

THE TIME LINE OF MAN. . .

The Meaning of Man's Appearance on Earth. . .

With the arrival of man, then, several very new things came. Animals come to their lives knowing exactly how they will behave according to their instincts, but man instead comes free. He is free to know good and bad. He has the freedom to choose. Therefore, man is responsible for everything that he does. You must feel this responsibility even though you are children (and you want to grow up soon); and this is a responsibility that has meaning even in the little things. For example: after you have eaten in the dining room, I sometimes find that you leave a little piece of bread under your plates. Think of the history of that piece of bread: the work involved in making it, and the responsibility we have to use what we have that requires so much work. Think of all the children who do not have a crust of bread. When you casually rip a page out of a book, think for a minute about that page. Think of the Roman children who had to write on stone. When you next drop your clothes on the floor carelessly, think of the work of the many hands and the animals, too, that contributed to the making of that smock. Think of study: and of the work of all the men who worked to make it possible and beautiful and interesting to study. We have learned from all these men who came before us and worked for us. We must truly appreciate their work. And then we, too, must make our contribution: to be worthy of them and to have something to transmit to those that come after us. Otherwise, we are not worthy to be called men; we are less than the animals.

RESEARCHES: The History of Bread
The History of Weaving
The History of the Materials with Which Men Have Written
ETC.

Part II: Society and Civilization

NOTE: For older children, we can give the real concept of these two words. Now, in a simpler way, once they have gained a basic understanding of man, we can present the ideas. Our point of departure is the animals.

There are many different kinds of animals who live together as a society: ants, bees, beavers, elephants all live in society. These animals seek each other out and unite as a group to survive better. In the porifera, we have a type of society where a group of cells first join to facilitate survival. There are also human societies: but the societies among humans are called civilizations. They are called this because man, in addition to material needs, has spiritual needs.

Use here the chart: The Needs of Man

The civilizations of man are formed more to answer his spiritual needs than his material needs. So "civilization" has been applied to man but not to the animals.

Part III: The Great Civilizations

Material

1. A map of the world, outline form, on which are marked in red the places where the first great civilizations arose.
2. A Time Line showing the progress of civilization. Here we find linearly depicted the appearance and length of existence of the great ancient civilizations in the Mediterranean area. Different colored strips show this along a line marked with the years in black divisions. Below this depiction are drawings which represent the major contributions of the various civilizations.
3. Corresponding arrows to describe each civilization.
4. Small maps, showing the geographical territory of each in relation to the others.
5. History books.
6. Charts showing the different systems of writing; different systems of numeration, etc.

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Presentation #3: More Advanced Concepts

- Part I: The Meaning of the Appearance of Man on Earth
- Part II: The Great Civilizations
- Part III: History/Pre-History
- Part IV: Society and Civilizations

Part I: The Meaning of Man's Appearance on Earth

Materials

1. The Time Line of Life
2. The Time Line of Man
3. Many books and illustrations of the first human and animal environments: to be used in the research work of the children.

NOTE: As an introduction, see AMI Communications Vol. II; 1962. Mario Montessori on the cloud. And important concepts on the spiritual unity that binds the community. Most interesting note from the chart not here shown is that the black ellipse from which lines run to each member unite the persons pictured as community and then, in addition, those persons are united, because of the cloud, by another circle. But the circle, while uniting them, leaves their hands free so that each may pursue his own work and personhood within that community.

Now we have seen both of these time lines and studied them a little. Let's look again at the Time Line of Man and the Time Line of Life to see the great diversity between man and animals. Man is, of course, a part of the Animal Kingdom: Cordate, Phylum Vertebrate, Class Mammal, Order Man. From the beginning of life (shown on the Time Line of Life) we see that there has been an evolution of progress towards perfection. Every animal brings something new. The protozoans with one-cell and then the porifera with several cells united. Here the cells begin to develop according to the function served, and then as the animal life progresses we see the increasing specialization of the cells. The progress continues.

Man has inherited everything he has from the animals: his digestive system, his respiratory system, all the physical capabilities of his body's structure. If every species brought something new, then man must have brought something. What he brought was not something physical; for, in fact, man may have been weaker. He brought a new form of intelligence. An intelligence had always been present, but man had an intelligence that was conscious. Not only does man know, but he knows that he knows. He has the ability to think and reflect. What else did he bring? He brought free hands in order to build everything he needs. Third, he brings the power of the word. The animals had sounds for communication, but man developed language with which he could transmit from generation to generation all of his discoveries. The discoveries became so many that eventually just the word was not enough: he developed the written language. And then no discoveries were lost: he could pass them on. Thus man today can read all of those discoveries of history. He has been able with his intelligence to know about the animals and about man during even the period of pre-history.

All of this is possible because the men of the past contributed all of their work towards the improvement of their lives and ours in turn; their thought and their work and their discoveries make our living comfortable and easy and good.

Man also brought his imagination. When I tell you that the earth revolves on its own axis or "rotates" on its own axis, and that it revolves around the sun, you can't see it, but you can imagine it. You can imagine it because you know what it means "to rotate" and "to revolve." With this powerful imagination, man has succeeded in reconstructing the past and rebuilding all the discoveries of the past in order to build them himself.

THE TIME LINE OF MAN

The child has now been introduced to and studied with the History of Creation, the Clock of the Eras and the Time Line of Life. . . during his elementary years from 7 to 8. Soon after the eighth year, we introduce this next time line---The Time Line of Man. The child works with it for approximately six months prior to his study of the great civilizations. We show here two presentations: that one which considers the general plan of the time line and that one which deals with its broadest details. Later we make another presentation of this time line for the older child of 10-12 which includes a broader spectrum of information and research.

INTRODUCTION: for the teacher

Montessori quotes an Indian story and a parable of Jesus to emphasize our teaching role in relation to history and the cosmic education.

The Indian story: a shepherdess received as a gift two plants: one for her and one dedicated to God. She devoted many prayers to that plant dedicated to God; she cared for it very well, forgetting her own plant. Her own plant grew beautifully; that one dedicated to God died---from too much water, from her over-protection of it from the sun, and because she removed all the insects from it. The plant needed sun for production of chlorophyll, it needed the insects to grow and to reproduce. She killed the plant with too much care.

The parable of Jesus: the hidden talents. The lord departs for a journey, leaving three servants with whom he left respectively 5, 3, and 1 talent. The first two servants, with the five and the three talents, invested and used their money so that the amount increased. Both could show ten talents to the lord on his return. The third servant, with only 1 talent, had buried his during the lord's absence; and on his return, could show still only one talent. The lord praised the first two and scolded the last one who had buried his for fear of losing it.

Montessori says that both stories are relevant to education. Educators and families can be a force that stifles the creativity of the child. In his life there are great energies; and we must cultivate those energies, using the great potentialities he possesses. Finality and causality phenomena, as related to his directions, just exist in equilibrium---THIS IS OUR MAIN INTEREST. Our studies are towards this end, especially in the areas of geography, language, biology and history. Biology and history provide especially important areas where this equilibrium must be struck.

Now that we have seen the paths of the galaxies, the stars and the planets, and as we have encountered the beginnings of life on our earth and that progression, we must begin the history of man.

Scientific authorities have denied that history is limited by written traditions. They have eliminated the dogma that the species cannot change. Archeology shows us that there are always more important discoveries to be made which help us fill in the unknown gaps in the history of man, his existence and his origin. There is a great enlightenment on that part of history called pre-history. We can conclude that the source of all civilizations is one. No civilization can boast that they are the primogenitors, the first race, the originators and claim certain privileges. With that idea of a single origin of man, we proceed to the time line of man.

The Time Line of Man should be followed by another time line depicting in detail the last part of the Neozoic Era. Through both of these materials we present: The Contributions of the Different Human Groups to the Development of Civilization.

Our aim is here to give the child of 8 years the succession of the different human groups, and the progression of different human cultures. They must realize that evolution did not stop with the arrival of man, as demonstrated by the difference between the level of development of primitive man and the species as seen in we ourselves. Evolution and culture present a continual process of development towards the perfection of the species.

