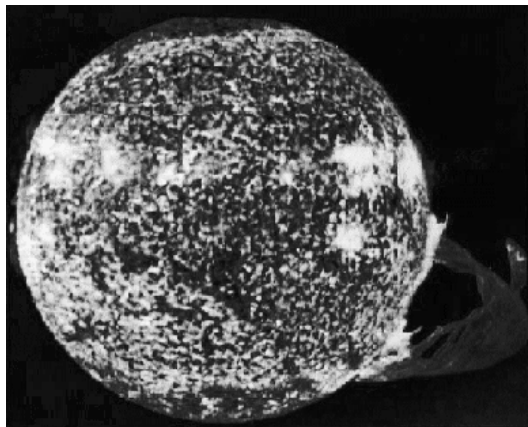


**ROLE OF TIME &
ENVIRONMENT IN CREATING
LIFE & BIODIVERSITY**

K. K. NAG

FORMER V.C. (BHAGALPUR, RANCHI
AND VINOBA BHAVE UNIVERSITIES)



MAN: THE MOST ADVANCED LIVING
SYSTEM ON EARTH
INSTINCT, INNATE CURIOSITY TO
KNOW THE MYSTERIES OF NATURE
SO FAR UNDERSTOOD SOME, INFINITE
MYSTERIES YET TO BE SOLVED;
SEARCH CONTINUOUS

THE HUMAN BRAIN – ENDOWED WITH
INNUMERABLE QUALITIES BY NATURE
ASKING QUESTIONS IN ITS BRAIN AND
TRYING TO ANSWER: IMAGINATIONS,
EVIDENCES, EXERIMENTS THROUGH
INNOVATIVE INVENTIONS OF TOOLS AND
TECHNIQUES HAVE LED TO
THE PRESENT STATUS OF SCIENTIFIC
ACHIEVEMENTS IN THE WORLD WE ARE
LIVING TODAY

BEFORE EXPLAINING HOW TIME AND
ENVIRONMENT ARE AT THE BASE
OF ORIGIN AND EVOLUTION OF LIFE,

LET US ASK SOME QUESTIONS

LOOK AROUND YOU WHO ARE SITTING ?

ALL ARE HUMAN BEINGS BUT LOOK AT THEIR MORPHOLOGY, DRESS (EXCEPT UNIFORM!), LIKES AND DISLIKES; THEIR VOICES, THEIR FINGERPRINTS, THEIR SMELL OF SWEAT; THEIR 'WORLD' IS DIFFERENT!



ANOTHER QUESTION

NAME YOUR GREAT- GREAT GRAND PARENTS

ANOTHER QUESTION
TELL NUMBER AND WHEREABOUTS OF ALL OUR BLOOD RELATIVES BORN OF OUR GREAT GRAND PARENTS?
ANSWERS: DO NOT KNOW

BY IMAGINING OF GOING BACK INTO THE REMOTEST PAST, WE WOULD GO TO THE STONE AGE
STILL FURTHER BACK TO THE FIRST HUMAN BEING EVOLVED FROM 'APE-LIKE ANCESTOR' THAT IN TURN ORIGINATED FROM SPECIAL MAMMAL EVOLVED FROM 'BIRD-LIKE ANIMAL'; REPTILES, AMPHIBIANS, PISCES, NON-VERTEBRATES, THEN BACK TO MULTICELLULAR STRUCTURE

ONE DIRECTION MADE THEM PLANTS,
OTHER ANIMALS; EVOLVED IN
PARALLEL, BOTH KINGDOMS
COMPLIMENTARY AND
SUPPLEMENTTARY TO EACH OTHER
FOR BALANCED CONTINUOUS
EVOLUTION WITH EVER CHANGING
TIME AND ENVIRONMENT

MULTICELLULAR ORGANISM EVOLVED
FROM
SINGLE-CELLED LIVING SYSTEM WHICH
ULTIMATELY HAD DEVELOPED FROM
THE FIRST LIVING SYSTEM

WHEREFROM DEVELOPED THE FIRST
LIVING SYSTEM?
FROM INANIMATE OR NON-LIVING
MATTER?

