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Box 15, Folder 27 - "Evolution & Cosmic Task" ;[future paper related to Teilhard de Chardin] (E.M.S.)

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Dr. Montessori has recently both lectured and written upon the cosmic concept which underlies the Montessori approach to History. This concept cannot be summarised in these brief notes, those desiring to study it should refer to Dr. Montessori's recent book: To Educate the Human Potential.

The task of the teacher is to bring to the child an ordered concept of History and a vivid realization of "civilisation itself, which abides in the evolution of labour and thought" - Pedagogical Anthropology.

Dr. Montessori attaches importance to the teaching of Prehistory. "What could be more truly instructive and educative than to describe to children....primitive man, cast away on this vast island, the earth, lost in the midst of the universe". (op. cit)

Children are ready for this study before six often at the age of four. The subject appears to possess for them an irresistible appeal. After the necessary introduction by the teacher, they are offered a time-line of Prehistory, showing the order of life, the relative duration of periods, and the relative duration of Prehistoric and of Historic time. As at first made and used the time-line began with the first life forms, and one time-line of the old model, the work of two boys, (and the second one made by the same two working together), is on exhibition. The second form, now in use, begins with a section indicating Azoic Time, to give an impression of the period before life began; and examples of the later form are being shown also. (It should be noted, as a technical point, that the time-line when it arrives at the Stone Ages is planned for Western European countries; one used in Egypt and showing the Naquada Age would obviously differ, etc.)

With the time-line the children are given cards, drawings of reptiles etc., some for each section of the time-line, and the control of error is given by a colour-marking. The exercise done is to identify the forms and place cards in position on the correct section of the line. The cards are outline drawings to facilitate reproduction by the children in the period of activity that always arises, usually modelling first and then drawing.

Apart from drawing and modelling, there are many associated activities. Those most frequently occurring are the production of pottery upon the two main prehistoric methods; colouring of relevant pictures; free dramatisation; handling and reproducing real tools, weapons etc.; the dressing of models; visits to sites and museums. Other subjects immediately open out; the way into biology is obvious; and another path usually takes the child into geology and geography, by way of the known changes in the make-up of the world. Fossils and geological maps and charts, as exhibited, are most popular.

The teaching of later history is also based upon the use of time-lines which in the same way order the knowledge acquired; and it is particularly noticeable that a child who has left the time-lines for the world of books and objects, will frequently return to them to orientate new knowledge or to check his facts.

The historic time-lines, with retention of the same width and internal arrangement, vary in scale; both to give opportunity for the greater detail necessary and to give more room for the exercises of identification and placing of cards. While the main line in use will obviously be that of the child's own country, it has been found that children of about 8 and 9 take great pleasure in comparing their own with that of other countries, either for noting general differences or instances when facts from the history of that country inevitably occur also in the history of the child's own country. Time-lines of England, Scotland, Spain, etc. are on exhibition, and did space permit, comment could be made on the extreme broadening out of the child's outlook which results from use of the foreign time-lines.

It will be noted that the facts appearing on the time-lines are
(a) general date-scale, (b) dates of the dynasties, (c) dates and names of the
individual rulers. The missing point, the relationship of rulers, is covered
by a series of charts (shown) making clear, by colour-bars, the descent of the
crown.

Dynastic charts show this for each dynasty independently, and finally combine them in a wall-chart showing descent right through the dynasties (if existing). It has been found in practice that while the average child is satisfied with a simple chart showing little but essentials, some children need, and ask for, more detail. It will be noted in the set of dynastic charts on

exhibition that two charts have been made for each dynasty, the usual simple form, and one to be held in reserve for a child needing more detail. The wall-chart combines the simple forms.

The Event and Battle cards (shown) are used with the time-line. They are broken into sections as the time-line itself is broken, and are attached to the line when in use. Each ticket carries the name of event or battle upon the facing side, and the date for checking upon the reverse.

Associated activities here are multiple, and almost anything may - and does - arise. Literature, art, architecture etc. are studied by individual children; a note-book of heraldry is on exhibition. Children given history in this way seem to penetrate into the past in a quite extraordinary way, and will wish to temper their imagination by fact and take pains to check correctness. A class recently studying the Roman period spontaneously began to learn Latin and at the end of the term were heard singing Gaudeamus igitur as they washed-up!

A recent development has been the use of Visual charts. These are constructed for a given period, and lead to an intensive research on the part of the child. Several of these charts are on exhibition. Each is in triplicate. The first sheet has the dates and events outside the country and within the country, the aim being with pictures, maps, genealogical tables, etc. to make precise an impression of the period. In the second chart, the illustrations are movable, and have to be placed to correct date. In the third chart, both dates and illustrations are movable. With them goes a history of the period.

Also upon exhibition are some charts worked out on the same method as the dynastic charts, for the use of older children who need to understand the various succession wars most usually found in their history-books, in which relationship is the cause; and to understand some of the involved successions to various thrones. A teacher's set is on exhibition, presenting the 100 Years' War, the War of the Scottish Succession etc. Some individual charts of more complexity are also being shown, their purpose is indicated on attached cards.

Some of the special studies made by children in various schools will be illustrated by work shown in the exhibition but unfortunately two notable pieces of work cannot be obtained - histories of shipping and of costume done upon a series of large cards by a brother and sister of 8 and 11; and an anthology of a nine year old boy of the history and origin of weights and measures. In schools, models of transport throughout the ages, models of buildings, material for the study of costume have been in demand, and filmstrips have been used successfully in association with models and drawings for this work. A popular study is the origin of alphabets and of methods of writing, very often leading to the formation by the child of a second, decorative, writing of his own. The history of the theatre, of religions, civics, medicine, printing, social services, of money and banking are lines of research that have been spontaneously developed by children using this mothod.

Two distinct lines of entrance into literature have been observed. One is by way of the personal lives of the great writers, appearing as "events" on time-lines and charts; and has, as some will remember, ended in dramatisation of passages from the writers and works chosen by the children themselves. The other line arises from the kind of life led by the people of a period and the manner of their recreation. This has led to work upon ballads, traditional games, folk-songs and dance.

