - No. 1 (Revised version of the Yigdal of Daniel Ben Judan) (14th century) "Praise to the Living God, All Praise to His Name"

FIRST READING

"A History of the Hebrew People" C. F. Keat (1906) vii

The early history of the Israelitish tribes, when viewed in the uncolored light of the oldest records, appears at first quite different from that to which we were introduced by our parents. But reflection soon demonstrates that nothing essential to faith or the Old Testament revelation has been lost. In reality the difference between the present and the earlier view is chiefly one of language and form of expression. The Hebrews were right in seeing God in everything, and attributing all that came to them directly to his influence; but they knew no distinction between the natural and the supernatural. Even the idea associated with the word "natural" was yet unborn, they accordingly classified the most ordinary phenomena of life as supernatural. A pestilence or eclipse was regarded as a superrelative miracle. The discovery of natural laws has radically changed our conception of history as well as of Nature.

FILMSTRIP (SVE-Cathedral no. C754-3)

AND COMMENTARY (based on the commentart of Rev. John Harrell)

"The Lost Symbols of the Church"

Our past, present and future are expressed in symbolic forms. The lost symbols are those whose meanings are being forgotten yet give us an insight into the transition from the past through the present to the future.

1. Each representation a sermon in itself
2. Bestiary a book of science and moral and religious teachings
3. Bear "licking something into shape"
4. Scientific information in stories often inaccurate, but all was well as long people recognized the picture and knew moral...
5. boar and lion represent evil powers
6. also lion represented vigilance Christians should maintain...
7. Hart a symbol of Christian's desire to know and love God
8. it was thought that the panther had a sweet breath with power of healing
9. horns of the antelope represent old and new testament
10. sometimes the antelope gets his horns caught in a tree
11. sly fox indicates how wary he must be of falling into temptation
12. the deception of the whale
13. sailors deceived by the whale
14. mosaics
15. dragon was killed by St. George
16. unicorn as symbol of the Incarnation
17. carvings
18. Christians are to be harmless as doves, hurting no one by word or deed
19. the rooster calls the hens to share his lucky find
20. how we regain our spiritual sight as the eagle was supposed to regain his sight
21. the pelican-in-her-piety became a symbol of Christ's offering
22. peacock as symbol of immortality
23. foolishness of the owl for loving darkness rather than light
24. grape vine symbolized the Church and its members
25. infinite seeds of the pomegranite a symbol of unity of Church

Supplementary reference: George Ferguson "Signs and Symbols in Christian Art" Oxford (1954)

SECOND READING -

"Life has Also a Tomorrow" C. G. Jung (1920)

Quoted by Patrick Mullahy in Oedipus Myth and Complex Grove Press, 1955. p. 144

A person is only half understood when one knows how every thing in his came about. Only a dead man can be explained in terms of the past; a living one must be otherwise explained. Life is not made up of yesterday only, nor is it understood nor explained by reducing today to yesterday. Life has also a tomorrow, and today is only understood if we are able to add the indications of tomorrow to our knowledge of what was yesterday. This holds good for all expressions of psychological life, even for symptoms of disease.

HYMN - No. 546 (Frederick William Faber, 1849)

"Faith of Our Fathers, Living Still"

ANNOUNCEMENTS AND OFFERTORY

THIRD READING

"The Biosphere and the Noösphere" W.I. Vernadsky (1943)
American Scientist, 33:1, p.10fn, Jan.1945

Living matter is the totality of all organisms present on the earth at any one time. It is usually such a totality that is important, though in dealing with the effect of man on the processes of this planet, a single individual may be of importance. The living matter of the earth may be regarded as the sum of the average living matter of all the taxonomically recognizable groups. Each of these groups is said to consist of homogeneous living matter.

Living matter exists only in the biosphere. This includes the whole atmosphere, the oceans, and a thin layer in the continental regions, extending down three kilometers or more. Man tends to increase the size of the biosphere.