THE DEFINITION OF LIFE?
*A SYSTEM CAPABLE OF UTILIZING
MATTER AND ENERGY FROM ITS
ENVIRONMENT AUTOCATALYTICALLY
FOR ITS GROWTH AND
REPRODUCTION IS A LIVING
SYSTEM!*

TWO BASIC THINGS IN THE UNIVERSE:
MATTER & ENERGY
FROM THE SMALLEST MATTER OF THE
SUB-ATOMIC PARTICLE TO THE BIG
STARS & GALAXIES, EVERYTHING HAS A
SURROUNDING, AN ENVIRONMENT
NOTHING IS STATIC, EVERYTHING
CHANGES ALONG WITH THE CHANGING
TIME

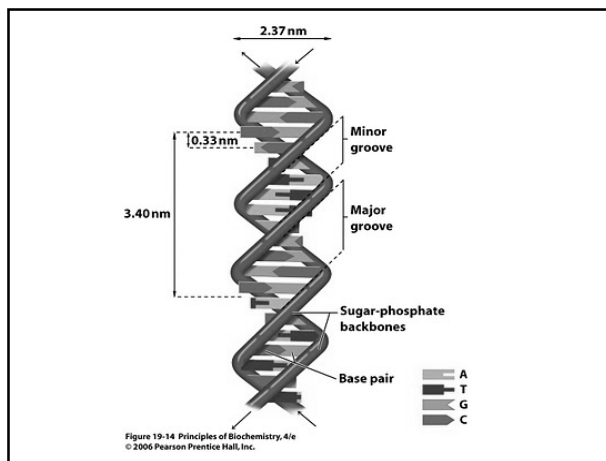
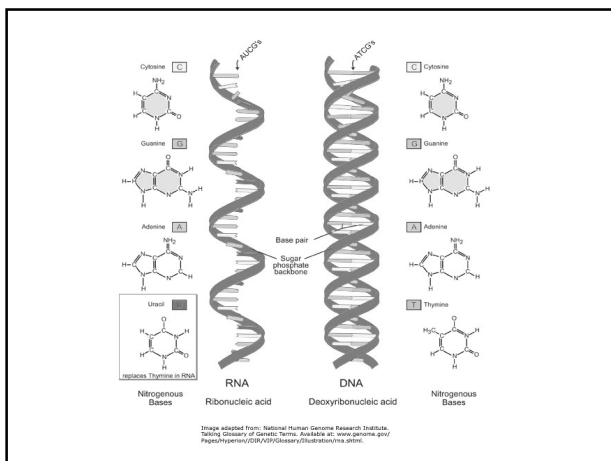
गच्छति इति जगतः , संसरति इति संसारः
'परिवर्तन है जग का नियमनकारक, परिवर्तन के समय
जो न परिवर्तित होगा, साथ रहेगा अहित, न मित
उसका हित होगा' - अयोध्या सिंह उपाध्याय
'हरिऔध'.