The size of the actual time line is 3½ meters long. It is divided into several parts, examining a period from 500,000 B.C. (and essentially showing before that time considering the generalizations we must make about the period of time this far in the past) to the present. Each of the sections marks 100,000 years. Several rows of titles in dif-

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Above this center black line are represented the positive values of temperature, those above 0° centigrade; and below the line represents those temperatures below zero. Again on this time line we see the ice cycles noting the glacial periods. Pictured above the line in sequence of their appearance as fossils of the periods are the implements and tools made by man during his development. Below the line we can see the human habitations in the different human environments as well as scenes denoting major developments. The small black numbers at the bottom indicate the different periods in more precise detail. However, it is important to remember that this far back in time, we do not fix very many dates with precision. That this time line is meant to depict, in fact, the 1,000,000 years shown on the clock of eras as the Neozoic Era. But, should we attempt to depict that entire million years in an illustrated way, we should find that much of our line would be empty because we have so few details. Therefore, we have condensed the information into this period of 500,000 years---using all the information we have and considering that some of those men and the events depicted may, in fact, extend into that first 500,000 years during which time we know that man appeared.

Presentation #1: **The General Plan:** Level One

We begin by displaying the Time Line of Life and the Clock of Eras, reviewing the names of each of the eras until we come to the last red section: the Neozoic Era. Here we explain that this last short red part of the time line has been stretched out in order to see better what happens during it. . .and so we have it represented on this new Time Line of Man. However, we point out that the length of time represented is only $\frac{1}{2}$ of that million years, therefore, 500,000. That we know very little about this distant time period in the past; and, were we to depict that whole million years, much of our line would remain empty---and it would be very long.

Introduce the title rows:

1. The red strip at the top of our time line reads: the Quaternary Era or the Anthropozoic Era or the Neozoic Era. On our Time Line of Life we studied three eras (locate those on the time line), and here is the fourth era: the Quaternary Era. It is also called the Neozoic Era, or the era of new animals. The word Anthropozoic Era is another name for this same era, coming from the Greek words anthro (man) and zoic (animal). So this last title points out most specifically the importance of this era; the event which we will study: the appearance of the new animal man.
2. Then we have an orange strip which gives us the names of the periods into which this period is divided: The Pleistocene Period (meaning the very newest); and then a very short yellow strip of only about 10 centimeters which is the Holocene Period. (meaning newer than the newest)
3. Next we have a row which is a long strip naming the three divisions of the Paleolithic Age. First the Lower Paleolithic, then the Middle Paleolithic and finally the Upper Paleolithic. Paleolithic means "old little stone," and that title refers to the tools made during this period. During this long period of time, man stayed at basically the same level of civilization. The words lower, middle and upper refer to the depth at which the fossils of these periods have been found. Which would be the deepest? At the end of this long strip of the Paleolithic Age, we have three small colored sections and then two very very narrow strips of color that each represent another part of the development of man---that part of man's history that seems very recent now to us. First, in bright blue, we see the Mesolithic (the Middle Stone) Age. During this age, the tools that men made of stone were different, more precise, better than those made for so many years before. Then we have the Neolithic or New Stone Age in a bright green section. Next a light green part of the strip shows us the Aneolithic Age during which man discovered metals---this is sometimes referred to as the Iron Age. The discovery of metals was a very important event in the history of man. Next we have the narrow strip of brown which shows the Age of the Machine. Here is another very important event in man's history; for he is suddenly freed from much of the manual work that he has had to do for thousands of years. And then there is a tiny blue strip at the very end of this row

THE TIME LINE OF MAN. . .

Presentation #1: The General Plan. . .

We see during this 500,000 years many glacial periods. They came very often after the appearance of man. On our time line we can also see the tools made in different ways; but we see that man is making tools all during this time. At the very end of the paleolithic age he begins to use bones to make his implements, having used stone for a long long time. After each of the glacial periods, we see new types of plants. Only the coniferous plants are able to resist the low temperatures. We also see many different animals pictured here on the time line that help us understand those animals which affected the life of man.

NOTE: If the children are familiar with the thermometer, mention the representation of temperature in specific degrees represented by the center black line.

Presentation #2: Proceeding to the Details

When man appeared, no one knows exactly when, how were these men?

As man is a mammal, it is believed that his origin is with the mammals. Monkeys are mammals; so are kangaroos and lions. It is a habit to say that man comes from the monkey, but this is really not true. There are actually more similarities between man and an animal that lives in the Phillipines called the TARSIER. What we can say for certain is that man forms a particular group of the mammals, different from all the other mammals in many important ways. Man developed in a very special way, in an upright position, with his front limbs free.

In our study of the Time Line of Life, we learned that fossils were found from the different periods of time which helped us understand life in the different periods. Here our clues to the times are the implements that are pictured on the time line. This is the real difference between the two time lines. The fossils tell the story of the animal's history; we know man's history through the tools and objects that he made with his hands. Through those objects we are able to reconstruct the history of man.

We know that early man was poor, naked and defenseless against wild beasts who were much stronger than him. Before the appearance of man, there were many long warm periods. During man's history the warm periods are shorter and there are many glacial periods. The glacial period that begins our time line is the longest that we know of. It is during this time that we believe man appears. The very long warm periods are not known again after this glacial period. Remains of tropical plants and animals have been found in Northern Italy which is proof that at one time in history the warm periods lasted a long time.

And so man comes, with no hair or fur, with no natural defenses. The animals probably paid no attention to him. But man had something special: a special intelligence characterized by the power to reflect and imagine. The animals have intelligence, but in a different form. The animals have the capacity to know, but man has the capacity to know that he knows---and we call this reflection.

AND man has two skillful hands: free because he walks. With them he makes those things he needs to survive, to become the strongest and to master the earth.

AND man has words with which his experience is passed on from father to children. The animals can communicate among themselves, but man has his own language with which he can express all of his joy and suffering, all of his experiences, all of his thoughts.

NOTE: We must help the child look at and appreciate with deep feeling humanity and his real part in it. The idea is important that humanity, through the work and suffering of all past ages, has gone before us to make life easier and good as it is now,

THE TIME LINE OF MAN. . .
Presentation #2: The Details. . .

And so we have talked about the arrival of the first men. Our chart will help us try to reconstruct the lives of those men. The longest period, the Lower Paleolithic, which goes from 500,000 B.C. to 180,000 B.C. is still cloaked in mystery. We do know that during this time FIRE was discovered, though we don't know how. Maybe men first became acquainted with fire when lightning struck---but somehow he had to learn how to reproduce that fire. Before he discovered how to produce fire, a living fire must have been protected very carefully to keep it going. Religious cults later developed rights of fire which involved certain persons who were educated to keep the fire alive on the penalty of death---and this tradition continued on until the Roman times when those persons were called the vestal virgins.

These men have received many different names, but we call them generally hominoids. We do not know how closely they resembled man. During the Lower Paleolithic Age, as the time progresses, we see more specific human characteristics. These men begin protecting themselves with animal fur. They still make implements of stone. They ate raw meat, and lived in trees or caves. Their implements had an almond-shape. This is a period of many different mammals.

The next glacial period, after the Lower Paleolithic Age, begins a new age in which we find new kinds of implements; and there have been many such implements discovered from this period. After each glacial period a new kind of man appears. The first skeleton of the man we meet after this glacial period was found in a German valley: the valley of Neander and thus he takes his name: Neanderthahl Man. He was very special, with specific characteristics: he had protruding eyebrows and nose, a receding chin; and actually man today has characteristics more similar to the earlier man than to this one. At this time the implements become smaller, and those have been discovered which were attached to a stick. We know that these men buried their dead because such tombs have been found. Also this man hunted with spears. The most common animal at this time is still the mammal. This is the Middle Paleolithic Age and it falls between two glacial periods. It lasts from 180,000 B.C. to 60,000 B.C.

After a short glacial period, we have the Upper Paleolithic Age. The Neanderthal Man has completely disappeared. At about 40,000 B.C. Homo Sapiens appears, the species of which we are a member. (The Carbon-14 proof gives us clues according to the layer dating here.) Homo Sapiens still lives in caves. We know he was more developed; that he was a higher being; that he was an artist. Many of his paintings have been found in caves of France and Spain. Now objects become smaller and more refined. Necklaces have been found that the women wore. At this time women are dedicated to the home chores and the men hunt. It was believed that the woman was a very high being. Men begin to build some kinds of huts. They begin to cultivate the land and grow grain. The true family group begins to develop.

We are at the end of the Paleolithic Age. It is the year 16,000 B.C. Here there is a short cold period which lasts for only 2,000 years. Then we meet the Mesolithic Age. Man began to produce many implements made of bones: for cooking, for sewing (needles for fishing (hooks), and hunting (spear heads). In the work done with stone there is much more precision and variety.