As already said, the prehistoric and historic apparatus offers a field of research to the child, a means of ordering the knowledge he acquires. It is more. It is the gateway to the world of knowledge and ideas opening into every field to which the child's own interests may lead him. As Dr.Montessori herself has said: "History is the teacher of life".

This Consciousness of Man's Cosmic Task connected with the new Knowledge - liberation of infinite atomic energies which are now in his hands - to make or mar whole world.

He has now these immense possibilities by which he can carry out this Cosmic Task.

(Aug. 10th)

A NEW VIEW OF INSTINCTS.

This great Cosmic Creation which God has brought about is not being made directly by Him but by his agents.

This Cosmic Drama has been going on from the beginning in various acts-:

- 1. The Creation of the world.
- 2. Geological Periods.
- 3. Creation of Plants and Animals.

The instincts are the means by which the plants are made to gm do God's will. Unconsciously of cause. These instincts such as self Preservation - Food - Sex etc. - urge on the species to accomplish their particular takks. Each has its Cosmic Task which contributes to the general harmony.

But with Man it is Different. Being self-conscious he can consciously co-operate. Hence the meaning of Prayer by which he can learn the will of God.

Gorph Copy

Aug. 20th

It was a beautiful day and we imigrated from the into the sunshine. I told her I had now to get St. Thomas Aquine. by G.K.C. She xxx said I am not specially interested in philosophy and my mind does dnot work in that way. It is too high I cannot understand it. What I am interested

We egot into the Cosmic Plan again. Yes, that is the important thing. I will tell you again (You don't know anything about it! tu ne sai nente!) Everything that lives them on this earth has there 2 important aspects -:

in is facts - my mind worries least in this sphere of facts.

- 1. It works and lives and shuggles for itself for its own 'life its' own existence.
- 2. But at the same time everything is also out a "Cosmic Purpose" doing its own task which is for the good of the whole. There is the same principle in Ecology. There's the Bees for instance. They go to the flowers solely with their own end in view to get honey. But at the same time, without knowing it, they cause the fertilization of the flowers they visit. Look at the Worms. Nothing gives them more joy than to eat the soil continuously. There they live in the dark, under the ground eating earth

27

whole day. They do it for their own interest but at the same time by accomplishing a great work - that of preparing the soil for cultivation - as Darwon so well showed.

M

Other animals eat dead bodies, by preference when they could eat far nice things - others here on excrements: and so purify the world. Then we have the corals etc.

(I fetched a god fly off her sleeve - and minded what was its cosmic mission! Yes she said things may so wrong her and then in the details but on the whole the general plan is undesirable. Yes we men can go wrong - far more wrong than the insects.')

Leair quel padre Elurie cru t'intesse non po tascara reposau un po! - (Don't bring him into everything.)

THIS COSMIC POSSESSES HER WHOLLY

She keeps referring back to it, and linking everything up with it. Eg. This Ferrante Saint and his idea of Justice.

Love Daled out Cosmically.

Did you even hear my idea of the <u>quantity of love</u> in the Universe and its limitations.

Eg. in Animals. Sexual love comes first for a time - to bring about a new generation - the new family - and then it disappears. Just the making season and no more.

It is given for a <u>Gosmic Purpose</u> - it preserves the particular species.

Maternal love Similarly is given just as much and for as long as it is needed. The animal is filled with an intense love of its of spring - will even sacrifice its own life for it. (of lalu and her puppies!) But when they are grown up this love disappears and the Mother cares not a jot more for its offspring than for any others. Even turns them out.

But the Point to be remembered is that love is something given for a purpose - to help the individual carry on a Cosmic Task. - and (guai) woe to any one who does not make use of it - or any species which does not for it will lead to disaster. (This reminds one of Sopopenhauer's Metaphorick of Love)

It is the same with -

Claric MS

4

MANGRAU MANGRARE. Mangrave

The great individual effort - all this work on the part of the individual for himself and with is the problem of Food. Eating. I often thought to write a book on "Denti" Teck and what they signify! It is al a struggle for food. and supposing the things in nature - the martyrs and the corols for instance took it upon themselves to fast for the good fof their souls the whole cosmic would get upset! This idea of the importance of eating - of Food - is and carried right up into the spiritual life, and is seen in the Eucharist - Daily Bread.

I am not interested in how these instincts work or how the Absorbent Mind works in the small child absorbing.

Grammatical forms even - though for me the fact that it is so.

1

28.

We can always fall back on the on the Padre Eterno as we generally do: but we aughtn't to drag Him into everything! THE DAISIES AT OUR FEET)

The daisies in the lawn they are living their life, but how beautiful they are. This Beauty is also a part of this Cosmic Life.

What is the Scope Cosmico on itself I don't know - but certainly man has too his Cosmic Mission. To build the super-nature to co-operate untell jgently with God - hence the meaning of prayer.

I mentioned the idea that some people say that this world will be the basis of Heaven, and said I don't know. But I could imagine the world made very beautiful - so that looking down upon it from an aeroplane - as we look down on this flower studded grass - one could see the earth made beautiful houses - each one a monument of art - "as made as beautiful in shells. And in the rooms would be beautiful works of art.

THE DAILY WASH

Referring to the idea of the necessity for everyone to wash psysically everyday she said everyone should be the same spiritually - as the Church suggests. (Daily prayers, Mass Examination of Conscience)

Especially I have in mind these people who judge others in the control of the second o

THE COSMIC TASK. From time to time there has been a tendency amongst some Catholics to be taken up too exclusively with the worth of saving individual souls - and preparing them for Paradise and letting this world go hang." But now the Church should also realize Man's Cosmic Task - Indeed she has the greatest part to play in the Cosmic Harmony - She is the brain and nervous system of the whole world organism. The Present Pope has realized this more than any other. A NEW WORK FOR THE CHURCH. From her Uncle Professor Stoppani M. got this idea of the working together of all forces, inorganic and organic, in a great world harmony -12

but he did not bring Man into it except as a wondering and reverent Spectator. What was the good of having this wonderand ful cosmic drama and no one there to witness it/applaud He Here man the spectator: But M. has gone further than her famous uncle: Like Puck mankind can now say "What a play turned. I'll be actor as well as auditor." And so it is:

MAX Man has a cosmic Mission. The individual is not here simply for his own sake - (as a preparation for eternity) but to co-operate in this great Cosmic Task.