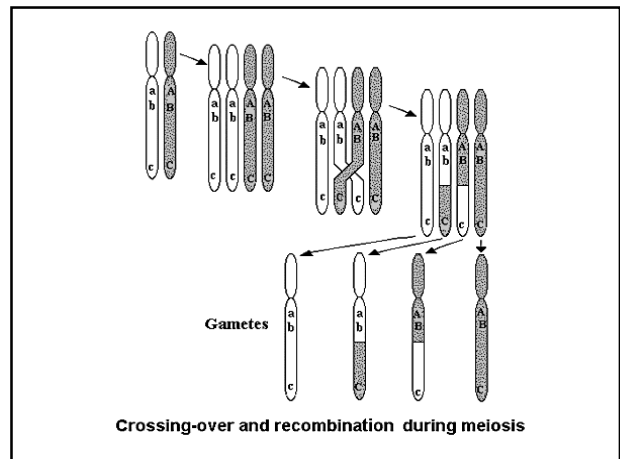
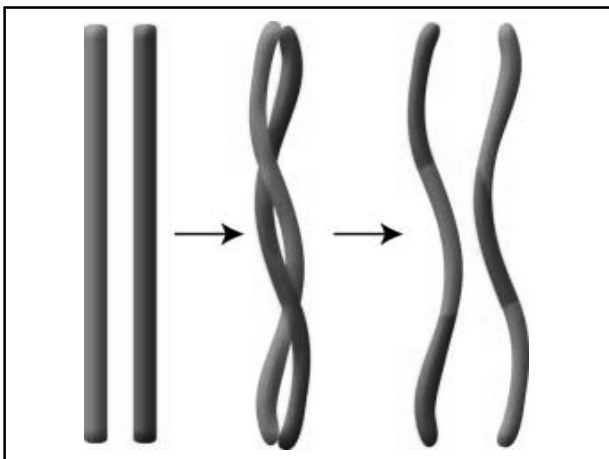
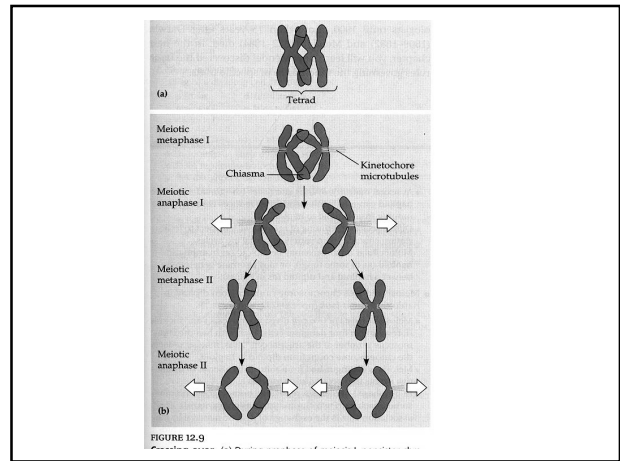
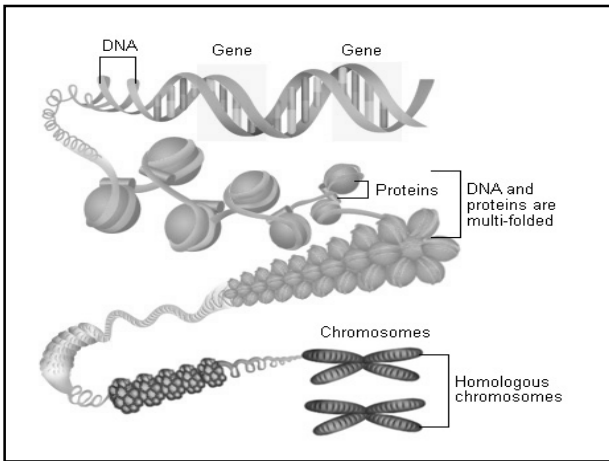
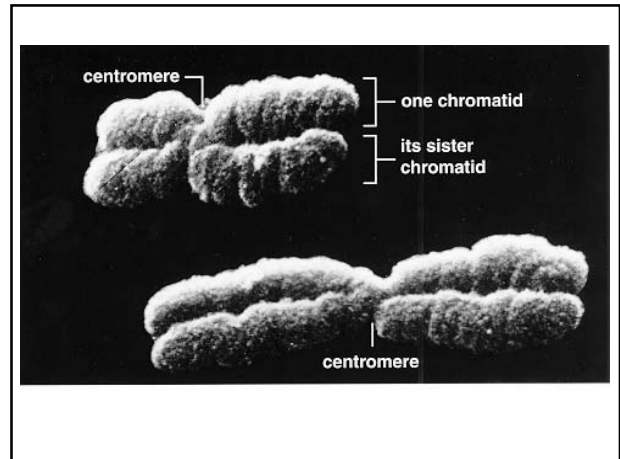
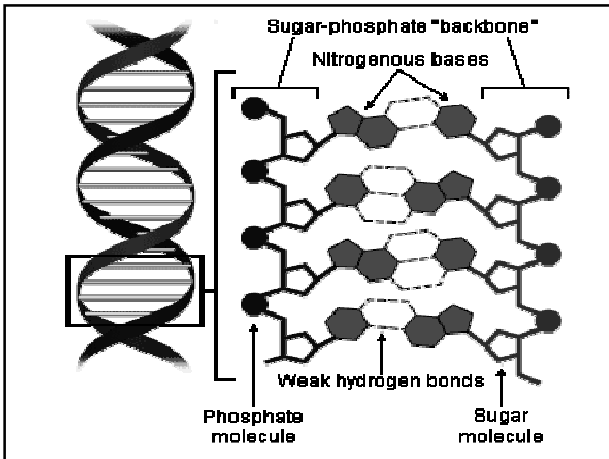
WE ARE ALL AWARE OF EARTHQUAKES AS WELL AS VOLCANOES
 RECENT EARTHQUAKE (TSUNAMI) IN JAPAN!
 EARTH IN ITS CORE IS VERY HOT EVEN TODAY,
 ITS EXTERIOR WAS ALSO VERY HOT AT ONE POINT OF TIME
 UNDER SUCH A HOT ENVIRONMENTAL CONDITION THERE WAS NO LIFE ON EARTH
 ALONG WITH THE CHANGING TIME, THE EARTH'S EXTERIOR BECAME COOLER AND COOLER AND LIFE ORIGINATED ON EARTH ABOUT 3.9 BILLION YEARS AGO!