The Neolithic Age is called the period of New Stone. Now many human groups settle and become cultivators of the land. They turn to agriculture rather than hunting. So the nomadism, the following of animals, gives way to the growth of grains, fruits, and vegetables. ~~XXXXXXXXXX~~ We see the first villages built on land as well as pile dwellings. Man learns to domesticate some animals, to milk cows.

The Aneolithic age is the age of Very New Stone or the Age of Metals. Here begins the age of the Great Civilizations. We move from pre-history to history,

NOTE: The above presentation is given one period at a time. After each one, the child-

Arrows for the "Time Line of Man"

(1) LOWER PALEOLITHIC: First Interglacial Period

Man appeared on the Earth during a glacial period. He was the weakest of all the animals but he possessed something that the others did not have. He had a greater intelligence, imagination, and the power to reflect.

The first period shown on our time line is the Lower Paleolithic which is divided into two parts. The first men who lived in this First Interglacial Period were called HOMINIDS because they did not look much like men.

(2) LOWER PALEOLITHIC: Second Interglacial Period

The men who followed them in the Second Interglacial Period were true men. They lived by hunting and fishing and for the most part, ate raw meat. Their only tool was a simple chipped stone in the shape of an almond, called a flintstone.

There were many mammals in this period including rhinoceros, elephants, hippopotami and saber-toothed tigers.

As we have already seen, during the warm periods many different types of trees developed. During the cold periods, only the conifers developed.

(3) MIDDLE PALEOLITHIC

In this period a man appeared known as NEANDERTHAL MAN. His was given this name because his remains were first found in the Neander Valley in Germany. He was a short stocky man with heavy brows.

The stone tools of this period are smaller and better worked. These men still lived by hunting and fishing.

The most important animals of this epoch were the woolly mammoths and cave bears.

(4) UPPER PALEOLITHIC

A new man appeared called HOMO SAPIENS. This man was the first to have the same appearance as man today. He lived in caves. Some caves with beautiful wall paintings have been discovered in France and Spain. The objects which he used were also greatly improved. Hand axes, stone knives, scrapers, and needles have been found.

(5) MESOLITHIC

This is the period of the Middle Stone Age. Stone working became continually more refined. Many of the objects that have been found were made not only of stone, but also of bone, such as harpoons, needles, hammers, arrows, and spearheads attached to a support.

(6) NEOLITHIC

This is truly a new period. Many groups of men changed from hunting to agriculture. The women dedicated themselves completely to domestic chores and caring for their children. Besides grain, man also learned to cultivate fruits and vegetables.

The first villages appeared, located either on dry land or on stilts above water.

These men domesticated animals and learned to milk them.

(7) ENEOLITHIC

The Neolithic Period was followed by the Eneolithic Period, also called the Age of Metals and the Age of the Great Civilizations.

With this we pass into history that continues up until our time and will continue as long as man lives.

THE TIME LINE OF MAN. . .
The Great Civilizations. . .

Now that we have studied man, we must study the little green section on the Time Line of Man, the Aneolithic Age or the Age of Metals. Here we pass from pre-history to history. Here man discovers metals: bronze and iron. This period is also called the period of the great civilizations. No longer did man only form little villages, but he builds now great cities and great empires. Several of these civilizations have left us writings that tell us about those civilizations.

On this map (with civilizations located, shaded in red) we see the location of the first great civilizations. Let's begin with those of America: the Aztecs, the Mayas, the Incas. They arose and flourished long before the Europeans went to America. Also there are those in the islands of the Pacific: a great civilization must have existed here, but it is still a mystery. Then we have the civilizations of India and China about which we know a great deal, not only from the remains, but also from the many legends about these civilizations. There was a Greek named Herodotus who wrote alot about these peoples. And another man named Marco Polo spent twenty years in the court of the emperor of China and wrote about it. When he returned he was called a liar and imprisoned because of the tales he told. It was in prison that he wrote a book called "The Million," a title he chose to express the riches of China. You may read about each of these great civilizations and find out more about them.

We sill study those civilizations which had the most influence on our culture: the Mediterranean cultures. Here is the Time Line of those civilizations we are going to study. There are several strips representing a different civilization. Some begin far back in history, others begin later and are shorter. The dates here help us mark the time of these civilizations. The longest strip is that of the Sumerians, from which civilization came that of the Babylonians and the Assyrians. On the map we can locate the position of Babylon, the capital of Babylonia; and Ur, the capital of ancient Assyria. Then we have the strip of the Egyptians beginning after the Sumerians.

Next we see a strip beginning that begins as Crete, then Mycean, then Greek. This strip tells the story of the Greek people. The great civilizations of Egypt, Assyria, and Babylon were carried to the tiny island of Crete where this all begins.

Next we see the strip of the Hebrews. This is the story of a people who lived in a place on our map where there is still much going on.

Then we have the Phonecians, another Mediterranean people, without a country, but masters of the Mediterranean world. These people built a great city which we will study. Tyre and Carthage were the most beautiful cities of antiquity. Further along we have the strip of the Persians and the Medes. Then we have a last yellow strip which is the Roman civilization.

On the time line we see how the civilizations are parallel; they do not just appear and disappear. At a certain point, four of the civilizations are absorbed by the Persians. And then all, except Rome, become absorbed by the Greeks with the appearance of Alexander the Greek. This is called the Hellenistic period of Greece. And finally the whole world is swallowed by the Roman civilization.

The strip begins at the year 3,500 B.C. and ends with Christ's birth. So we call these the "ancient civilizations." The symbols on the time line represent particular constructions or contributions of each group. As we study the groups, you can find out in your research more about each of them. On the arrows with which we will study the time line are the most important facts about each civilization: those things which we must remember about each one.

2600
Pyramids
⑦

2500

2400
Ziggurat - tower
of Sumerians
⑧

2300

⑨

2200
Helena
⑩

2100

Bob's astronomy
⑪

2000

1900
Phoenician
ship
⑫

1800

BABYLONIANS CONQUER Mesopotamia

PHOENICIANS

MESOPOTAMIA

HEBREWS

CRETE

3500

3400
Sumerians
wax-coat
①

3300

3200
Sumerian
cylinder
③
Mene
②

3200

3100

3000
Egyptian
building
④
Chas. Hawkins

3000

2900
Egyptian
Obelisk
⑤

2900

2800
Hittite
alphabet
⑥

2800

2700

SUMERIANS

EGYPT
High Empire

THE TIME LINE OF THE GREAT CIVILIZATIONS : Key to the strip

1. An old cart used by the Sumerians in war.
2. Menes is the first Egyptian king. (His dynasty and the five that followed constitute in Egyptian history the period of the Old Kingdom.)
3. A clay sphere with Sumerian handwriting.
4. Egyptian architecture had a characteristic style of grandeur.
5. The Egyptian Obelisk was a sun symbol, like the sphinx.
6. Hieroglyphics---a figurative alphabet. The Egyptians used it in the inscriptions on their monuments.
7. The pyramids---the tombs of the Pharaohs. Cheops, Khafre and Menkaure were the principle ones.
8. The Ziggurat was a tower of graduated stairs to the Sumerian temple.
9. The Babylonians prevailed on the Sumerians and conquered Mesopotamia.
10. The Hebrews, a nomadic people, guided by Abraham, situated in Palestine.
11. The Babylonians were the first students of astronomy.
12. The Phoenicians were a people of navigators and merchants.
13. The Phoenicians invented the alphabet.
14. Only the Hebrews, among all the ancient peoples, had the concept of one God.
15. The Assyrians ~~are~~ overcome by the Babylonians. (The Lion of Nineveh) *my date: 705 B.C.
16. Ceramics were one of the most flourishing industries in Greece.
17. The three types of Greek columns: Doric, Ionic, Corinthian.
18. The founding of Carthage, a Phoenician colony.
19. The founding of Rome.
20. The seven kings.
21. Nebuchadnezzar destroys Jerusalem. 685 B.C.
22. ~~Ciro~~ ^{Cyrus} destroys Babylonia. 637 B.C. (?????)
23. The Persians constructed roads for a postal service, thus facilitating the traffic.
24. Cambyses (530-521 B.C., son of Cyrus the Great), king of Persia, subdues the Egyptians.
25. Pericles. The Golden Age of Greece. (450 B.C.) The great Greek names: Aeschylus, Sophocles, Euripides, tragedians; Phidias, Praxiteles, sculptors; Homer, Pindaro, Sappho, poets; Socrates, Plato, Aristotle, philosophers; Euclid, Archimedes, mathematician
26. Alexander the Great overcomes the Persians. (350 B.C.)
27. First Punic War (365 - 340 B.C.). 28A. Second Punic War (200 - 220 B.C.)
32. Horace, Livy, Virgil.
33. The Golden Age of the Empire. (100 - 200)
34. Roman aqueduct.
35. Rome shines in every area: in literature, in the arts, in law, in engineering.