The biosphere is distinguished as the domain of life, but also, and more fundamentally, as the region where changes due to incoming radiation can occur.

In our country that First World War resulted in a new, historically unprecedented, form of statehood, not only in the realm of economics, but likewise in that of the aspirations of nationalities. From the point of view of the naturalist (And, I think, likewise from that of the historian) an historical phenomenon of such power may and should be examined as a part of a single great terrestrial geological process, and not merely as a historical process.

The geological evolutionary process shows the biological unity and equality of all man, Homo sapiens and his ancestors, Sinanthropus and others; their progeny in the mixed white, red, yellow, and black races evolves ceaselessly in innumerable generations. This is a law of nature. In a historical contest, as for instance in a war of such magnitude as the present one, he finally wins who follows that law. One cannot oppose with impunity the principle of the unity of all men as a law of nature. I use here the phrase "law of nature" as this is used more and more in the physical and chemical sciences, in the sense of an empirical generalization established with precision.

The historical process is being radically changed under our very eyes. For the first time in the history of mankind the interests of the masses on the one hand, and the free thought of individuals on the other, determine the course of life of mankind and provide standards for men's ideas of justice.

Mankind taken as a whole is becoming a mighty geological force. There arises the problem of the reconstruction of the biosphere in the interests of freely thinking humanity as a single totality. This new state of the biosphere, which we approach without our noticing it, is the noosphere.

Now we live in the period of a new geological evolutionary change in the biosphere. We are entering the noosphere. This new elemental geological process is taking place at a stormy time, in the epoch of a destructive world war. But the important fact is that our democratic ideals are in tune with the elemental geological processes, with the laws of nature, and with the noosphere. Therefore we may face the future with confidence. It is in our hands. We will not let it go.

SLIDES AND COMMENTARY (Developed by Dr. F. B. Wood)
 "What will be the Symbols of the Noosphere?"

As we pass into a new epoch of the geological history of the earth - - the Noosphere, man needs a new perspective to symbolize the fact of man's importance. Now he has the power and the responsibility to make geologically significant changes on the Earth. What will be the symbols of the new era that will link the myths man believes with the great creative potentialities of this new epoch?

- 1-3 Mountain Landscapes
4. The Age of the Universe, Solar System
5. Development of Forms of Life on Earth
6. Evolution of Apes, Ape-Like Primates, and Modern Man
7. Development of Sub-Verbal, Verbal, and Super-Verbal Communication and The Scientific Method
8. Characteristic Logarithmic Increase
9. Information Theory
10. Trend of World Power Production
11. Capital Production Analog
12. Cybernetics
13. Monte Carlo Method (Random Walk)
14. Electronic Computers and Accounting Machines
15. Davy Crockett
16. ~~Elvis Presley~~ Elvis Presley
17. Albert Schweitzer
18. Atomic Bomb Test at Bikini
19. Table of Correspondence of Theories of Relationship between Mechanics and Electromagnetic Theory with Nature (Einstein's Special Theory of Relativity)
20. The Golden Plover

HYMN - No. 352 (Jacob Trapp, 1932)
 "Wonders Still the world shall witness"

Supplementary References

The Noosphere:

William L. Thomas, Jr., with the collaboration of Carl O. Sauer, Marsten Bates, and Lewis Mumford Man's Role in Changing the Face of the Earth. Univ. of Chicago Press (1956) pp. 86, 104, 106, 107, 109, 110, 801.

