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STATEMENT BY DR. WINTERTON C. CUREIS,
(Zoologist. University of $\mathrm{K}_{1}$ ssouri.)
(Biography...- Dr. Winterton C. OHtis reeeived the degree of Ph. D. at Johns Hopkins in 1901. He has served the University of Missuuri since the latter date, and is nom chaimmen of the Depertment of soology in this institution. Ho has also beon associated with the wrine biologionl Laboratory at Woods Hole, Mass. fow mant years, being at the present timo one of its trusteeld. At various times he has actsd as an investigator for hemited states Fishories Bresua, notably in studies upon the poary-button mussols. His munorous technical pepers hate been along the general Jines of invertutrate zoologzr-t generation, and perncitolopy His recent work entitled Seionce and Humen Aifetwit undortakes a discussion, from the stond.point of biologecal science, of the relationshjos hetouen the advencemont, of scientific knowledge and our cavjilize. tion. Dr. Gutis is particularly qualified to smeck in the mavters morer consideration, because in this volume re
 fluenoos ai soience. He is e momber and past serietory of the fmocien Society of Zoologizts, of the Ameriser sunety of Ebolgeistio, the Americen Naturaligists and a hallow of tho kme ricen Associntion for the Advencoment of seiences

IMTURE A ND CURRONT ASPECTS OF THE DOCTRINH OF EVOLUTION.

Definitions are wearisome. But we may ask ourselvos, by way of limitation, what is evolution in general and openie evolution in particular. The answer can rest be giren by means of illustrations. The torm evoludion, as to-dey neod in sciewce, means the historical process of chance. Wher we speak of the evolution of man-made products, lite aufomobiles and steam-engimes, of social institutions Jike donocratic gavernment, of the cmat of our conth, of aolar symons. of sert.


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what is now before us, in contrast to tha spadon and mirazulous creatiom, Such an idea is of recent migin. our intellectnal forbears of a few centuries ago thought in terms of a worla created in its present form, The evolutionary point of view marked an advence from the concept of a static universe to one that is dynamic. In the phreseology of the street, the world is $\varepsilon$ going concern, historically as well as in its present aspects.

Evolution is, therefore, the doctrine of how things heve changed in the past and how they are changing in the present. It may be naturaly divided into its Cosmic, eeologic, and Organic aspects, as represented by the sciences of Astranomy, Geology and Biology.

COSMIC EVOLUTION.
Cosmic Evolution really includes $2 l l$ other forms, for by the cosmic we nean the entire visible universe, our bery bodies, as well as the farthest star. But in practice, one thinks of the cosmos as remote. And what we have in mind under cosmic evolution is the changes that are postulated by the science of astronomy. It is believed by astronomers that our solar system with its central sun, its planets and lesser bodies, has not alweys possessed its present form, although it has been in existence from a remote period of time. Our earth seems to have been once molten, and before that perhaps gaseous. Although the famous Nebular Hypothesis of La Place has been in part replaced by other theories, the belief of modern astronomers is that our solar system and perhaps countless others have arisen by an evolutionary process whose extent is infinite in both time and space. I take it that few will combat the concepts of astronomy regarding the nature of our sun and its planets. Even whem some of us were chilaren the dieas of cosmic evolution, as set forth by the Nobular Hypothosis, the planetesimal hypothesis, or the like is correct, but that the astronomer regards the heavenly bodies as having reached their present state by an evolutionary stage continuous through an

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unfathomble past and prosumaty to wo cominoor into a limetle ss puturg. There is no Ionger taik omong-intelfagent or edu-. cated men -... O. the re should not bo-... of "hoaven and earth, center and circuferers, creatod all togother, in tho some instant, and clouds full of we.ter, on October 23 , in the year
 mined E the chroriology of Dr. John Lightfoot in the seventeenth century. The astronomical evidence for the development of such at dynmic universe in space ond time is of course limited. But it all points in thedirection of evolution.