THE STUDY OF CIVILIZATIONS: A Research Work

We know that history must be taught, not as a succession of wars, but as a study which seeks to understand how people have really lived in the past, considering all the facets of their lives. This is the history of real life. And so, in this work, we examine the big question: "How do the people live?" as applied to different civilizations.

We have said that children must do their own research, but we must help them begin. And it is through this material that we give the child the guidelines for research. The backbone of the material is the series of questions which Montessori composed. These questions are shown on a series of four charts, there being five major questions (two found on one of the charts). These leading questions are then broken down into more specific questions under each of which, on the charts, there is a rectangular space drawn where the index cards giving the answers are placed. The charts are color-trimmed and those answer cards which match each chart are also color-trimmed; the colors have no significance, but act only as a help in the organization of the material. Thus, for the series of answer cards on a particular civilization, there is a set of orange-trimmed cards which goes with the first chart, another group which is blue-trimmed for the second chart, etc. Because there are thirty such question/answers cards, the color-coding is a necessity for the work.

The answers are carefully written, prepared as a model of clarity and brevity. They are the guides to the child's further research, the keys which he will begin to understand and use in his own work, particularly written answers. Through his work with this material, we are showing the child how to organize his own organization. But it is important that he sees the material only as a beginning. Thus we should prepare only the card answers for a few of the civilizations: here prepared are the Sumerians, the Greeks, the Romans, modern Italy. We suggest "The United States today."

THE DIRECT AIM of the work is to indicate to the child how to give a precise complete answer without writing a whole book. To offer him a means to effective mental organization as well as a useful tool for his research work.

Presentation

1. Introduce the charts, and with the child read all the questions on each of the charts. Explain that the color-coding is a means of organization.
2. Introductory statement: We have prepared the answers for these questions for only a few of the civilizations. As we use these prepared answers, we are discovering **how to do research**. To study a civilization it is not enough to know what battles were fought. We must know the environment, the habits of the men, the ways of their life. History is thus formed by the total life of a civilization. **If it were not so, it would be impossible to make a history of a civilization in a time of peace.**
We can write the history of Italy yesterday if we consult the newspapers, and various other sources of information. **But we cannot write the history of today yet because it is still happening.**
3. Examine the questions more closely, clarifying the definitions of the terms. If the children do not understand the terms well, they should go back to the geography nomenclature for clarification and redefinition. Knowing the precise concepts of the given terms enables the child to clearly understand the question and later to write concisely statements which would otherwise require many words.

As the questions are considered we must ask the questions: **What books will we use to find out? What do we look for?**

Thus, even before the answers are introduced we are giving an idea of where those answers come from.

STUDIO DELLE CIVILTA'
STUDY OF CIVILIZATIONS

I CARTELLONE - COLORE ARANCIO
1st CHART - COLOR ORANGE

- I. COM'E' L'AMBIENTE NATURALE?
WHAT IS THEIR NATURAL ENVIRONMENT LIKE?
1. COM'E' IL TERRENO?
WHAT IS THEIR LAND LIKE?
 2. COM'E' IL CLIMA?
WHAT IS THEIR CLIMATE LIKE?
 3. QUAL E' LA FLORA?
WHAT IS THE FLORA?
 4. QUAL E' LA FAUNA?
WHAT IS THE FAUNA?
- II. QUALI SONO LE ATTIVITA' UMANE?
WHAT ARE THEIR HUMAN ACTIVITIES?
1. COM'E' L'AGRICOLTURA?
WHAT KIND OF AGRICULTURE DO THEY HAVE?
 2. QUALE E' IL TIPO DI INDUSTRIA?
WHAT KIND OF INDUSTRY DO THEY HAVE?
 3. COME SI SVOLGE IL COMMERCIO?
HOW DO THEY CARRY OUT THEIR COMMERCE?

II CARTELLONE - COLORE AZZURRO
2nd CHART - COLOR BLUE

- III. QUALI SONO LE ESPRESSIONI DI QUESTA CIVILTA'?
WHAT ARE THE EXPRESSIONS OF THEIR CIVILIZATION?
1. QUALE LINGUA SI PARLA?
WHAT LANGUAGE DO THEY SPEAK?
 2. COME SI SCRIVE?
HOW DO THEY WRITE?
 3. QUAL E' LA RELIGIONE?
WHAT IS THEIR RELIGION?
 4. QUALI SONO LE FESTIVITA' E LE CERIMONIE?
WHAT ARE THEIR HOLIDAYS AND CEREMONIES?
 5. QUALE SCOPO HANNO LE PRATICHE RELIGIOSE?
WHAT EFFECT DOES THE RELIGION HAVE ON THEIR DAILY LIFE?
 6. COM'E' LA LETTERATURA?
WHAT IS THEIR LITERATURE LIKE?
 7. COM'E' L'ARTE?
WHAT IS THEIR ART LIKE?
 8. A QUALI SCIENZE CI SI INTERESSA?
WHAT SCIENCES INTEREST THEM?

III CARTELLONE - COLORE ROSSO
3rd CHART - COLOR RED

- IV. COME SI E' RAGGIUNTO QUESTO SVILUPPO SOCIALE?
HOW HAS THEIR SOCIAL DEVELOPMENT EVOLVED?

1. QUAL E' STATA L'ORIGINE DELLA POPOLAZIONE?
WHERE HAVE THESE PEOPLE COME FROM?
2. PERCHE' SI ERA STABILITA IN QUESTA REGIONE?
WHY HAVE THEY SETTLED IN THIS REGION?
3. COM'E' ORGANIZZATO LO STATO?
HOW IS THE STATE ORGANIZED?
4. COM'ERA AVVENUTO L'INCONTRO CON LE ALTRE POPOLAZIONI?
WHAT KIND OF EXCHANGE DO THEY HAVE WITH OTHER PEOPLE?
5. QUALI GUERRE SONO STATE COMBATTUTE?
WHAT WARS HAVE THEY FOUGHT?
6. QUAL E' LA GERARCHIA SOCIALE?
WHAT KIND OF SOCIAL HIERARCHY DO THEY HAVE?
7. QUAL E' LA FORMA DI GOVERNO?
WHAT FORM OF GOVERNMENT DO THEY HAVE?
8. COME SI SVOLGE IL SERVIZIO MILITARE?
WHAT ARE THE MILITARY OBLIGATIONS OF THE PEOPLE?

IV CARTELLONE - COLORE VERDE
4th CHART - COLOR GREEN

- V. QUAL E' IL SISTEMA DI VITA?
HOW DO THE PEOPLE LIVE?
1. COME CI SI VESTE?
HOW DO THEY DRESS?
 2. COME CI SI NUTRE?
WHAT DO THEY EAT?
 3. COME SONO LE ABITAZIONI?
WHAT KIND OF HOUSES DO THEY HAVE?
 4. COM'E' L'ARREDAMENTO?
WHAT KIND OF FURNITURE DO THEY HAVE?
 5. QUALI UTENSILI SI USANO?
WHAT KIND OF UTENSILS DO THEY USE?
 6. COM'E' ORGANIZZATA LA FAMIGLIA?
WHAT IS THE FAMILY STRUCTURE LIKE?
 7. COM'E' ORGANIZZATA L'EDUCAZIONE?
HOW IS THE EDUCATION ORGANIZED?

THE TIME LINE OF MAN: Second Presentation

The Introduction for the Children. . .

. . .we already know something of this Time Line of Man. Now we are ready to look at the details that we can find on it.

This Time Line of Man should tell us the exact date and place when and where man appeared, but it doesn't. This is because that time and place hasn't been discovered. A strange thing happens on this time line as it did on the Time Line of Life with our study of the animals: the linking rings are missing that mark the passage from one animal to another; or from man at one stage of development to another. We first discover the new beings when there are many of them; but already the link is gone between this new group and the old. On the Time Line of Life, the Age of the Fishes is clearly defined, but we don't know WHEN the first fish appeared nor the first amphibian, etc. That information, the first appearance of the new, is always hidden, unknown.