ELEMENTS CREATED UNDER THE THEN EXISTING PARTICULAR ENVIRONMENT OUT OF THE SAME SUB-ATOMIC PARTICLES: ELECTRON, NEUTRON, PROTON DUE TO DIFFERENCES IN THEIR NUMBER AND STRUCTURE AND SPECIAL CONFIGURATION

SOME OF THE ELEMENTS COMBINED TO FORM MOLECULES
 SIMPLE MOLECULES : H_2O ; $NaCl$; NH_3
 SOME MOLECULES COMBINED AND FORMED MACROMOLECULES!
 ONE SUCH MACRO-MOLECULE WAS RIBONUCLEIC ACID (RNA); PERHAPS THE 'FIRST LIVING SYSTEM' CATALYSING ITS OWN REPLICATION AS WELL AS CATALYSING OTHER CHEMICAL REACTIONS TO FORM STRUCTURES.

RNA, THE HEREDITARY MOLECULE IN THE BEGINNING (SINGLE HELICAL) GAVE RISE TO DOUBLE HELICAL DNA (DEOXYRIBONUCLEIC ACID)





IN MOST OF THE LIVING SYSTEMS DNA IS PRESENT IN THE NUCLEUS
CHROMOSOMES ARE BUILT OF DNA
A SEGMENT OF DNA RESPONSIBLE FOR THE FORMATION OF AN ENZYME IS A GENE

THOUSANDS OF GENES IN EVERY CELL OF OUR BODY
THE SPECIFIC SEQUENCE OF GENES AND THE ENVIRONMENT RESULTS IN OUR UNIQUENESS

THE SAME GENES ARE THERE, LIKE THE LETTERS OF ALPHABET REMAINING LIMITED (26 IN ROMAN, 33 IN DEONAGRI), WORDS AND SENTENCES UNLIMITED; LIKE THE NUMERICALS LIMITED(0,1-9) BUT CHANGING THEIR SEQUENCES THE NUMBERS ARE INFINITE

THE RECOMBINATION OF GENES IS THE RESULT OF SEXUAL REPRODUCTION THAT NATURE HAS CREATED RIGHT IN THE FIRST LIVING SYSTEM

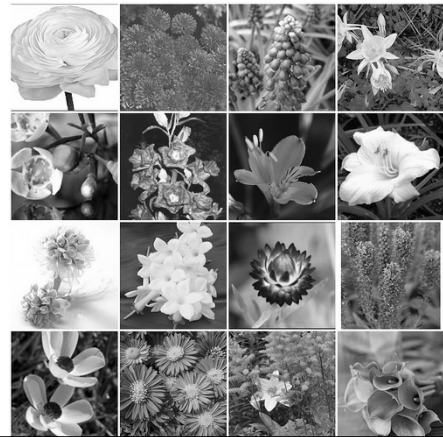
WHICH HAS EVOLVED INTO ALL THE LIVING ORGANISMS THAT EXIST ON EARTH TODAY THROUGH

THIS PROCESS OF SEXUAL REPRODUCTION AND THE ALWAYS CHANGING TIME AND ENVIRONMENT

THE INFINITE INTELLIGENT NATURE
HAS INTRODUCED INTO ITS
STRUCTURE AND FUNCTION THE
EVERLASTING POTENTIALITY OF
BRINGING ABOUT THE INFINITE
VARIABILITY IN THE LIVING SYSTEMS

BIODIVERSITY WHY?

NATURE'S GIFT FOR SURVIVAL IN THE
ALWAYS CHANGING ENVIRONMENT
WITH THE ALWAYS MOVING TIME



LESSON TO
LEARN

EVERY HUMAN BEING ON EARTH IS
YOUR RELATIVE
IN FACT EVERY LIVING BEING IS YOUR
RELATIVE
INFINITE INTELLIGENT NATURE'S
INGENIOUS DESIGN FOR CREATION
OF BIODIVERSITY IN AN ALWAYS
CHANGING TIME AND
ENVIRONMENT TO BE UNDERSTOOD
AND APPRECIATED FOR
CONSERVATION FOR SURVIVAL OF
YOURSELF AND YOUR FUTURE
GENERATIONS