## GEOLOGIC EVOLUTION.

Geologia Erolution overlaps with cosmic, since the geologist takes the evolutionary problem where the a stronomer leaves it. Geology deals with the lisistory of our earth, how it originated and how it has assumed its present form. Astronomy ceals with the origin of the earth as a planet of our solar system. Geology finds evidence that the esirth was once a molten mass which has since been cooler. What may be called the "countenance" of the earth is the subject matter of geology, how the $I$ and iies at the present dey. how rocks and soil are being producod, and what these facts imply regarding historical origins. The evolutionary evidence of astronomy is vague and remote, although gene rally accepted by the layman. The evidence from geology is written in the ground beneath our feet. The geologist's bolief in a vast lapse of time and stupendous cha chamges rests upon evidence that is everywhere at hand. Leanardo da Vinci, in the fiffeenth century, grasped the significance of important geoiogical facts, when he wrote concerning tiee saltness of the $s e a$ and the marine shells found as fossils in the high mountains. Sines the publication of James Hot想

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torne "mbedy of the Brithy in 1795 , it hes been the cardinal prironice of ceological scierce that past changes of the earthis suriaze are explicable in tems of chenges now in operation. For example, such $a$ बast chasm as tho Grand Canyon is explained not as produces by miraculous creation or by suaden catastrophe, but by running water acting upon the rocks throughout innumerabze ble centuries. The process may be observec in minature in the Wash of the scil in Tomessee fields, The weathering of rock into soil, crosion with its transportation of tho products of Weather-ng, deposition of the material in the oceans or in large bodies of fxesh weter, urlift of the ocean's floors and its hardening into rok may all be seen in slow but certain progress in various parts of the world at the present $\alpha$ ay, and their occurrence in the mest is recorded in the rocks. The sub-title of Charles Lfell's famous book, the "Principles of Geology," published in 1830, runs as follows: "An attempt to explein the former changes of the earth's surfece by refexence to causes now in operation." Lyell ostablished the idea of evolution as the only recsonable interpretation of geological facts and his ©laboration of Hutton's doctrines still constitutes the very founcation of geologic science. To-doy, geology without an evolution of the enrth's surface, from a molten mass to its present form, and extending over millions of years, would be on a par with a science of geography postulating a flat earth. The conclusions of modern astronomy and geology. the refore, point to an evolutionary process involving many millions of years and still in progress -- to am earth hoary with age and still growing ola.

Astronomy and geology despite their rrectical importance are remote from human concerm, in so far as their evolutionery doctrines are concerned. To boxrow from the phresaciogy as a distinguished anti-evolutionist, the Age of the Rocro is of no

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particuar consequence in so far as the Rock of Ages is concerned. Coamis evolution and geologic evolution are readily accepted by the laity on the authority of science; because they do not seriously interfere with dictrines that are deemed vital. But the evolution of plent and animel life, and hence human evolution, is inseparable from that of inorganic matter as describod by astronomy and geology, beceuse of the fossils in the rocks.

## ORGANIC EVOIUTION.

Organic Evolution resembles the cosmic and geologic evoIution above described, since it concludes that the living bodies, which are the objects of its investigation, have not always existed as they are to-day, but have undergone a process of change. As with the evic ence of geologic change, the evidence for on evolution of animals and plants rests upon facts that are imnediately before us, for example, the structure and development of animals, the ir distribution over the earth, the fossils in the rocks. Our time will permit of only enumeration and brief characterization of the recognized lines of evidence for organic evolution, which are as follows:
I. Evidence from structure is derived from:

Comparative Anatomy Comparative Embry Ology

Cha ssification.
2. Evidence from Distribution past and present, is derived from:

Paleeontology
Zoogeography
3. Evi dence from Physiology is derived from:

Fundamental Resemblances in Vital Processes
Specific Chemical Resemblances of closely re-
lated forms, E. g. B. Blood Tosts.
4. Evidonce Erom Exporimentetion rests upon:

Unconscious Experimontation upon Animals and Plants
since their Domestication
Conscious Reperimencotion of Breeders and of seien-
tipic Investigetcrs
The nature of the se lines of evidence may now be indicated.

Hoia ence from Comparetive Anatomy:
In the animal kingeem don as a whote and in every group of animals whether large or small, wo find facts thet may be interpreted most reasonably in terms of evozution. Tre vertebrates or backboned animals will serre as an illustration. We find here a certain plan of structure, for example, backbone, two peirs of limbs, body, head, end various internal organs, all laid domn according to a similar general plan, but with endess modifications to suit the mode of life. The finper of a whale, the wing of a bird or a bat, the fore foot of a horsc, the arm of a mar, and the like, all show the $s$ ame plen of structure. one of the pre-Darwin ideas wes thet each admal, while created separately, was nevertheless formed in accordance with a certain ides type that the Greator had in mind, hence the resembiance. Such an idea is a the oretical possibility, provided there is any evidence to shon that animals were created all at once and separately. But the re is not $\varepsilon$ shred of such evidence that will appeal to one anct who epproashes the matter with an apen mind and uninfluenced by preanceived notions.