All groups are small and insignificant at first: then their numbers grow, leaving visible traces of their life on earth. So we can imagine that this same thing happened with man: at a certain point he appeared. The clues left by these first small groups are so few that it is almost impossible to reconstruct the image of their lives.

We KNOW that man appeared during the first glacial period we see on the chart. It was one of the longest glacial periods in the history of the earth. There are clues which reveal that there have not been the long warm periods again after this glacial period. Before the glacial period, there were long extremely warm periods of time on the earth.

What causes the great glacial periods? the great climatic changes which have always existed? Scientists do not agree on the reasons. Some say that the glacial periods occur when the earth is farther from the sun, when there is the greatest inclination of the earth's axis. Others say it is due to the sudden rising of mountain chains. Still others say that the marine currents are the cause. Some say the sun spots cause glacial periods and some that they are due to the shifting of the continents.

We know that the land originally was one large mass and that it divided, split into parts. If the continents continue to move apart, the Atlantic Ocean will grow larger, and the Pacific will get narrower.

At the beginning of the Quarternary Era (Neozoic) a great part of Europe was covered by ice, including all the Alps. This ice, in fact, caused many of the Alpine valleys. When the glacial ice melts, lakes are formed; such as the Great Lakes in the United States. The ice brings with it enormous rocks, tree trunks, etc. which are deposited on the land and in the valleys which it forms. In the Northern part of the United States there are many extremely rocky lands as a result of the glacier.

The glacial period is characterized not only by extreme cold, but also by humidity. It is called the Diluvian period. (from Latin diluvium, flood, to wash away)

Thus man appears in this hostile world covered by ice. Men at this time were often located in very cold areas. Some theorize that those groups who had moved towards the warmer parts were territorially defensive, thus preventing other groups into their areas. Or perhaps some groups of these early men had adapted well to the cold and like it! Certainly those groups of men located in the cold areas had to deal with a difficult set of circumstances and it was necessary to develop the intellect in order to deal with those difficulties. Their brains developed; their culture developed.

INTRODUCE NOW THE TIME LINE OF MAN: Our Time Line doesn't start a million years ago because one million years ago began the long glacial period of Gunz. At 480,000 we enter the interglacial period of Gunz-Minden. There follows the glacial

THE TIME LINE OF MAN: Second Presentation. . .

REVIEW TERMS: "paleos" and "lithos" What is the difference between these names used on the Time Line of Man and those for the Time Line of Life? "zoic" in the terms for the Time Line of Life referred to animals; "lithic" refers to stones. Now we are no longer referring to the actual body remains as in the animal fossils, but we refer to the objects which man has made with his hands. Through the fossils of animals and plants we construct the history of life up to a certain point. But the history of man is interpreted through his handmade objects. In order to be qualified ^{as man,} he must create with his hands.

In this time of prehistory, we speak of culture in terms of a group of men who made tools: artifacts, pots, ceramics, drawings, etc. The classifications of the three paleolithic divisions is according to the tools found.

Men of prehistoric times used stones for everything: as knives, hammers, weapons. At about 300,000 man achieved different shapes in his tools. By hitting one stone with a larger one he produced the almond-shaped tool, which was usually about 10 cm. wide, 15 cm. high. Many such tools have been found in different locations all over the earth. It seems that the use of the same tool was occurring at the same time in many places. The history of man starts with the use of this stone. Its use continues for a long time, though it is refined somewhat, sharpened, more carefully shaped.

This whole period is called the Paleolithic age because it is the age of the chisel, the rudimentary tool at the very beginnings of its development.

With the third interglacial period, that of Riss-Wurm, we begin the Middle Paleolithic Age. This interglacial period begins at 180,000 and ends about 60,000. All the previous types of men disappear. We have a new man: small, very strong, with a brain more developed, prominent eyebrows a notable feature of facial construction. The remains first discovered of this man give him his name, from the German valley Neander, the Neanderthal man. Remains of this same kind of man have been found in many places---he was spread over a great area. His culture was called Mousterian because his artifacts were located in a cave in France in the locale of Mouster. This man's tools are more refined, the stones are thinner and there are new shapes. Bones have been found that are cut and broken up indicating that he ate the marrow. The Neanderthal man buried his dead in the fetal position as shown on the time line---often the skeletons portions discovered are located in such a position. He dressed with feathers put together with tendons which were used as thread. He had specific rites, rituals, ceremonies. He already possessed a kind of language and he was a hunter. The houses of these men were still caves. The animals in this time were the bear, the elephant, the hippopotamus, the reindeer, etc.

The Upper Paleolithic age is ushered in by the glacial period of ^{Wurm} Buhl. Then we have the interglacial period of Wurm-Buhl from 40,000 - 16,000. Neanderthal man disappears. A new kind of man, similar to the physical type today appears: Homo sapiens. Probably this man existed before the glacial period, but we have no remains to indicate his presence then. Perhaps his increased intelligence was due in part to the necessity for adapting in order to survive that glacial period. It is in this new species that the brain has developed the most---and then that development stops. This man inherited all the previous cultures. During this last period, man's culture progresses rapidly: more during this short period of 60,000 - 16,000 than in all that time before.

The period is divided into cultures named according to where the tools were found. Tools now appear of bone, well worked, finely elaborated, beautiful arrowheads called "laurel leaf." Human art develops: great artists painted many caves. Men wore ornaments, formed tribes, had religious rites. During this time it is supposed that man reached North America by way of the Bering Straits. It is a time of great migrations. And the racess began to distinguish because man began to settle in groups in various geographical locations. According to the climate, certain racial characteristics developed. These men buried their dead with many artifacts, fine tools, etc.--thus we can construct their history.

mountains or hills, or in underground caves, the holes of which they covered with straw. This is still a very cold period. The reindeer is a great friend of man who ate the meat of the reindeer, used his skin for clothing, and his horns and bones for stronger and better tools. Sometimes it is called the **age of the reindeer**. Men captured reindeer when groups of these animals would gather at a watering place. There were also **horses**: men captured them by driving a group to a precipice until they fell off. Man had also learned to make traps by covering holes in the ground into which the animals would fall and thus were captured.

Many kinds of vegetables grew: men learned to distinguish them and eat them. He also became acquainted with a particular kind of grain.

THEN we have the cold period of Buhl. Homo sapiens is now slightly different. In Europe he is called the Alpine man. He received other names according to where his remains were found. This is the **Mesolithic Age** from 14,000 - 8,000. Remains of Homo sapiens have been found in Galilea, Syria, Australia, Egypt. There were many different groups and many different cultures. Large stone faces have been found, sculpted and painted during this period. Man had learned to make fishing hooks and nets. This is the **transition period from the Paleolithic age to that period which begins actual history.** It is during this period that agriculture is started. Man domesticates animals. He had tools for cultivation. He had scythes to cut grass. Thus we pass from pre-history to history. And we enter

The Neolithic Age (New stone). Of course this progress in man's development did not occur in the same degree or way in every group. There are still some groups of men living now in isolated areas where the development of the civilization has not progressed far beyond the degree which we find at this point in history among men. Marking **the great passage to history is agriculture.** It was agriculture which obliged man to settle down and cease nomadism. Man no longer needs to move always in order to hunt animals and thus to eat. His food is insured by his own work. Thus agriculture makes civilizations possible.

The great civilizations only developed in certain parts of the earth. Other groups remained at the level of the Mesolithic cultures.

It is interesting that the longest period is that of the Lower Paleolithic Age. Each of the successive periods is shorter than the one before. The needs of each new kind of life require a greater mental effort. And these new efforts come one after the other in close sequence, constantly accelerating progress. Whether man wants it or not, he must progress, he must develop: this is evolution's law. When one reaches a high level of development in the civilization, he takes a rest while another group grows stronger and continues the development. Thus the great civilizations are always being overcome by another stronger and more intelligent group who have passed the others around them in development.

During the ages of the Paleolithic age, there are witches, artists, hunters. Man did not know his environment. He wooed nature as a friend with magic rites. He had many gods who he appeased with such rites.