Age of Universe, Evolution, Development of Scientific Method:

F. B. Wood, seminar paper, Univ. of Calif. "The History of Electromagnetic Theory" Jan. 10, 1947 (unpublished)

Information Theory:

W. Sluckin Minds and Machines London: Penguin (Pelican A308) (1954) pp. 84-87

Colin Cherry On Human Communication Wiley (1957) Chap. 5: On the Statistical Theory of Communication

Scientific American Automatic Control Simon and Schuster (1955) p. 83 Gilbert King "What is Information?" p. 97 Warren Weaver "The Mathematics of Information"

Henry Quastler Essays on the use of Information Theory in Biology Univ. of Illinois Press (1953)

Karl W. Deutsch "Communication Theory and Social Science" Amer. Jour. of Orthopsychiatry 22 pp. 469-483 (1952)

Cybernetics:

Norbert Wiener The Human Use of Human Beings - Cybernetics and Society Second Ed. Doubleday Anchor (1956)

W. R. Ashby Cybernetics, An Introduction Wiley (1956)

SONG OF EXULTATION (Congregation Standing)

From all that dwell below the skies
Let faith and hope with love arise;
Let beauty, truth and good be sung
Through every land, by every tongue.

Ours be the poems of all tongues,
All things of loveliness and worth,
All arts, all ages, and all songs
One faith, one beauty on the earth.

Amen.

AN AFFIRMATION OF FAITH

Love is the doctrine of this church;
The quest of truth is its sacrament;
And service is its prayer.
To dwell together in peace,
To seek the truth in freedom,
To serve mankind in fellowship,
To the end that all souls may grow
Into harmony with the divine,
This do we covenant with one another.

BENEDICTIO N

W.S.L. No. 110.

Kenneth L. Patton, 1945

Ours, O men, has been yesterday
and ours will be today and tomorrow.

Ours, is the world, the universe and life,
if we will make it ours
by the largeness and strength of our love

Ours is the commonwealth of man,
now and tomorrow,
building and yet to be builded.

Amen.



F. B. Wood
2346 Lansford Ave.
San Jose 25, California

August 28, 1957

A Working Paper Draft

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SOCIO-ENGINEERING PROBLEMS No. 18-B

A series of manuscripts on the social relations of engineering and related philosophical questions dealing with the interaction of science and society. Distribution is limited to reviewers and discussion groups for criticism prior to consideration for possible publication.

"THE LOST SYMBOLS AND THE NOÖSPHERE"

As we pass into a new epoch of the geological history of the earth--- the Noosphere, man needs a new perspective.

A chapter of a proposed book on
"Communication Theory in the Cause of Man"

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"THE LOST SYMBOLS AND THE NOÖSPHERE"

Abstract

These notes on "The Lost Symbols and the Noösphere" were first prepared for a church service and then revised for a seminar on international affairs. It is now proposed that they be edited for use in Chapter 2: The State of Western Civilization of the proposed book Communication Theory in the Cause of Man described in Socio-Engineering Problems No. 65 (12/18/61, and No. 65-A (5/17/62).

The streams of religious activity of the human race have always been focussed by symbols such as great leaders, saints, songs, sacred music, ceremonies, special architectural forms, sacred geographical spots, and symbolic myths. Symbols are not to be taken literally, because the picture of the symbol is incidental to the thought it suggests. With the early development of science many symbols of the church were discarded when details of the stories of the Bestiaries were found to be inconsistent with the observed facts of natural science.

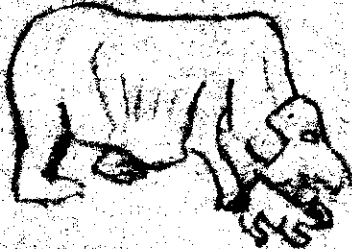
As we pass into a new epoch of the geological history of the earth - - the Noösphere, man needs a new perspective to symbolize the fact that man is important, now he has the power and the responsibility to make geologically significant changes on the earth. What will be the symbols of the new era that will link the myths man believes with the great

creative potentialities of this new epoch? Will the symbol of era be an Elvis Presley, a Davy Crockett, or an Albert Schweitzer? Or will some new symbols of man's knowledge of himself and of nature be created?