On the other hand, the biologioal axplenation on this anatomical recemblenco is thet tho prosont $v$ artoomese ifishes, amphibia, reptiles, birds and racmelat have sil cescended from a primitive race, somowht like whe poconi fisugs. AlI vertebrates are now al:ke, because thoy have never lost the und erlying plan of structure inmarited from their coman arr-
present orgamization.
The Evid ence Irom Fogsils Peloortonogl int ownow wih the above, since the first vertebrates known to appear were primitive fish-Iike forms. These were succeeded by Amphibians. Reptiles, Mammals and Birds in the order named, the lest two having conmecting links with the repisles. The inverteleqat. brate groups tell e similar story.

Turning to the facts of Comparative Bmbryology: The kind of evidence everywhere $d i s c$ orable may be illustrated by the gill-silts in the embryos of higher vertebratea like reptiles, birds and mammals. All these forms exhibit in their carly stages of development a fish-like plan of structure, particularly in the neck region where the gill-slits are located. The reasonable interpretation of the existence of such structures in the embryo of a human being, or any land-living vertebrate, is that we have never logt these tell tale evidences of our ancestry. The later stages of our development are modified so that $t h e y$ lead to the adult human body. The earłies Ifer stages still show the primitive conditiona of a fishlike like orgenization. Mocern fishes have survived to the present ag without a fundamentaldeparture from the ancestral condition. Modern Amphibia (frogs, toads and salamanders) have survived in the half-way state between an aquatic and a terrestrial existence, through which higher vertebrates have passed as indicated by the fossil record and by the above fishIike stages in their development.

The facts of Classification are cormonly cited as evidence for evolution. Since clessification is based on structure ( $n$ natomy), this is but an aspect of the general evidence from comparative anatomy and embryology, While the facta camot be detailed here, they are striking and bear out the doctrine.

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Another line of evidence is thet of Goological end gogrep: graphical Distrubution: Tho facts hinthis connecteraro utterly senseless and inswiting to an intelligent Creator, if viewed $\Omega$ s a result of specinl creation. One can simply say, "God did it," and not ask why. But such explanations do not, satisfy modern minds. On the other hard, their explanation in tems of evolution give reasonarloness anc consistency to a large body of facts. The fossils appear in such an order in time as to constitute evidence for evolution. Existing animals are distributed over the surface of the earth in a manner thet confirms their geological origins.

The facts of Physiology tell a similar story. Iife and the liwing stuff is the same sort of thing wherever we find it, thus Ieading support to the idea thet it has all descended from the same primitive source from which it has inherited its resemblancos. A more striking line of physiological evidence is the rócently discovered chemical resemblane obetween the blood of animals previously supposed to be closely relatod on grounds of their anatomical sililarities, for example, apes and monkeys, birds and reptiles, and the like. Two entirely of evience are here found to interlock to such an extent that evolution is the one roasonable interpretation. Finally there is the evidence from Experimentation: Evolution hes taken place before the eyes of men, during the period since animals and plants were first domesticated. The changes have not $b$ een profound, because the $t$ on or $t w e n t y$ thousand years since the first animals and plents seem to have been brought under domestication is a brief span of time for evolutionary modification. But it is clear that such modification has occurred and is to-day courring under the direction of skilleul breeders. The modern science of genetics
is beginning to soIve the problem of how evolution takes plaje, although this question is one of extreme difficulty. The foregoing summary of the $v$ arious lines of evidence is hopelessly inadequate, since books could be written on each. The point to be appreciated is that all the multitudinous facts of biology hang together in a consistent fashion when viewed in terms of evolution, while they are meeningless When considered as the arbitrary acts of a Creator who brought them into existence all at once a few thousand years in the past. Modern biology has developed around two major generalizations, the Cell Dictrine, and the Doctrine of Organic Evolution. Modern Evolutionism dates not from Darwin's "Origin of Species," published in 1859, but from the Historie Naturella" of Buffon, the first volume of which appeared in 1749, and from the work of the other philosopher-naturalists of the eighteonth century. It is a sad comment upon the state of popular information thet the practical facts of bïological science are everywhere acknowledged, while the status of its greatest philosophical generalization remains so commonly unknown. In riev of its implicetions and applications, the doctrine of evolution is second to none other in moderm thought. It has been established by a gradual but irriatible accumalation of facts.