Thy Kingdom come on earth as it is in Heaven." Thy will be done on earth as it is in heaven."

Evolution

Aug. 14th.

I have been thinking a lot of this question of the development of man from monkeys or similar beings and trying to fit in your theory with Darwins.

Let us leave Darwin aside for the moment and look at the facts. The young in monkeys are very far advanced at birth.

I have seen a new born monkey - still wet - run away from its mother - looking this way and that - with bright little eyes - so that the mother had in fact to stop it going away.

Now let us suppose that one of these monkey-children was born in a more dependant state. A child new-born in comparison with the little monkey (scimmittino) is like one half-paralysed - it cannot sit up - cannot even raise its hand. Now supposing, as the monkey adult grew more intelligentits young became more helpless. We could imagine the other monkeys gathering around and saying - "Poor thing!" its half-paralysed! how sad! I hope it will get better! etc." So the more intelligent became the parents the more stupid and imbecile would become the babies - a sort of just the opposite of hereditary - a "reversed hereditary" (hereditaro roveschio!)

To my surprise she did not flare up: - but agreed, only
we must isolate things first and regard them separately
We can put them together and understand their relationship.
In both these examples (Mneme and Discipline). You
see we came into the realm of this Cosmic Order.

TNTELLIGENCE A COSMIC GIFT.

We see that all species are endowed with a very brilliant but very limited intelligence - not a conscious one - but belonging to the species - Thus take the case of Frogs

If it is damp it makes 2 layers of covering with an air-space in between. (what man discovered millions of years after).

Again the butterfly which lays the eggs under the leaf, so as not to be destroyed by the rain. Infinite and infinitely interesting are these flashes of intelligence on Nature.

4/

(I told her of the book I was making

picture A.

B. Parachute

- A.

B.

4755 omilier

Yes we aught to put such pictures before children - instead of these eternal pictures of just a lamb, or a hen etc.

Ems. How did this intelligence get into Nature?

M. Ah. that I don't know. God I suppose. That is what we always say when we don't know the causes of things: we just say "God".

Ems. I recalled the answers we give to children - which satisfies them -

Yes she said and it satisfies most adults also.

Here again her great point is that intelligence - consciously used and adaptable in all directions - is also to be used for a Cosmic Purpose - and not just to enjoy ourselves

These are all gifts from God.

Contacts of Different Kindsof Knowledge.

I referred to the interesting coming together (almost confondersi) of the Mneme and conscious memory in the children remembering words to make with the all phabet

Similarly in the idea of the child's goodness being the order of the universe (We don't say how good are the stars!)

And that after that was the possibility of rising to a different goodness which involved the conscience and the possibility of falling morally.

That I suggested is where we impringe upon the need of Grace.

Comme Plan

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The more intelligent the parents the less able were the babies, and less competent than their ancestors as babies. These babies would in fact become less and less adapted to the environment and the life in it. They would not be able to hang on to their mothers, or speak their language, or fend for themselves, or run by themselves. They would become biologically inferior. This prolonged infancy is then a new thing - a special feature of man. Man had it from the beginning and it is a new step - a jump - a new thing altogether in evolution. One cannot imagine it coming slowly according to Darwins idea.

Darwins theory, and those of his followers were based on certain similarities in the Cranium - but they forgot the child and its nature - its behaviour which is just as important - more so - their similarities of construction. How could this prolonged infancy come with spontaneous variations etc.

Instinct - Behavour - Fixed Grooves for the Species.

The animals are fixed in their hehaviour. What they will do when they grow up, is always the same within certain limits. There is a spark of intelligence in each species - but unconscious - which teaches the bird to build its nest, the bee its cell and so forth. But the behaviour is fixed. Hence their "infant" can grow up quickly - he has not much to learn and it is given him through his instinct.

But with man it is different - He is not fixed in his behaviour - he is infinitely adaptive - can live in any part of the planet, move in land, sea, air and under the water.

Man is capable of Progress

And this capability of Progress is linked up with this long infancy and its power to absorb the new and progressing civilization.

These First Men Learned By Experience.

This 'poor man' born without instincts, was in a way worse off than the animals. By instinct the animal chooses the food and keeps to it. But the man was ommivorous. He would eat this and that and have the to learn by experience that these things were good and those ______. And so an experience was built up - a conscious social experience built up and held by memory and custom according to each tribe and race and climate and civilization. Also language was built up and extended and developed. But all this was not inherited, passed on like an instinct - like the instinct of the bee to suck honey in flowers, the tiger to hunt, the bird to build an invarying kind of nest.

How was it to be passed on? This language so carefully built up generation after generation, how were these gains to be capitalized. It could not be through hereditary - as it differed in different parts of the world. It was through the absorbent mind of this child in this mysteriously prolonged infancy.

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Second they put their heads together and pool their experience and intelligence. It is a collective intelligence which saves them (1)

1

Man's intelligence does not exist by itself. It is a social function (cf Social Law in the Spiritual World F. Jones)

So Man is something completely different from the animals. He is a new thing - biologically speaking and not an evolution Ems. This should be pleasing to the Catholic Theologians Cardinals etc.

They don't see it that way: they see it by as a matter of revelation in the Bible.

Ems. Still it is a coming together of and inter-confirmation of Truth as coming in two completely different sources.