Frederick B. Wood

BEAR

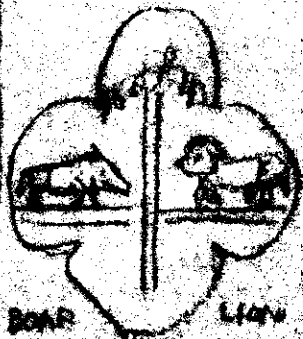
①



BOAR

LION

②



PAVING

③



④



⑤



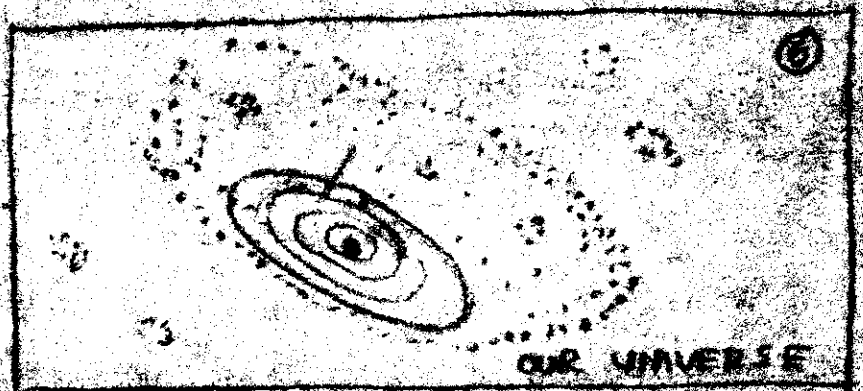
The lost symbols and the neosophy

As we pass into a new epoch of the geological history of the earth -- the Neosophy -- man needs a new perspective
By F. B. WOOD

During the late middle ages and the renaissance period theologians, priests, and artisans worked together to develop

Dr. F.B. Wood is an electrical engineer working in a systems development laboratory in California. He is a member of a Unitarian Universalist Church and is active in an Ethical Culture Fellowship.

symbols to help the laymen understand the philosophy of the Christian Church. Since very few people could read or write these symbols formed a very important part of the culture of that period. Through these symbols the ethical teachings of the Church became real and personal to the individual. An important feature was the requirement of thought and experience of the individual in developing understanding of these symbols. Many of these symbols can still be seen in the stained glass windows, carvings, and statuary of European cathedrals.



The Lost Symbols

Since these symbols are not actively used now, they have come to be known as the "LOST SYMBOLS". Rev. John Harrell has prepared a filmstrip and descriptive leaflet on "The Lost Symbols"¹

Symbols are a language, a means of communication. They are especially appropriate in conveying spiritual concepts, for symbolic forms are not pictorial representations to which literalness can be applied.

Symbols of the Church are signs and pictures which tell us about man's religious feelings and experience. They are perhaps the best way to show man's religious thoughts. Symbols are not to be taken literally because the picture of the symbol is incidental to the thought it suggests.

The Lost Symbols are those whose meanings are being forgotten. Present-day economics prevents generous use of these elaborate symbols, and also many of the myths which once surrounded them have been replaced by natural science. However, there was a time when the worshipper in church was surrounded by a veritable zoo of birds and beasts carved into wood and stone or stained into glass. Each representation was a whole sermon in itself which every man, woman, and child knew by heart.

¹Rev. John G. Harrell "The Lost Symbols," Cathedral Filmstrip, distributed by The Society for Visual Education, Chicago, Illinois.

There are many crafts or techniques which may be employed to enrich church architecture. Stained glass is still widely utilized, but other methods, such as frescoes and mosaics, should not suffer neglect.

The Noösphere

Before we discuss some examples of "The Lost Symbols," let us review what is meant by "The Noösphere." The surface layer of the planet Earth and its atmosphere is called the "biosphere" by biologists and geologists, to designate the part of our Universe where life is known to exist. In the 1920's some biologists, anthropologists, and biogeochemists in reviewing the growing developments of science, predicted that mankind would soon reach a new stage of development in which man could make geologically significant changes in the biosphere. Academician Vernadsky, Anthropologist Father Teilhard de Chardin, and the Scientist Le Roy coined the name "Noösphere" from the Greek word noos, meaning mind to describe this new stage of development in the biosphere.