Now man knows his environment and has conquered it. He has become the ruler and the transformer of his environment. When there was a beginning of culture, the population increased. When man was a nomad, the children were a problem because of the difficulty of constantly transporting them. When he began to cultivate the land, there was time to make children and good reason, for their help was welcome to cultivate the land. A new way of life has appeared. The child now has a way to be active and and to become a real participant in life. Man's instruments and tools have become more perfect. His interest has developed in many areas such as ceramics. Trade begins. Rivers and oceans become a means of communication. Boats become more perfect. The textile industry begins. Man had learned how to make his own clothes. The dead are buried with very rich things: necklaces, vases, ornaments. With the development of agriculture, villages are formed.

THE TIME LINE OF MAN. . .
Second Presentation. . .

The first cities had a tower from which they watched for enemies and each one had a wall. More animals were domesticated: man uses some, but sacrifices most to the gods. (Still in India, certain animals represent a certain deity.) Many animals were considered gods. Included in religion of these men were the natural elements: rain, sun and wind. The earth itself was the goddess, the fertile mother which gave all the fruits of the earth to man. Man discovered milk---it was considered divine, a sacred drink reserved for the priests. Different kinds of cereals were cultivated, those with which we are familiar. Peas, potatoes and many other types of vegetables were cultivated.

Figure 2. Chronological-cultural table of the divisions of prehistory and of the historic period. In using this table it should be understood that the approximate dates assigned to the different "Ages" refer only in a general way to the areas mentioned. As the table indicates, these "Ages" were not everywhere contemporaneous. The different "Ages" do not afford a measure of time, for they varied in different parts of the world both in the time of their appearance and in their duration, while some of the cultural stages they embrace never appeared at all, but were completely skipped in the progress from one cultural stage to another. These ages are therefore to be regarded as *cultural or technological* rather than as chronological periods. It is extremely important to grasp this fact. There was no world-wide evolution from one stage to another; each stage represents an industrial revolution in the manufacture of tools which occurred in different places at different times; nor did the several stages begin and end simultaneously all over the world. Thus, to give a simple example, the Early Iron Age began in Asia Minor about 1200 B.C., in Italy about 1000 B.C., in central Europe about 900 B.C., in China about 700 B.C., in southern England about 600 B.C., in Japan about A.D. 200, and in Fiji about 1872. In the last column names in italics refer to types which are uncertainly dated.

Age	Alpine and Scandinavian glacial oscillations with corresponding changes of sea level and climate	Approximate dates	Principal Culture Stages of Europe, Egypt, and the Near East			
			Northwestern Continental Europe	West Central Europe	Egypt and the Near East	Human Types
Early Middle Late	Present conditions of Mycenaean Period in Baltic area	A.D. 1500	End of the Age of Power Tools			
		A.D. 1000	Steel Age Develops			
		A.D. 1700	Steel (carbonized iron)			
		A.D. 1000	Viking Age			
		A.D. 500	Roman Period of Iron Age			
		30 B.C.	Iron Age introduced	Historic Times		
		300 B.C.		Iron Age introduced		
		1000 B.C.	Bronze Age introduced		Iron Age begins	
		1500 B.C.				
		2000 B.C.	Traces of Copper	Bronze Age introduced		
Middle	Final land rise in Baltic area or Late Tapes Period	3500 B.C.	Late Neolithic with thick poll ax	Copper Age introduced	Bronze Age begins	
		3000 B.C.			Alloys in use	
		3500 B.C.	Middle Neolithic with thin poll ax	Late Neolithic	History begins	
		4000 B.C.			Writing invented	
		4500 B.C.	Early Neolithic; Shell mound or Campignian industry Etc. etc.	Middle Neolithic or Rebenhausen industry	Asturian industry	Use of iron begins
		5000 B.C.			Agriculture and the Domestication of Animals	
		5500 B.C.			Badarian industry	
		6000 B.C.	None industry with petroglyphs	Early Neolithic or Campignian and Asturian industries		Use of Copper begins
		6500 B.C.	Megacrene industry			Asian industry
		7000 B.C.	Lyngby industry	Anilian, Tardenoisian, and Capian industries		
Early	Regonda pause with Anzylus Lake					
UPPER MIDDLE LOWER	Feni-Glacial pause with Baltic ice-lake	8500 B.C.		Late Magdalenian		Choukchik
		13,500 B.C.		Early Magdalenian and Capian industries	Probable beginning of Neolithic culture in Nile valley lower sites	Pre-Mycenaean, Mycenaean, Rhodanian
		18,500 B.C.		Solutrean industry. Late Aurignacian industry		Choukchik, Grimaldi, Cro-Magnon, Africanthropus, etc.
		30,000 B.C.		Early Aurignacian or Châtelperronian and Capian industries	Sahilian industry of Nile valley terrace sites	Deinop
		35,000 B.C.		Final Mousterian of the caves	Late Mousterian of the 30 ft. Nile terrace	Pre-Mycenaean, Mycenaean, Rhodanian
		75,000 B.C.		Mousterian of the caves		London, British, Neanderthal, Choukchik, etc.
		130,000 B.C.		Contemporary Acheulian, Early Mousterian, Tapanan, Minoan, Levantine, and Choukchik industries from Solutrean terrace, etc.	Early Mousterian of the 30 ft. Nile terrace	Pre-Mycenaean, Mycenaean, Rhodanian, etc.
		230,000 B.C.		Derived implements		Pre-Mycenaean, Mycenaean, Rhodanian, etc.
		430,000 B.C.		Acheulian and contemporary Acheulian and Clactonian industries from Solutrean terrace, Clacton-on-Sea, Messia, etc.	Acheulian industry of the 30 ft. Nile terrace	Pre-Mycenaean, Mycenaean, Rhodanian, etc.
		530,000 B.C.		Derived implements		Pre-Mycenaean, Mycenaean, Rhodanian, etc.

Remaining Varieties of Homo sapiens

ARROWS FOR THE SECOND LEVEL PRESENTATION

RELATED TO THE TIMELINE OF THE HISTORY OF MAN FROM 580,000 B.C. TO TODAY

"Contribution to the Various Human Groups to the Construction of Civilization"

INTERGLACIAL PERIOD GUNZ-MINDEL; LOWER PALEOLITHIC

Human Remains - Very few. These men are related to a creature which was given the name of "Australopithecus" and seemingly lived in Africa. He had an erect posture and was called "Hominid."

Tools - Almond-shaped stones were found everywhere, but it is difficult to establish whether these are natural or the work of men.

Habitations - Trees and caves.

Fauna - Saber-tooth tigers, meridional elephants, etruscan rhinoceroses, lions, bison, etc.

Vegetation - Approximately like that of today; big trees and many bushes.

GLACIAL PERIOD OF MINDEL; INTERGLACIAL PERIOD MINDEL-RISS; LOWER PALEOLITHIC

Human Remains - The remains of these very primitive men were found in Java, in Peking and in Heidelberg.

The man of Java was called "Pithecantropus."

The man of Peking was called "Sinantheopus."

The man of Heidelberg was called "Heidelberg Man."

The first two lived in Asia; the last in Europe. These men were familiar with fire.

Tools - Triangular-shaped artifacts of stone.

Habitations - Caves and natural refuges.

Fauna - Monkeys, donkeys, elephants, leopards, bears, wild horses, reindeer.

Vegetation - Many Sequoias (redwoods), tobacco, potatoes, and guaninums.

INTERGLACIAL PERIOD RISS-WURM; GLACIAL PERIOD OF WURM; MIDDLE AND UPPER PALEOLITHIC

COLD PERIOD OF BÜHL; MESOLITHIC

Human Remains - In Europe we find the remains of the Alpine Man. However, the most important remains of this epoch were found in Jericho and these people were called Natufiani.

Culture - There were many in the various parts of the world. Besides the usual tools, one finds painted vases, needles for making nets, and hooks for fishing since these men were great fisherman, as well as, hunters. It could be said that these people mark the passage between the hunters, or nomads, and the agricultural, or sedentary people.

Fauna - First domesticated animals

Vegetation - Beginning of agriculture. There appears a new tool - a type of hoe and also a scythe.

MODERN CLIMATE; NEOLITHIC

Human Remains - Homo Sapiens

Culture - This period marks the real passage from the nomadic life to the sedentary life. This passage didn't occur all at once. Where this passage occurs one finds the real revolution in the life of man, since the cultivation of the land gives man the assurance of food and the possibility to establish himself in a fixed zone and develop a great civilization.

Implements became more perfected, the industry of ceramics is developed, the textile industry is born, and commerce develops. Boats are perfected since the main routes of communications are the rivers and the seas.

The dead were buried with richer funeral treasurer.