(A Propose of this fact that man's intelligence does not exist by itself - Paple - Preuss - says -

"A Hypostasis is an individual substance, separate and distinct from all other substances of the same kind possessing itself, attributes and energies - which one in it)

6. m. standing
DURRANT'S PRESS CUT 29-39, Mount Pleasant, London, W.C.1. Telephone: CENTRAL 3149 (Two Lines). Time and Tide 32, Bloomsbury Street, W.C.1. Cutting from issue dated. 1 FEB 1958 In the Steps of the Mistress Maria Montessori: Her Life and Work: E. M. Standing. Hollis and Carter. 21s. ON 6 JANUARY 1906 there assembled in a tenement house in Rome some 'sixty tearful, frightened children, so shy that it was impossible to get them to speak; their faces were expressionless, with bewildered eyes as though they had never seen anything in their lives . . . poor abandoned children who had grown up in dark tumble-down cottages without anything to stimulate their minds—dejected, uncared for. It was not necessary to see that they suffered from malnutrition, lack of fresh air and sunlight. They were indeed closed flowers, but without the freshness of buds, souls concealed in a hermetic cell.' So Dr Maria Montessori described the pupils of the first Montessori school. The school, it must be said, roused a certain scepticism: the sixty children, attired in stout blue smocks and trained by the porter's daughter to give a military salute for the occasion, were overcome by panic on the opening day, and retreated in confusion. But within a year the Montessori school had proved a significant venture, and half a century later the Montessori Golden Jubilee was celebrated by an international congress in Rome. The Montessori system has flourished because it is based on a scientific study of children's behaviour. Signora Montessori recognized that children possessed a love of repetition, of order and even silence, and, most important, a spontaneous interest in work. The Montessori methods grew out of such basic facts as these, and the truth of Signora Montessori's convictions was pleasantly proved: the Mayor who offered to give a school a half holiday heard the pupils promptly refuse his offer; and the Cardinal distributing biscuits to the Casa dei Bambini in San Lorenzo was astonished to find that, instead of eating them, the children delighted in their geometric shapes. Mr Standing's book gives a brief account of Signora Montessori's life and a useful, detailed

survey of her method (which is revealingly compared with that of Froebel). Those of us who have not been reared on the Montessori system may regret the tones of adulation in which the book is written. Here, for example, is Mr Standing on the opening of the first Montessori school: 'Before a year had passed, literally kings were to walk in the brightness of its rising, and a multitude from beyond the seas were to become converted, as they beheld with wonder and

But educationists who can understand or forget this embarrassing style will read Mr Standing's

JOANNA RICHARDSON

reverence this new epiphany.'

book with profit and pleasure.

This is the function of human infancy - to absorb and pass on the civilization of its group.

It is true that in a very complicated civilization it takes longer for the new generation to take it all in, and come abrest with it - (cf. European civilization with Terra Del Fuego.) But this does not mean that - for that reason the absorbent power of the Terra Del Fuego infant is less developed to correspond to a more primitive culture. The potentiality is their equality in all human babies. This indicates that it is something which belongs to man. as man a universal potentiality - not evolved, but their right from the beginning. There is no indication that there are babies with a only half-developed power of absorbing, corresponding to a half-developed culture - as would be the case of this faculty had been evolved.

Further there is no evidence that with babies of very primitive tribes the infancy is less prolonged, because there is less to absorb. It is the same in all. There is the same Time-table - set up at so and so; speak first words (name s) and so and so. It is the same in all.

Dunique (therefore) this is a universal trait in man, and is far more important biologically speaking than that he has a coccyx.

To go back to Darwin.

Supposing you say that - as a "sport" - same of these primitive men became more intelligent. The result would be

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that the intelligent ones would tend to survive.

But even supposing a more intelligent species did evolve in this way - only on earth should it alter the nature of their offspring? Infact - if anything - their offspring would be born more "svelto", more intelligent and alert (cf acquired characters are inherited) rather than less so; just as "puppies" are born more intelligent in certain intelligent breeds (Absations than others, or their churc

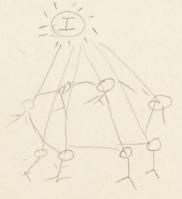
So that brings to the Third Point in which men differ from animals.

Mans Means of Defence.

Animals are born with various means of attack and defence the tigers claws, and the fangs etc. Man is born naked and
in his own psysical nature defenceless. How does he survive?

Everyone says - By his intelligence. But I say no, it is not so simple. Place a very intelligent person such as Dante (Aligluri), or Aristotle in front of an angry Salve toothed tiger and see what his wonderful intelligence will do!

Let us go back to the Primitive Man and see what really did happen. Here are a group of individual men - with hands free feet free. They confer together about this common danger



the tiger. One says he comes always along a certain place to drink. Good we will dig a pit and cover it over. The Tiger falls in and they kill him together. So we see. First language joining all their heads together.

Sintesi di studi sulla evoluzione

Può sembrare strano il dirlo, ma zioni, e sembrò dimostrare che la tuttavia vero che i principali prolemi connessi con le idee evoluzionato e nemico dei cambiamento los è tuttavia vero che i principali problemi connessi con le idee evoluzionistiche sono proprio nati dalla scienza stessa. Fino a che Redi, Spal-lanzani, e soprattutto Pasteur, con-futarono il principio della generazione spontanea e stabilirono fermamente la massima che ogni essere vivente deriva da un altro essere vivente, si accettarono, come vere, tut-te le più strane idee sull'origine dei viventi da esseri non viventi, come si può desumere dagli scritti di certi filosofi greci, specialmente Anassimandro ed Empedocle. Perfino nel XVII secolo Bacone suppose che certe piante potessero trasformarsi in altre piante, e Leibnitz accettò come credibile il fatto che il cambiamento di ambiente inducesse gli animali a cambiare di specie. Buffon e Lamarck, un secolo dopo, si per-misero anch'essi di accettare ipotesi, affascinanti in se stesse, ma prive di qualunque appoggio nella realtà. All'epoca sua, Linneo (1707-1778), il grande teorico della zoologia, nonostante che avesse notato somiglianze anatomiche tra differenti animali, fu di un'altra opinione, proclamando il principio: « Abbiamo tante specie quante l'Essere Infinito ne creò all'inizio del tempo».