Some Examples of the Lost Symbols

The sermons or stories were written in books called Bestiaries, and at one time there were more copies and versions of the Bestiary, in almost every European language and dialect, than any other book.

The Bestiary was a book of natural science combined with the moral and religious teachings of the Church. As science, the Bestiary went far afield, but its hold on the common imagination was enormous.

- (1) The first "lost symbol" illustrated here shows a mother bear licking a bear cub.

"If we no longer believe that bear cubs are born without form, at least we still speak of "licking something into shape," just as the mother bear was supposed to have licked her cubs into proper looking little bears.

And if the scientific information in the stories was often inaccurate, there was hardly any more reason for the artists to withstrain their imaginations. It mattered little since few people would ever see these animals in the flesh, and all was well so long as they recognized the picture and knew the moral to the symbol."

- (2) The Boar and the Lion:

"Here is a good example. To the eyes of the faithful it is an obvious reference to the 80th Psalm. Here "the wild boar out of the wood doth root up (the vine), and

the wild beasts of the field devour it." There is room, moreover, for further interpretation, for the vine, of course, is Christ and therefore the boar and lion must represent the evil powers which try to overcome the powers of good. The Psalms in all traditions of Christianity have played a large role and offered vast material for Christian re-interpretation.

Sometimes the lion is made to represent evil, for as the Bible says, "Your adversary the devil, as a roaring lion, walketh about seeking whom he may devour."

But again the king of beasts also represented good. It was thought that this noble animal slept with one or both eyes open. He therefore represented, if he also had a pleasant smile, the vigilance Christians should maintain lest they fall into sin.

And because we read, "Behold, he that keepeth Israel shall neither slumber nor sleep," the lion was often used to represent Christ himself."

(3) The Panther:

"Another picturesque animal from the Bestiary was the panther. All the beasts sought for the panther and crowded about him, for it was thought the panther had a sweet breath with powers of healing. Not only was the panther a symbol of how Christians should attract others to the saving faith of our religion, but the

panther was also a "type" of Christ, for his breath was likened to the virtue which went out from Jesus and healed the woman who touched the hem of His garment."

(4) The Eagle:

"A wonderful story is told about the eagle, though natural scientists today would only smile at it. When the eagle has grown old and his eye-sight is failing, he flies straight up toward the sun until the film is dropped from his eyes. Then he plunges downward three times into a spring of pure water. As a result he regains his youth as well as his sight.

This was a sermon showing that when we have lost our vision of God we must fly straight toward the Son of Righteousness and must dip ourselves three times in the waters of baptism...in the Name of the Father, and of the Son, and of the Holy Ghost. In this way we regain our spiritual sight and are born again.

The Destroyed Symbols

The symbols we have discussed so far have been lost from active use, but are still preserved in historic cathedrals and museums. There were other symbols which were destroyed.

(5) Sex Symbols = Destroyed:

As Christianity spread over Europe the sex symbols of earlier religions were integrated into the symbols of the Christian Church. In many parts of Europe the

earlier sex symbols were used, but were restricted to specific architectural features such as the decoration of the keystones of main arches and in some parts of Europe these symbols influenced the design of towers and spires. During the Victorian era the more detailed sex symbols remaining in Western Europe were destroyed. In France the sex symbols on the keystones were chiselled off, and in Ireland all the early churches were replaced by newer buildings without the sex symbols. Fortunately some of the old Irish keystones were saved in museums. Perhaps Sigmund Freud would have had an easier time obtaining acceptance of his psychiatric theories, if these sex symbols had not been destroyed or removed from public view.