Habitations - Villages of huts were born on the land and on poles above the water. A village with 2,000 inhabitants takes the name of city. The cities are surrounded by walls and have a tower.

Fauna - Domestic animals increase since man realizes that the animals can be useful. Many animals are adored as divinities. Also, the land, wind, sun and rain are worshipped as gods.

The Meaning of Man's Appearance on Earth: Second Presentation. . .

Each thing takes as much as it can from the universe, but gives back much more, in a different form. Life is a constant research, a series of discoveries---and all, whether they want it or not, must participate in this process which leads to an ever greater development of the nervous development and thus of the psyche. It is not the bones nor the flesh that makes the history of living beings; but the psyche.

When we come to man, evolution, in order to progress, changes direction. Man, even though he is a mammal, brought about a great transformation in evolution. And man also possesses what the previous beings possessed. Man tries to preserve his life and his species just as the other animals do. Therefore, these are the two great guides of man in this cosmic work. Also man seeks to occupy the most space, to take as much as possible. Here again, he is no different from the animals. But this greediness after material goods, at the end also brings well-being to others. When man dies, he takes away nothing that he has created. Even those persons buried with all their treasures leave the treasures behind: in those tombs we have learned much of life in past times. Such treasures have allowed archeologists to reconstruct past civilizations.

Many believe that man does no cosmic work. But even the most selfish man is, in fact, working for everyone. It is precisely the work of unknowing man that has constructed civilization. All of our progress is the result of a great human activity. It has been said that it is the result of ALL HUMAN ACTIVITY. So far man is at the same level as animals. But we have said that each being in evolution has brought something new: with man life has tried something new. In him there is not only an increase in intelligence, but a new form. That is, in man it is the first time that there is a brain (a mind) able to reflect. In order to give a clear concept of what man represents in evolution, we can say that with man evolution became conscious of itself. That is, man knows that he knows. With man's power to reflect, he is conscious that he knows. For the first time, the conscious is present in a being. Before man, the animal has an unconscious intelligence; but man is self-conscious.

In order to achieve this, nature followed a different way. Nature didn't develop in man specialized organs, but gave him the possibility to be active with his hands and with his head. Dott.sa Montessori said that when there are specialized organs in the body, they can be a help, but also they can be a hindrance. In a way they are a weakness, obliging the being to only one activity. We think of the elephant's proboscis, his trunk; perhaps a real nuisance it might be to walk around with such a long nose, in spite of the fact that it is a help to his life. This is true for all such specializations: a help, but at the same time an obligation to follow a certain kind of life. Man is free for any activity.

We have seen the characteristics which man brings: 1) an erect position and free hands, 2) the power of speech, which 3) originates thought, imagination, abstraction. Beauty, kindness, art, sensitivity---all these things cannot exist without the power of speech. It is the language that gives value to all of these. Language has created thought. And 4) the exceptionally well-developed brain. We do not know exactly how the brain developed. It has been discovered that the cranium of first man was only slightly greater in capacity than the monkey. Therefore, the brain developed during evolution. Never before has the brain reached the proportions of the human brain. And this development is probably the result of the nature of man's mind which drives him constantly to discover new things and to relate images in new ways. Our brain never stops thinking.

The desire to progress depends on our will, but the constant work of the brain is a human characteristic. Man also has instincts. But they are not rigid like those of animals. His instincts do not determine a pattern of behavior, for the human characteristics are formed by man himself. Man can construct his own characteristics only if he lives in communion with other human beings. Man becomes a man ONLY among other men. Even when man is built and can totally work as an individual, his individual work becomes valid only if it is accepted by other men. Man can make great discoveries; but if they are not accepted and used by other men, his discoveries are useless. The

The Meaning of Man's Appearance on Earth: Second Presentation. . .

have formed the spiritual territories of the different groups. The patterns of behavior which are accepted by a more or less large group become their spiritual territory. Not only this, but in the same group the values may change. Now in Italy, for example, the patterns of behavior are much different from that of the Romans. With time, the patterns of behavior change all over the world. Who makes it possible--these changes???

The Child. The child accepts, through his absorbent mind, that pattern of behavior of his own group; he transmits it to new generations; and he improves the pattern or changes it. For all of these qualities man is unique: free, able to adapt to any environment (from the frozen tundra to the arid deserts). Any place may be a good home for man.

With man, evolution has followed a new direction. With man, a new era begins. Man also continued evolution, but he created a new plane. In terms of the chart which shows us the cross-section of the earth, we can add, after the atmosphere, the **biosphere** (the sphere of life) and the **psychosphere** (with the arrival of man.) The psychosphere is the world of thought.

And so man with these characteristics, rises above all other beings. He has been able to go back in time, bringing out of life everything that was believed to be dead. Man can also work for the future.

Life tried with man a new experiment. But in doing so, it ran a great risk. Before man, animals were conscious only of their biological needs. There was a great cosmic work being done, but the animals did it all without knowing it. But with man, a conscious being, things change: man is free to collaborate with the evolutionary processes or to rebel against them. So far man has not rebelled except perhaps in isolated cases. Man has accepted his family and collaborates with the rest of humanity.

Man has undergone tremendous crisis. For, in man there constantly exists this tendency to rebel. And this tendency to rebel is manifested today in a very evident way. We are now not only living moments of changes in civilization, but changes of ages. From the Machine Age to the Atomic Age. Only a short time ago, for man, the state of things was static. New sources of energy had not yet been discovered. Man made use of the same fire his ancestors had used. Man had little or limited knowledge in the astronomic, geographic and physical fields. Then suddenly man discovers the laws of physical energy, the chemical laws; he decomposes the atom; he understands the stars; he discovers the history of the past. He becomes **aware of being the master of matter.** After the Aneolithic Age comes the Machine Age---and then immediately comes the Atomic Age. Never before has man been conscious of his individual and collective force and power.

And yet never before, as today, has man been so scared. Scared, isolated and rebellious. Till yesterday, man in his ignorance considered himself the master of the universe, believing that the sun, the stars, and all were created just for him. He was not aware of other bodies. Today, through his knowledge, he has become aware that he is only a grain of dust, lost in the universe. Maria Montessori says that precisely now, when man has discovered his smallness, he must feel himself great.

He is not the master of the universe, but he is the master of the earth. It is in his power to render this ship which travels through the universe a world paradise. If he wants, he can make this transformation. When man thought of himself as master of the universe, he was convinced that there should be slaves and free men; convinced that plants and animals were created solely for him. Thus he felt that he had the right to sacrifice and destroy them.

Now man has become very small and he has discovered the importance of a gust of

Man has also discovered his own role. That of transmitting this great inherited work to enrich the next generation with something new. Man has never before been so great nor so small. Now he knows the great laws of life: **obedience, love, and cosmic work.** Only now is he in a position to understand Jesus's words: "Each man is your brother." "Love your neighbor as yourself." Only now can he understand St. Francis's "Song of Creatures."

CONCLUSION (for the teacher)

We have given an idea of how we can present man's appearance to the children. What is important is that we must help the children find the light which will destroy the universal restlessness which exists in the world. We are living a crisis of a cosmic nature. The greatest risk that man runs is that life may be taken as a simple adventure, an adventure from which we take as much as possible. It is the adventure of materialism. We must make the young feel that with the advent of man, the evolutionary processes don't stop, but they progress in a new direction: that direction of the spirit. Only in this way will it be possible to overcome. Only in this way will it be possible to overcome the tendency in the young for disorder, greediness, power.

The young people today have lost the vision of the universe and have been led to believe that the chief end of life is to concentrate on themselves. We must realize why men look for material riches. Man looks for material goods as an unconscious answer to the animal insecurity that exists in him. A real man has a spiritual force; one who is not a real man is an animal and has the animal insecurities. But he lacks the limits which are provided the animal through instinct. Never before as today has man felt himself so unsure. It is easy to realize that this answer, which is wrong in a moral sense---that of materialism---is also stupid. For it is easily understood that a society based on the exploitation of material goods for personal satisfactions destroys itself. Our behavior must be based not on religious principle, but on moral principle. Unlimited desire for material riches is stupid because it is self-destructive.