> Impossibile «catena di evidenze»

All'alba del XIX secolo le teorie evoluzionistiche che da tempo erano nell'aria, furono compendiate scientificamente da Darwin, inizialmente nel suo libro «Le Origini della Specie» (1859). Il titolo completo del libro non dovrebbe mai essere dimenticato: «Le Origini della specie per selezione naturale». Sotto molti aspetti è un libro attraente, ma il suo contenuto logico è manifesta-mente povero (tutto pieno di « pe-tizioni di principio »). Ciò che assolutamente non riuscì a provare, è che le Specie hanno origine mediante un processo graduale di Selezione Naturale. Peggio ancora, la Selezione Naturale venne in seguito personificata, e ad essa fu dato uno scopo ed una intelligenza. La «Origine dell'Uomo » è di assai minor valore, soprattutto se si riflette — come Weiner, lo smascheratore della truffa del cranio di Piltdown, ci fa sapere - che Darwin non ebbe a disposizione forse neppure un fossile per dar fondamento ai suoi argomenti. Gli anelli mancanti erano tal-mente numerosi che una vera catena di evidenze non poteva assolutamente essere costruita. Darwin (come del resto Wallace) non era un paleontologo e non aveva nessuna conoscenza dell'anatomia delle scimmie e dell'uomo. Secondo il grande anatomista Wood Jones (British Me-dical Journal, 2 ottobre 1948) le co-noscenze di Darwin su questioni anatomiche erano di seconda mano e consistevano principalmente di cosuccie così mai scelte e così male assortite che ogni conoscitore di anatomia comparata che avesse a leggere «La Origine dell'uomo» con una mente priva di pregiudizi sarebbe costretto a rigettarne la teo-Wood Jones era un evoluzionista, il tuttavia sosteneva che le differenze anatomiche tra l'uomo e la scimmia sono di tale natura da precludere qualsiasi relazione.

La teoria delle variazioni e delle mutazioni

Frattanto avevano luogo gli esperimenti di Pasteur che, come si è sopra accennato, facevano crollare l'ipotesi della generazione sponta-nea; e quelli di Mendel sui piselli, per quanto bisognò attendere fino al 1900 prima che questi ultimi esperimenti fossero conosciuti. Tale lavoro mise in luce la teoria delle Variale variazioni avvengono secondo leggi matematiche, e sono limitate in numero e in grandezza. Il lavoro di Mendel fu fatto conoscere soprattutto da Bateson, che concepì l'evoluzione come un processo polifiletico, un processo cioè con molti punti di origine. « Noi siamo con Darwin — egli diceva — per la sua incom-parabile raccolta di fatti... ma leg-giamo i suoi saggi, come leggeremmo quelli di Lucrezio o di Lamarck, deliziandoci per la loro semplicità »

I lavori di Mendel e di Bateson dettero corpo alle prime critiche: biologi come il Nageli, sostenevano che la Selezione Naturale si compor-ta come un giardiniere che taglia da una pianta i rami eccessivamente lussureggianti, la cui crescita è stata favorita da diversi fattori. La Selezione Naturale è una forza non creatrice, ma semplicemente conservatrice. Sembrò che i Mendelliani fossero ormai in contatto con la vera origine delle cose.

Da loro venne il De Vries con la sua «Teoria delle Mutazioni». Per alcune decine di anni diventò di moda il sostenere che le nuove varietà di forme di vita derivano da bruschi ed improvvisi salti o mutazioni (come a dire la teoria dei *quanta* dei fisici) e non per graduali accumulazioni di minute differenze. Una volta avvenute, queste mutazioni si inserirebbero nel meccanismo del Mendelismo. L'affermazione di Darwin, che « la Natura non procede per salti, che non ci sono lacune in Natura », fu messa in disparte; gli evoluzionisti seguirono poi la teoria delle Mutazioni fino a che gli esperi-menti sul moscerino della frutta (certamente il più torturato delle creature) non provarono che, come disse nel 1946 il Premio Nobel Müller, « le mutazioni peggiorano la specie. Le mutazioni buone sono anzi così rare che le possiamo considerare tutte come cattive ». Nel 1953 il prof. Martin, della McGill University, concludeva: «Tutta l'evidenza a nostra disposizione tende a dimostrare che la mutazione è un processo patologico che ha poco o nulla a che fare con l'evoluzione naturale ». A sua volta il Forthergill, nella sua opera «Aspetti storici dell'evo-luzione organica», dice: «E' universalmente riconosciuto che la grande maggioranza delle mutazioni, in mo-do speciale quelle artificialmente procurate, sono, se non del tutto letali, almeno generalmente deleterie all'organismo ».

Ormai sembra assodato che Teoria delle Mutazioni è diventata un vicolo cieco per l'evoluzionismo integrale o trasformismo: può spiegare qualche cosa, ma non molto. Il progresso della scienza l'ha lasciata molto indietro, a dispetto delle promesse originarie.

Lo sperato contributo dei fossili

Un'altra linea di studi che fu portata in favore della evoluzione fu quella concernente i fossili. Fino dal ria ivi contenuta come mancante di qualsiasi base reale sulla anatomia dei primati. E' bene aggiungere che una genuina e diretta evidenza in favore dell'evoluzione. I reperti geologici, se esaminati nella loro completezza e seriamente interrogati, debbono offrire una risposta o negativa o affermativa; se l'evoluzione ha avuto luogo là, se ne devono trovare le prove; se non ha avuto luogo là, ne troveremo la confutazione». Ed aggiunse che la paleontologia, al punto in cui si trovava allora, non solo non confermava la dottrina della modificazione progressiva, ma non offriva « neppure l'ombra di evidenza che i rappresentanti dei più antichi gruppi fossero più generalizzati in struttura riguardo ai più vicini a noi ». Tuttavia riteneva che l'attesa risposta sarebbe stata affermativa.