Natural and Synthetic Symbols

- (6) Our Universe - From the beginning of history the stars in the sky have entranced man and stirred his imagination to form symbols from the patterns of the constellations in the sky. In the last century, the astronomers with help of skilled machinists, optics experts have developed "astronomical planetaria" which can project the patterns of the stars on a dome for tonight, last night, a hundred years ago, 2000 years ago, fifty years from now, or anytime within the known life span of the biosphere. Even though the layman visiting a planetarium doesn't understand the equations of motion of the stars, he

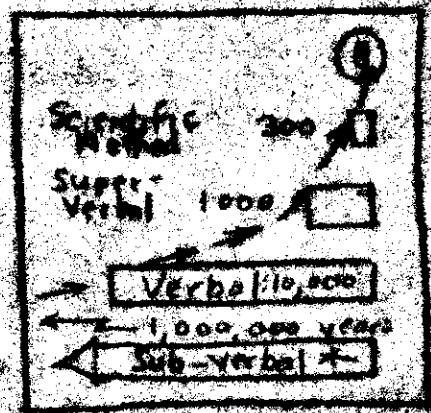
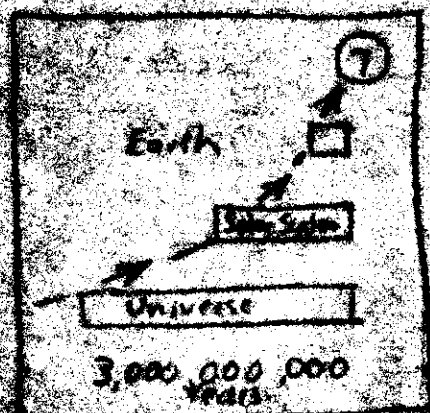
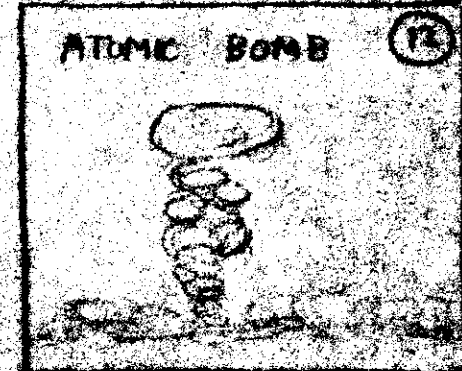
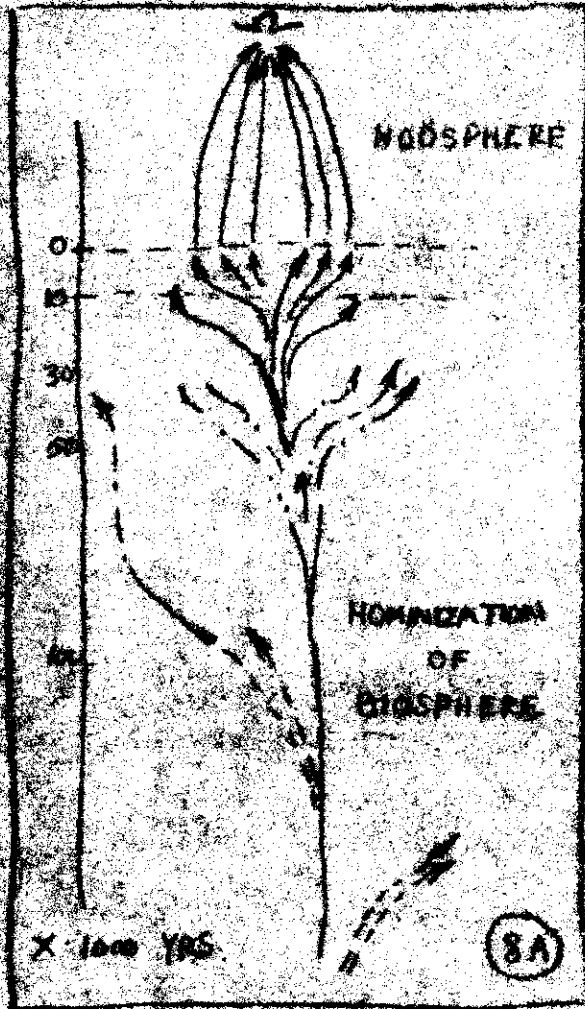
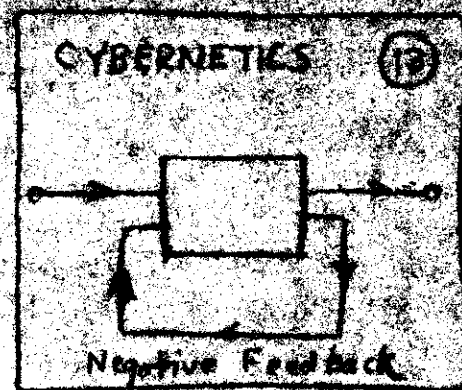
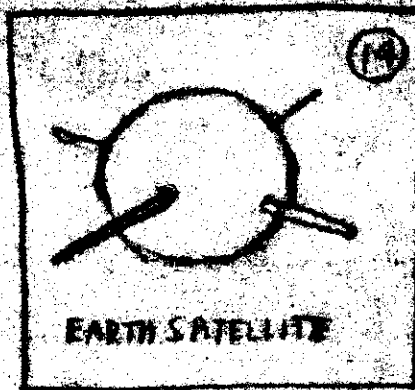
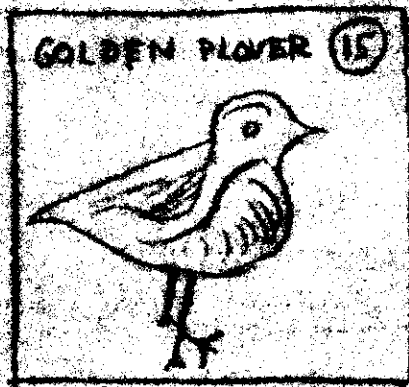
develops a sense of understanding of the existence of fundamental physical laws governing the motions of the stars. The planetarium is a symbol of man's progress in understanding the secrets of nature.