Man has the power to improve his life; he also has the power to destroy his life and the earth. We must understand these two alternatives: survival or destruction. Mankind has the freedom to choose. If he destroys, life will start all over again. In order to survive, he must collaborate among his fellows and with nature. We have not the choice to catch a plane for another planet. We must help young people overcome the selfish part which exists in human nature. Each being must become conscious that he is a part of a whole: that no being can live isolated. Maria Montessori says that some new systems of education give complete freedom to the children: they may do whatever they want, to study only what they like. And she continues that this is a way of constructing without any foundation. It is the same as giving the freedom to vote without the political education. In this way, man becomes free and does not know what to do about it.

We cannot express thoughts if thoughts do not exist previously. There is not even the possibility to think. First, interest must be awakened; and only then will there be a clear consciousness. **Only when man understands his freedom can he be free.** Dott.sa Montessori concludes: "I would like to give eyes to the blind: the great majority of persons know how to look, but they do not see."

The great majority of humanity make very small progress in the world of thought. They do not live; they vegetate. These persons look first at everything new with hostility. And, if the new ideas threaten their immediate richness and possessions, they classify that new idea as something horrible. This is the result of mental lessons: the result of the belief that life must be living only to enjoy oneself. We must teach the young to admire those men who have been different than the rest: those with a great interior force; those who do not live for their own happiness but in order to help others. We must give to the young people the wonderful part

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This natural fact of the union of mankind is something that exists so that autocracy is impossible. Russia realizes at a certain point that participation in the world picture is essential to her equilibrium. The main concern of great powers now is to help underdeveloped countries. But the powerful countries help only because they need the weaker ones for their own existence. This union, then, is not enough as a natural fact. But it must be achieved completely. And man must become conscious in order to achieve it. This can be done only by making young people understand the power of cooperation: that the cosmic role of man is cooperation: thus the achievement of real brotherhood.

Therefore, education must no longer be based on the negative parts: nationalism, religions based on prejudices. But education must help the appreciation of equality among men. It must be an education which speaks of the beauty, generosity and kindness among men. No matter that superficially we see the defects: below we discover the real qualities in men. And it is education which guides the child's discovery. Education that teaches appreciation for what one man has done for another. Education which teaches religion in its highest form.

The road has been opened by science that has made so much progress to erase ignorance, magic and superstition. Now, if we really want to progress, science and religion must not be in disagreement, but they must be oriented towards a new road. If we really want to continue man's evolution, the evolution which has gone from inorganic matter to Homo sapiens.

The young must be prepared for this quickly changing world or in a few years they will be maladapted persons unable to understand what's going on. And they will be overcome by those forces man himself released. Science has made huge progress in a few centuries, but the masses haven't been trained to follow this progress which has come so quickly. It is necessary to overcome this lag; to find an equilibrium between this progress and this ignorance.

Teachers must know how to give the wonderful reality of creation; and only then the young people will learn to judge the events and phenomena. Not with an instinctive reaction, but with an interior vision, which is seldom developed in persons. Through our whole life we are obliged to make choices, in every moment. When we have to make a choice, if we possess many elements in order to judge, our answer won't be the result of an instinctive impulse. We want to give an answer at random as the result of instinct, but if we have the necessary elements to reflect, then our answer is a result of this deep reflection and our answer is a different one. In this way future generations will understand that, in order to make life possible for all, to move towards real everlasting peace (not that peace which comes between two wars), peace must be a result of cooperation. United in a big family, conscious of its own dignity, man will understand that he also belongs to evolution. And he will understand his special role in the universal scenery.

Teachers must understand all this. They must understand that all the social problems, the national and ideological interests which threaten the world, are an infinite misery. The real man must rise above them in his great generosity and spirituality. This is the concept of man in Montessori thought. This is what she means when she says: Give the children God and man so that they might feel gratitude towards both. And this is the cosmic education: the education for peace. These are the main statements of her thought, synthesized during the last years of her life.

Dott.sa Montessori thought and felt that man, besides being endowed with the same kind of forces which all beings possessed prior to him, is destined to a greater role on earth. She felt a great spiritual force in man, and she has said that such a force is partially hidden because no one has known how to make it alive in the child. And it is the child who is the link in the long chain of evolution. She says: "We

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We accept all things as though we deserved it. We say to the child that he must love man and God. But we do not think everyday of all those persons who work for us: those who, with their work give us a better way of living. We must call the child's attention to the lives of men and women who are unknown, but who have worked for us. We must make children understand that everything we possess is due to sacrifices of others. It is useless to preach charity to other human beings. Instead we must render the child aware of the human value and dignity. Our role is to help children grow adapted to their own time. We must feel that the whole life goes always towards greater freedom. Therefore, our role is to help individuals grow free.

Therefore, we must first know what real freedom means: **Freedom is obedience to physical and psychical laws.** In the same way there are physical laws which cannot be disobeyed, without serious consequences, there are psychic laws which cannot be ignored. Educators must know and feel all this. For they are the real perpetrators of evolution. Dott.sa Montessori's vision should be carried out by a great number of educators. It is useless to discuss whether the invention of the atomic bomb is right or wrong. We are in the Atomic Age and one of us can change this fact. But only an energy able to unite mankind will be able to balance in the world the appearance of the atomic forces.

A SPECIAL COMMENT FROM MRS. HONNEGGER

It is interesting that many of the words which Dott.sa Montessori writes as an expression of her own vision are found in the words of others who, writing as almost precisely the same point in history, expressed the same intuitions. One of these is Teilhard de Chardin. It seems that, at a certain point these intuitions crystallize with the same, or with very similar words. Thus there are, simultaneously, certain persons of a highly developed mentality and spirituality, who express for us the cosmic thought.

From Chardin: "The great value of geology is that it has discovered one single great universe, one earth that forms one single body. They have only one face. This body and face form one whole with humanity. It causes us to look at man who is always able to reach higher levels of thought.

We cannot look at science without one great desire: to see man united by an always increasing knowledge and symbol until one great heart and soul is formed on the earth. The marvelous thing in the history of life is not to understand vital functions and elements, but to have a vision of the universe where every part, from the tiniest to the greatest, are totally united and dependent on the other. Man sees, taken almost to infinity, the greatness of his responsibility. Man, who can only believe that he is a pilgrim on earth, who can live it and waste it in any way he pleases, realizes that he has a role. Which is to preserve, to transmit and to increase the richness of the world. He is an important part of this creative work in which all beings since the beginning of time have collaborated. If he does not accept his assigned role, something great will be lost forever---missing in the future.

For a very small, but real, part; the success of creation is in the hands of the smallest of us. The sacred word which tells us the history of life, of which man is an active part. It must open our hearts to charity. It must make us feel that our body is not limited by our own limbs, nor by a short span of life. We ourselves make part of the progress of the universe. To remain faithful to ourselves, we must do the work of life as if it were a sacred and personal work. We must recognize the period of crisis we are in as the old values recede and disappear while something new comes to humanity. Because it is new, it is strange to us.

What are the terms of the classification? We have worked on the individual for years, insisting that each of us should be free. should be himself and a rather

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class or religion or race in the other. He must find in him, instead, a brother. This brother must also feel this sense of brotherhood and fraternity. The great restlessness of today is due precisely to this fact. Mankind is materially united: he has reached the mountaintops. But men still remain at the bottom divided by racial, social and religious differences. They have not understood yet that, starting from different points, all of us will find ourselves together at the top of the same mountain."

Chardin speaks of his own experience: "I have met men in my life who, due to their thought, the conditions and activities, were completely different from me. Between me and the other, there should be a sense of hostility because of this great difference. (In this particular case, we have Chardin who is deeply religious and the second person atheistic.) We were also of different nationalities. But, instead of hostility, we felt great sympathy for each other. We were apparent enemies according to the tags of others, but we immediately felt like brothers. Because I, as well as he, was looking for unification of the earth and humanity. In order to achieve the goal, our methods were different, but we were aware that the diverse methods were taking us to the same aim. We had the same ideal.

Thus. . .Remain one of your own nation, your own race. Remain faithful to your own principles. Because to reach the top we need strong and pure persons. Remain yourself. Be suspicious of everything that isolates and separates. Work always in a universal way and you will discover that nothing will prevent you from loving. And we will find ourselves at the top of that same mountain."

We can find Montessori's thought expressed in others, too: Julian Huxley
Charles Scott Sharington, Man and His Nature
(physiology of nervous system; Nobel prize)

Richard Carrington (naturalist)
A Million Years of Man
A Guide to Earth History

Love is the most universal formidable and mysterious of cosmic energies.

"The Sources of the Earth as Love."
from Human Energy

Teilhard de Chardin