La risposta negativa della paleontologia

appello alle imprecisioni delle nostre conoscenze, la risposta dei fossili rimane fondamentalmente la stessa che quella dei tempi di Huxley. Il peso dell'evidenza paleontologica ri-mane decisamente contro tutte le teorie che sostengono l'evoluzione per mezzo di piccole e progressive transizioni. Ogni gruppo, o di pian-te o di animali, ci appare completamente formato fin dal suo appa-rire e non troviamo fossili che ci indichino la derivazione di un gruppo dall'altro. Le grandi famiglie organiche mantengono ininterrotta-mente la loro identità per quanto indietro si risalga nel tempo e non mostrano alcuna tendenza a convergere verso un'origine comune o in uno o più tipi ancestrali. Nessuna branchia della scienza ha, per esempio, gettata alcuna luce sulle origini delle Angiosperme o su alcun gruppo di loro: nulla di più si è sconerte sulle nignta niti di quanto si perto sulle piante più di quanto si conoscesse nel 1859. Questa è la grande difficoltà che le teorie della evoluzione hanno ancora da supe-

Qui forse dobbiamo ricordare il fatto che quando si approntò una nuova edizione popolare «Every-man» delle «Origini della specie» di Darwin, in vista del suo centenario, la prefazione introduttiva fu affidata a W. R. Thompson, F.R.S. Egli considera i fatti, le interpretazioni e gli argomenti di Darwin completamente non convincenti, ed aggiunge: « Darwin stesso ammetteva che l'idea della evoluzione non è soddisfacente fino a che il suo meccanismo non è spiegato. Ne convengo; ma dato che nessuno ha spiegato, a mio parere, come l'evoluzione può essere avvenuta, non mi sento autorizzato a dichiarare che ha avuto luogo. Preferisco dire che su questo punto le nostre informazioni

Nonostante i grandi progressi del-la paleontologia negli anni succes-sivi, al punto di non poter più fare quadro scientifico rimane ad un diquando consideriamo la questione con riferimento al genere umano, il quadro scientifico rimane ad un di-presso lo stesso. Wood Jones (che, tra l'altro, insisteva nel dire che l'uo-mo è più peloso delle scimmie, non meno), sostenne fortemente che le scoperte nel Sud-Africa gli Australo. scoperte nel Sud-Africa, gli Australo-pitechi (che egli considerò come scimmie, le quali sotto molti aspetti non avevano raggiunto il grado di specializzazione dei loro moderni rappresentanti) non hanno niente a che fare con l'evoluzione umana. « Nessuna valentia nel giocare coi fatti, nessun tentativo di semplificazione, egli dice, può far si che dalla grande quantità di evidenza prodotta dalle recenti scoperte in Asia ed in Africa scaturisca una storia precisa dell'evoluzione della scimmia in tione. I rigini della scimmia in tione. mia in uomo. I giorni delle sempli-ficazioni a cuor leggero sono pas-

La truffa di Piltdown e le logiche conseguenze

Il « Protoconsole Africano », è stato provato, era una scimmia superiore, l'antenato forse delle scimmie superiori odierne, ma non dell'uomo. Il «Sinantropo», forse, conosceva l'uso del fuoco e degli strumenti, e il suo «fratello» il «Pitecantropo» (secondo Le Gross Clark) era probabilmente così progredito come alcune delle razze umane meno di oggi. L'uomo di Piltdown è naturalmente sparito dalle scene come un imbroglio indecoroso, nonostante il fatto che potè ingannare e condizionare il pensiero di tanti uomini in una direzione evoluzionistica. Sarebbe interessante sapere fino a che punto la sua scoperta influenzò il pensiero di P. Teilhard de Chardin che, giovane scienziato, giocò un ruolo minore nella sua « scoperta »; egli certo fu totalmente innocente nelsono inadeguate».

Thompson, naturalmente, non trattava specificamente dell'uomo; ma l'imbroglio ammannito all'umanità, sebbene morisse prima che Piltdown apparisse in tutta la sua vergogna.

Illuminato intervento di Pio XII

Lo smascheramento della truffa di Piltdown fu uno dei fatti che giustificò i cauti punti messi in evidenza dall'Enciclica Papale « Huma-ni Generis », del 1950. Il Sommo Pon-tefice Pio XII, come ben conveniva ad una persona così colta, mostrò pronta consapevolezza e grande rispetto per il progresso scientifico in ogni campo. Tuttavia egli ammoni chiaramente: «Il Magistero della Chiesa non vieta che la dottrina dell'evoluzionismo, in quanto esso si limita a ricercare l'origine del corpo umano da una materia già esi-stente e vivente, sia sottoposta a ri-cerche e venga discussa da periti dei due campi, al punto attuale delle conoscenze scientifiche e della sacra teologia. Le ragioni delle due opi-nioni, cioè della favorevole e dell'opposta, siano vagliate e giudicate con la debita gravità, moderazione e temperanza: a patto che tutti sia-no pronti ad accettare il giudizio della Chiesa, che da Cristo ebbe il mandato d'interpretare autentica-mente le Scritture e di insegnare i dogmi della Fede». Quindi egli mise in guardia fedeli e studiosi: « Vi sono alcuni che temerariamente si avvantaggiano di questa libertà di discussione, e si comportano come se già fosse certa e dimostrata la origine del corpo umano, secondo gli indizi fino ad oggi scoperti o dedotti ragionando da questi indizi, da materia vivente; come se non vi fosse nulla nelle fonti della divina Rivelazione che esigesse in questa materia la massima moderazione e cautela». Come il Papa aveva detto più innanzi nel medesimo documento: « Non conviene ai Cristiani, siano essi teologi o filosofi, di dare un affrettato ed immeditato benvenuto all'ultima fantasia del giorno».

Micro e Macro-evoluzione

Naturalmente tutti sono convinti che vi è stata una evoluzione; questa è illustrata dalle differenze tra le diverse razze umane, ma il grande campo di battaglia rimane ancora la macro-evoluzione: i salti da rettile a uccello, da animale marino a terrestre, dalla scimmia all'uomo. Se questi hanno avuto luogo, hanno avuto luogo in modo improvviso, per un diretto intervento Divino, come quello che diede all'uomo un'anima, fatto che obbiettivamente differenzia l'uomo dal resto del creato. Gli evoluzionisti qualche volta si appellano a quel principio conosciuto come «il rasoio di Occam», che potrebbe essere così enunciato: «I postulati esplicativi non dovrebbero essere moltiplicati oltre lo stretto necessario». Nelle loro mani quel principio viene a spiegare le origini di ogni cosa dalla materia, un monismo che ebbe una certa influenza su tanto discusso libro di Padre Teilhard de Chardin: «Il fenomeno dell'uomo».