THE FACT, THE COURSE, AND THE CAUSES OF ORGANIC EVOLUTION.

At this point we may examine a common misund erstanding with reference to evolution and the work of Charles Darwin. Suppose we begin with an analogy, illustrating what may be temed the Foct, the Course, and the Causos in a progressive series of events. A ship leaves a European port and sails across the Atlantic to New York harbor. We may distinguish
betwoon: (1) the Feet thet the shil octually crossce ine ocean, instead of being "croctod" in the harbor of Now York; (2) The $C_{0}$ urse the ship my have pursued. whether direct or indircot, one the like; and (3) the Causer that made the ship go, whethor an intemal prapelluce fece inte steam or ehectricity, an externsl force like wink or curreat or even direction by wireless. C.mpered with the dictrine of evolution, we have; (1) the Fect of Evolution, es representing the historical series of events; (2) the course followed in evolution, for instance, whether the land vertebrates arose from the fish-Iike ancestors, birds from roptiles, or the like; ama (3) the Causes of Evolution or what made and makes it happen. These three aspects, like tho se in the voyage of a ship, are soparate through related items. They must be constantly distinguished, if there is to be any clear thinking on this matter by one who is not a scientist.

It is now possible to explain the misunderstanding above citca. The historical Fect of evolution seems attested by overwhelming evidence. Science has nothing to conceal, it stamds "strong in the strength of demonstrable facts," and invites you to view the evidence. The Course pursued by evolution is known broady in many instances, but in the nature of the cese the evidence is limited and many of the sters will always remain uncertain, without, however, a calling in question of the historic fact. The Causes of evolution present the most aifficult problem of all and the one regering which we know the lenst. The recent strictures of Professor Batespn, which hove been exploited by anti-evolutionists, were directly wholly at ourrent explanations of evolutionary causation and the contso of evolution. He affirmed his belief in the historic fact when he said "our faith in evolution is unshaken" -- merming by "faitm", of course,
a reasnoble belief resting won ovidence."
Thet such an interpretion of Professor Bateson's views is the correct one, apears from the following communication:
"11 Decemb er 1922
The Manor House,
Merton
Iond on, S. W. 20.
"Dear Prefessor Curtis:
"The paners you have sent me relating to the case of Mr. $\qquad$ give a curious picture of life unaer democracy. We may count ourselves harpy if we are not all hanged tax like the Clerk of Chatham, with our pens and ink homs about our necks!
"I have looked through my Toronto address again. I see nothing in it which can be construed as expressing doubt as to the main fact of Evolution. In the la st paragraph (copy enclosed) you will find a statement in the most explicit words I could find, giving the opinion which appors to me forced upon us by the facts -- an opinion shared, I suppose, by every man of scien ce in the world.
"At Toronto I was addressing on audience, mainly professional. I took occasion to ceill the attention of my colleagues to the loose thinking and unproven assumptions which pass current as to the acturl processes of evolution. We do know that the plants ana animals, incluaing most certainly man, have been evclved from other and very different forms of life. As to the nature of this process of evolution, we have many conjectures, but little positive knowledge. That is as much of the metter as con be made clear without special study, as you and I very well know.
"The campaign egainst the toaching of evolution is a
terrible example of the woyin wito trutin can be perrorted by the ignorant. You may use as much of this letter as jou like, and I ho pe it moy be of service.

Vory truly,
W. BATESON."

The paragraph to which Professor Bateson refers above is the concluding one of his adcress and runs as follows:
"I have put before you very frankly the considerations which have made us arnostic as to the actual mode and processes of evolution. When such confessions are made the enemies of science see their chence. If we can not declare new he re and now how species arose, the will obligingly offex us the solutions with whech obscurantism is satisfied. Let us then proclaim in recise and undistakable language thet our faith in evolution is unshaken. Every available line of argument converges on this inevitable conclusion. The obscurantist has nothing to suggeat which is worth a moment ${ }^{\prime}$ attention. The difficulties which weigh upon the professional Diologist need not trouble the layman, Our doubta are not as to the reality or truth of evolution, but as to the origin of species, a technical, almost domestic, problem. Any day that mystory may be solved. The discoveries of the last twenty-five years onable us for the first time to discuss these questions intelligently and on a basis of fact. That synthesia will follow on an analysis, wo do $n$ not and car not doubt."