New Symbols for the Noösphere

The basic problem in our world today is that science has helped technology to advance so fast that people have failed to learn how to apply the ethics of our culture to the new conditions in our industrial society. My objective is to establish better communication between mathematical scientists and religious leaders; and to develop illustrations of the principles that will help the layman to understand what is going on, even though he may not follow the mathematics. I think that it is probable that Albert Schweitzer's principle of "Reverence for Life" can be formulated mathematically by use of analogies from Information Theory and Thermodynamics. For this we need to develop something similar to the stained glass windows and sculpture used in the cathedrals during the middle ages to help the people who couldn't read to remember the stories illustrating the ethical concepts of the Church. Now everyone can read, but few understand advanced mathematics so we have a similar problem on a different level.

(7) The Age of Our Universe, Solar System, and Planet:

If we draw bars proportional to the estimated ages of the universe, solar system, and the planet Earth, we



INFORMATION OR NEGATIVE ENTROPY (9)

$$H = - \sum p_i \log p_i$$

Blown feet to scale

(8A)

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have a diagram like that of figure 7. If we line up the right hand ends of the bars, the left ends form an exponentially rising curve. Perhaps this type of exponentially rising curve could be a symbol for the new era--The Noösphere?

(8) The Development of Man's Mental Processes.

If we draw bars to scale representing the time backwards to the beginning of the principal stages in man's mental development. For example sub-verbal thinking developed about one million years ago. If we were to draw this to the same scale as the other bars it would have to be eleven feet long while the next bar for verbal thinking (10,000 years) would be one and one-third inches long.

The stage of superverbal thinking involving abstract mathematics and deep philosophical questions is about one thousand years, but in reality would vary for different parts of the world. The scientific method is only 300 years old. When we line up the right hand ends of these bars, the left ends form an exponentially rising curve again.