Ma abbiamo anche un principio complementare: «I postulati espli-cativi non dovrebbero essere diminuiti oltre quanto è strettamente necessario ». Il che significa che non abbiamo alcun diritto di aspettare semplicità da ciò che è enormemente complesso. L'uomo non è che una parte dell'universo e non è chiamata l'asiferare non grante dell'universo. mato a legiferare per questa stu-penda immensità. Un recentissimo libro del prof. Beck, di Harvard, «La scienza moderna e la natura approv ci uniamo a lui in questo) un noto scienziato che affermava: «Specialmente il biologo, a tu per l'innumerevole complessità delle cose viventi, non può non sentire che gli apparenti successi dei postulati di semplicità possono essere ottenuti soltanto buttando a mare una quantità di carico principale, sotto 'errata impressione che si tratti soltanto di zavorra».

Il libro del prof. Beck, che è del resto macchiato di scientismo e gretto materialismo, contiene tuttavia molte cose assai significative in ema di evoluzionismo. Egli dice che a serie di fossili illustranti una deivazione sono assai rare (quella fanosa del cavallo è stata bersagliata ecentemente con critiche distruttive), e poche sono state talmente saurienti da dimostrare la insorgenza di una nuova serie. Per la ormazione di generi nuovi, famiglie classi, maggiori cambiamenti evouzionistici apportatori di vere nobità, tale serie non offrono alcuna evidenza.

Dieci anni fa, egli dice, ci sembrò di possedere un quadro logico e ragionevole delle origini della vita. « Semplici molecole chimiche, con un processo evolutivo divenivano complesse fino a che, per un caso qualsiasi, avveniva una reazione che, come per DNA poteva portare alla loro riproduzione. (DNA è l'abbreviazione o sigla di « Desoxyribo » Nucleico » Acido », ossia dell'Acido desoxyribo nucleico, che è uno dei due acidi dell'« acido nucleico ». La importanza del DNA è dovuta al fatto che è un composto chimico costituente una formazione genetica nell'ambito della struttura fisica). La difficoltà però sta qui: infatti il DNA, come lo conosciamo oggi, può duplicare se stesso soltanto quando il meccanismo catalitico di una cellula perfettamenet formata è a portata di mano. La prima molecola DNA non avrebbe però avuto tale disponibilità. Cioè, la prima origine della vita rimane un mistero anche per gli evoluzionisti ad oltranza.

Trattando del processo evoluzionistico stesso, il prof. Beck è campato in aria come almeno tutti gli altri che lavorano col sistema della petizione di principio. « Gli eventi ave-vano provato il grande valore, ai fini della sopravvivenza, della spina dorsale segmentata e flessibile, della capacità del nuoto veloce e della ubicazione degli organi di senso all'estremità-testa del corpo. Ma i tempi cambiarono e le convulsioni della terra portarono invasioni di acqua salata nelle aree continentali. Pesci d'acqua dolce furono costretti a scegliere tra un nuovo ambiente di acqua salata o un sempre più ristret-to bacino d'acqua dolce. Alcuni scel-sero il mare, e quelli che rimasero nel vecchio ambiente dovettero assoggettarsi a modifiche per soprav-vivere. Quella fu l'aurora dell'era dei respiranti aria ed il prologo dei vertebrati terrestri dotati di polmoni ». E' chiaro che questo brano è frutto di fantasia sbrigliata, lontana da ogni considerazione dei fatti, cioè da ciò di cui la vera scienza si occupa.

Logica dal processo evolutivo

Quando fu pubblicata la « Humani Generis », non mancarono cattolici che credettero di trovarla favorevole alle loro idee evoluzioniste, sottolineandone la libertà di discussione per giungere a stabilire una ipotesi. ignoravano l'ammonimento dato già da lungo tempo dal P. de Sinety, S. J., che vi era una difficoltà base, una improbabilità, una quasiimpossibilità ad armonizzare anche una ristretta evoluzione dell'uomo e certi punti della dottrina cattolica; per esempio coll'unità del genere umano in Adamo necessaria per la dottrina del peccato originale. Se il processo evolutivo potesse muoversi liberamente secondo una forza in-terna, una spinta vitale, avremmo avuto certamente una pluralità di origini delle specie umane. Secondo la concezione cattolica, Dio intervenne in maniera speciale nella costituzione del primo uomo e della prima donna.

Rispetto per la «creta gloriosa»

Molti tuttavia accettarono lealmente la « Humani Generis » e si mostrarono cauti e circospetti, come del resto la vera scienza richiede, in un campo ove la nostra comprensione è così inadeguata. (cfr. « E' provata l'evoluzione? », di Douglas Dewar e H. S. Shelton, con una prefazione di Arnold Lunn).

fazione di Arnold Lunn).

Due libri che mi hanno interessato viavmente in questi ultimi anni sono: « Evoluzione, Ipotesi e Problemi », di Remy Collin, e « Teoria dell'evoluzione giudicata dalla ragione e dalla Fede », del Card. Ruffini, quest'ultimo particolarmente mportante per la trattazione anche filosofica e teologica del gravissimo argomento. Ambedue mostrano profonda conoscenza della complessità dell'argomento, la necessità di armonia tra i diversi ordini di verità, e di rispetto, come diceva Tertulliano, per « la creta gloriosa che usci dalle mani divine, la carne ancora più gloriosa per il soffio di Dio ».

MARTIN HALEY

CONTACTS OF DIFFERENT KINDS OF KNOWLEDGE

I referred to the interesting coming together (almost confondersi) of the Mneme and conscious memory in the children remembering words to make with the alphabet. Similarly, in the idea of the child's goodness being the order of the universe (We don't say, How good are the stars!) And that after that was the possibility of rising to a different goodness which involved the conscience and the possibility of falling morally. That, I suggested, is where we impinge upon the need of Grace.