With this distiction between Fact, Course and Causes clearly in mind, the sigmificance of Daxwin'a work in the history of Diological thought can be understood. Darwin's accomplishment wes two-fold. In the first place, he estabłiehe lishea Orgamic Ewolution as the only reasonable explanation of the past history of living things. Secondly, he offer-
ed, in Natural Soldation, what then aponvar on adeque expla nation for the origin of species and honce for the ceuses of evolution. Darwin's evolutionary argument in his "Origin of Species* was that one species could giver ise to another "by means", as he believed, "of Natural Selection or the preservation favored races in the struggle for life." If one species could be shown to give rise to another, the same process could be continued. No limit could be set. The types thus produced could depart indefinitely from the parent forme Once the mutability of species be admitted, the only reasonable conclusion is that evolution has taken place. His argumont was supported by an immense collection of facts along observational and experimental lines. The total result was overwhelming, coming as it did more than one hundred years after the original promulgation of the theory of transmutation and its repeated rejection by the main body of naturalists. Erolution was accepted so quickly by scientists that the world was startled. This sudden conversion gave rise to the impression even among scientific workers, that no serious contribution to evolutionary the ory had been made before the wry of Darwin. Such an impression does not represent the facts and it does grave injustice to the pioneer thinkers of the eighteenth century to whom we have alluded.

Darwin's secone accomplishment, Natural Selection, was accept ed by science as a causo-mechmical explanation of evoIuti onary chamge. The cogent statement and the simplicity of the principle of selection were of great importance for its acceptance as the cause of evolution, along with the broader theory of evolution as the hiatoric fact. Extanded exposition of the selection process will not be attempted. It may be found in numerous elementary reference books, and in the early
chspters of the "Orizin of Snocies." The tablation lnomac Wal Iageis Ghet, which is an admirablo outline of the argumont, my be cited in this connection:

WALIACE'S CHAPT ON NATURAL SELECTION.

## Proved Frects

A Rapid Increase of Numbers
B Total numers stationary
C. Struggle for Existe nce

Consequences
Struggle for Existence

Survival of the Fittist
(Natural selection)
D Variation and Heredity
E Survival of the Fittest Structural Modifications F Chenge of Environment.

The importance of Darwin's work in the kistory of scientific thought is thet it convinced saicnee of the truth of organic evolution and proposed a then plevisable thecry of evolutionary causation. Sinco Darwin's time, ewolution as the listoxic fact has received confirmation on ewory hand. It is now regarded by competent scientists as tho only rational arplanation of on owerwelming mass of facts. Its strongth lies in the extent to which it gives meaning to so mony phenomene - that w culd be meaningless without such an hepothesis.

But the case of netural selection is far differont. Of recent years, this theory of tho caves of Erolution has suffered a aecline. IFo oher byrotheris, howewen, has completeIy displacedit. It remsins the most satisfactory txplanation of the origin of wemadame quagtations, alchougin its aIIsufficiemey is no longer soceptor. The thithal stop in evolution is the angecranes of inditand varistions whioh are perpetuated by horady, xatian tron the sesccion of veriations after they hare apocrod tho interest if inveat gasere tors has shiftud to pobiens of veriation and heredity, as exem-

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plified by the rise of the science of genetics.
As a result of this situation, thero has been much aiscus. sion among scientists recarding the adequacy of what is otten referred to as the Darwimian Theory, meaning Natural Seloctiog. In condemning selection as an inadequate explanation of the problem, biologists heve often seemed to condemn evolution tits itself. It is not strange that the la yman, for whom Darwinism and evolution are synonymous terms, believes that evolution has been rejected when he hears that belief in Darwinism is on the wacie. He does not understand that whatis thus meant by Derwinism is not the hietoric fact of evolution, but the proposed cause of evolution -- natural selection. This point may not seem vital, but those interested in biological science frequentily find the situation used to support claims that the entireconcept of oromic erolution has fallen into disrepute. There are many, oven to-ded, who rejoice at anything then appears to weaken this major generalization of bi-- Iogy.