(8A) The Development of the Human Layer.

This diagram was developed by Teilhard de Chardin to show the "Hominization of the Biosphere" as we move into the new epoch--the "Noösphere". The

hypothetical zone of convergence on the point Omega represents the coming together of the different races of man into a higher level world civilization.

References:

- (1) Teilhard de Chardin, The Phenomenon of Man Editions du Seuil, Paris (1955), English translation: Harper Torchbook Edition (1961).
- (2) William L. Thomas, Jr., with the collaboration of Carl O. Sauer, Marsten Bates, and Lewis Mumford Man's Role in Changing the Face of the Earth. University of Chicago Press (1956) pp. 86, 104, 106, 107, 109, 110, 801.
- (3) Marcel J.E. Golay, "The Biomorphie Development of Electronics". Proceedings of the Institute of Radio Engineers, Vol. 50, No. 5, May 1962, pp. 628-631.

(9) Information Theory - The formula for the negative entropy might well become a symbol of humanity. If we calculate the negative entropy of the sets of political ideas in a democracy and in a fascist state, the formula would give us a maximum value of negentropy in a democracy and close to zero in the fascist state. This formula from Information Theory may be more important when one considers its relationship to Thermodynamics and Biological Evolution--the life process represents a set of sub-systems which are decreasing entropy within a total system of increasing entropy.

(10) Albert Schweitzer - Here see Dr. Albert Schweitzer feeding his pet deer as a symbol of his principle of "REVERENCE FOR LIFE." It is important to perceive the

tie between the humanitarian principle of "Reverence for Life" and the information theoretical concept of maximizing negative entropy.

- (11) Elvis Presley - Will Elvis Presley or Fabian or Elizabeth Taylor be the symbol of our civilization? If so, why? And what would it mean to the future survival probability of the human race?
- (12) Atomic Bomb - Will the atomic bomb or the hydrogen bomb or Herman Kahn be the symbol of the new age? If so, can civilization remain human under the symbol of uncontrolled power?
- (13) Cybernetics - The control function of the negative feedback circuits of cybernetics may become the symbol of the new age. If both the Soviet Union and the U.S.A. simulate major sectors of their economic and political systems, it may greatly improve the chances of fruitful communication between the two systems. The proper use of Cybernetics can help develop the progress of the U.S.A. with deeper understanding and provide paths toward the stability the Europeans desire.
- (14) Earth Satellite - The successful launching of Sputnik demonstrated that no one country has a monopoly of technological know-how and ability. Perhaps the earth satellite will become a more general symbol for mankind.

At present it appears to be principally a symbol to alert American educators and school boards to take education more seriously.

- (15) The Golden Plover - The eastern form of the American golden plover breeds in Alaska and winters in Patagonia, which it reaches by way of Labrador, Newfoundland and the Antilles, returning by way of Panama.(1,2)
- The migration of the golden plover is a large ellipse having a 2000 mile minor axis and an 8000 mile major axis. The golden plover with navigation method and method of transmittal of instructions from parent to child unknown represents a growing edge between the scientist and the mystic. Will the process of scientific research on bird migration enhance the concept of "Reverence For Life" of mystic with deeper understanding, or will this too become a lost symbol?

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1. Encyclopedia Britannica (1945 edition) 18-83, Plover.
 2. Colliers Encyclopedia (1956 edition) 13-543/595, Migration.

Henry Quastler Essays on the use of Information Theory in Biology Univ. of Illinois Press (1953)

Karl W. Deutsch "Communication Theory and Social Science" Amer. Jour. of Orthopsychiatry 22 pp. 469-483, (1952).

Cybernetics:

Norbert Wiener The Human Use of Human Beings - Cybernetics and Society Second Ed. Doubleday Anchor (1956).

W. R. Ashby Cybernetics, An Introduction to Wiley (1956).