To my surprise she did not flare up! -But agreed, only we must isolate things first and regard them separately. We can put them together and understand their relationship. In both these examples (Mneme and Discipline) you can see we came into this realm of the cosmic order.

I have been It thinking alot of this question of the development of man from monkeys or similar beings and trying to fit in your theory with Darwins.

Let us leave Darwin aside for the moment and look at the facts. The young in monkeys are very far advanced at birth. I have seen a new born monkey - still wet - run away from its mother, looking this way and that, with bright eyes, so that mother had to stop it from going away.

Now let us suppose that one of these monkey-children was born in a more dependent state. A new-born child in comparison with the little monkey (scimmitino) is like one half paralysed. It cannot sit up, cannot even raise its hand. Now, supposing as the monkey adult grew more intelligent, its young became more helpless. We could imagine the other monkeys gathering around and saying, "Poor thing! Its half paralysed, how sad! I hope it will get better!" So the more intelligent became the parents, the more stupid and imbecile would become the babies - a sort of just the opposite of hereditary, a reversed hereditary.

The more intelligent the parents the less able were the babied, and less competent than their ancestors as babies. These babies would in fact become less and

less adapted to the environment and the life in it. They could not be able to hang on to their mothers, or speak their language, or fend for themselves, or run by themselves. They would become biologically inferior. This prolonged infancy is then, a new thing - a special feature of man. Man had it from the beginning and it is a new step - a jump - a new thing altogether in evolution. One cannot imagine it coming alowly according to Darwins idea.

Darwins theory, and those of his followers were based on certain similarities in the cranium - but they forgot the child and its nature - its behavior which is just as important - more so - than their similarities of construction. How could this prolonged infancy come with spontaneous variations etc.

Instinct - Behavior - Fixed Grooves for the Species

The animals are fixed in their behavior. What they will do when they grow up, is always the same within certain limits. There is a spark of intelligence in each species - but unconscious - which teaches the bird to build its nest, the bee its cell and so forth. But the behavior is fixed. Hence their "infanat" can grow up quickly - he has not much to learn and it is given him through his instinct.

But with man it is different- He is not fixed in his behavior - he is infinitly adaptive - can live in any part of the planet, move in land, sea, air and under the water. Man is capable of progress.

And this capability of Progress is linked up with this long infancy and its power to absorb the new and progressing civilization.

These first Men Learned by Experience

This 'poor man', born without instincts, was in a way worse off than the animals. By instinct the animal chooses the food and keeps to it. But the man was omnivorous. He would eat this and that and have to learn by experience that these things were good and those were not. And so an experience was built up - a conscious social experience built up and held by memory and custom according to each tribe and race and

civilization and climate. Also language was built up and extended and developed.

But all this was not inherited, passed on like an instinct - like the instinct of
the bee to suck honey in flowers, the tiger to hunt, the bird to build an invarying
kind of nest.

How was it to be passed on? This language so carefully built up generation after generation, how were these gains to be capitalized? It could not be through hereditary - as it differed in different parts of the world. It was through the absorbent mind of this child in this mysteriously prolonged infancy. This is the function of human infancy - to absorb and pass on the civilization of its group.

It is true that in a very complicated civilization it takes longer for the new generation to take it all in, and come abreast with it - (cf. European civilization with Terra Del Fuego.) But this does not mean that - for that reason the absorbent power of the Terra Del Fuego infant is less developed to correspond to a more primitive culture. The potentiality is there equally in all human babies. This indicates that it is something which belongs to man as "man", a universal potentiality - not evolved, but there, right form the beginning. There is no indication that there are babies with a only half-developed power of absorbing, corresponding to a half developed culture - as would be the case if this faculty had been evolved.

Further, there is no evidence that with babies of very primitive tribes, the infancy is less prolonged, because there is less to absorb. It is the same in all. There is the same Time Table - set up at so and so; speak first words (names) and so and so. Again it is the same in all.

Dunique (therefore) this is a universal trait in man, and is far more important, biologically speaking , than that he has coccyx.

To go back to Darwin:

Supposing you say that - as a "sport" - some of these primitive men became more

intelligent. The result would be that the intelligent ones would tend to survive. But even supposing a more intelligent species <u>did</u> evolve in this way - only on earth should it alter the nature of their offspring? In fact, if anything, their offspring would be born more "svelto", more intelligent and alert (cf. acquired charaters are inherited) rather than less so; just as puppies are born more intelligent in certain breeds (Absations) than others, or their chur.....(?)

So that brings us to a third point in which men differ from animals. Mans means of defence.

Animals are born with various means of attack and defence - the tigers claws, the fangs, etc. Man is born naked and in his own physical nature, defenseless. How does he survive? Everyone says - By his intelligence. But I say no, it is not so simple. Place a very intelligent man such as Dante (Aligluri), or Aristotle in front of an angry Sabre toothed tiger and see what his wonderful intelligence will do!

Let us go back to the Primitive man and see what really did happen. Here are a group of individual men - with hands free, feet free. They confer together about this common danger, the tiger. One says he comes always along a certain place to drink. Good, we will dig a pit and cover it over. The tiger falls in and they kill him together. So we see. First language joining all their heads together. Second, they put their heads together and pool their experience and intelligence. It is a collective intelligence which saves them.

Man's intelligence does not exist by itself. It is a social function (cf. Social Law in the Spiritual World, F. Jones) So Man is something completely different from the animals. He is a new thing - biologically speaking and not an evolution Ems. This should be pleasing to the Catholic Theologians, Cardinals, etc.

They don't see it that way; they see it by as a matter of revelation in the Bible.

Ems. Still, it is a coming together of and inter-confirmation of Truth as coming in two completely different sources. (A propose of this fact that men's intelligence does not exist by itself - Paple - Preuss - says -

"A Hypostasis is an individual substance, separate and distinct from all other substances of the same kind possessing itself, attributes and energies - which are one in it").