Such then is the moro strictiy scientific status of the Doctrinc of Erolution 4 a whole. The origin, by evolution, of the hoavenly bodies and of our earth is evidenced by facts of astronomy and geology as sot forth in any elementary treatise on the sciencos. norganio evolution or the modification of na-living matter is thus supported by science and does not fich serious oprostion in the prolic mind. Orgear ic Erolution or the or igin of enimst and plamt fife receives a similar support from the facts foiology. If the origin of man were not involved, there would be presumably little serious opposition from non-sciontific sources at the present
day.

FTMAN EVOMUN ION.
But with the evciution of all ouhor living things, woth aminal and plart, overwholmingly attostod by tho facta, it is wor not only impossible but puorils to soparatic man from the general course of events. Worcoror the ovidence forman's origin is bocoming clearex oor by yoar. Comparative Anatomy, Embryology, Classification, Thystology: Geographical Distribution, Fossils, and the existind races of Mankind tell the same story for man as for the rest of the animal morld.

Huxley's essay, entitled "Man's Place in Nature," presents in a masterful manner the anatomical evidence for our kinship with the four species of tailless apes -- the Gibbon, Gorilla, Orare and Chimpanzee --and his most significant conclusions are even more strongly established at the present day. If creation occurred"st 9:00 A. M., on October 23, of the year 4004 B. $C_{n} "$ as part of the Divine Plan, it is amazing that such success should have dogged the steps of the studente of human skelstal and cultural romains during $t e$ last hef century. Whe skeletons in part or in whole are known for a number of sub-humanx races and a vast array of implements and other ramains, all showing a progressive advancemert. By another fifty years, it seems aafe to expect that much more of the story will be unveiled. It is further amazing that investigations in Egypt show the existence of a flourishing civilization in the Nile Valley as early as 5000 B. C. . and back of this a gradual development from the barbarism of the stone age.

On man's intellectual side, psychology is making increasingly evicent the essentially animal found ation of human intelligence. Man's claim to importance in the universe revealed by soience lies not in the pretense that this panet was created for his convenience, but in the claim that he
-ranconds the matcrial universe in so far as he compreheads it. Ane the mothod of such comprehension thet dominates modern ohought is the mothod of science, not thet of thoology.

The question of humen leginnings is one thet is opem to investigation like nny other historic or pre-historic event. In this connection a quotation from a famous essey by Herbort Spencer, published in 1852, ia anpropriate: "those who eavalierly reject the The ory of Evclution," writes Spencer, "as not adequately supported by facts, seom quite to forget thet their own theory is supported by no focts at all. Like the majority of men who are born to a given belief, they demand the most rigorous proof of any adverse belief, but assume that their own needs none. Here wo find, scettered over the globe, vogetable and animal organisms numbering, of the one Kind (eccordine to Humboldt) some 320,000 species, and of the other some $2,000,000$ species (sec Carpenter); and if to these we add the numbers of animal and vegetable species that have become extinct, we may safely estimate the number of species thet have existed, end are existing, on the earth, at not less than ten millions. Well, which is the most rational theory about the se ton million of species? Is it most likely that the ro have been ten millions of special creations? or is it most likely that by continual modifications, due to change of circumstances, ten millions of $W$ arietics have been produced, as varieties arobeing produced stills"

And, one misht add, if the evidonce inaicates that all other species have arisen bybevolution, it is probable that mar, whose bodily structure ond functions are so nearly identical with those of the mamalia and particularly the primates -that men arose in a different fachion. We have, moreover, es above indicated, the positive ovidence to support this gencral presumption.

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Havine atlined the ev dence for human evolution and stated the presumption in its favor, lot usturn to the ovidence for special ereation, as foun in Genesis. Scionce and co mon sense alike induire regarding the nature and sources of this account, if it be regorded as a truestatement of the facts. Science faces the matter squaroly, desiring only the right to investigate and aram unprejudiced conclusions. The results of such investications are nut in doubt. It appears that the races about the eastern Mediterranean, Iike other primitive peoples, had their traditions of the origin of the world. The story in Genesis apparentiy descended to the early Hebrene and $t$, their neighbors in Mosopotamia from a so urce far entedating the apearance of the Jews as a people and thei $r$ sacred writings. Archoology and ethnology most reasonably indicate that in its origin this Hebrew-Babylonian tradition may be co mpared with the stories of many other primitive peoples. We take the story in Genesis seriously as on account of pre-historical facts, because it is our story of creation passed down by tradition from our fathers. It is and will remain gacred and interesting, because it has been woven into the thought of westem culture for almost two thousand years and because of it s intrinsic literary and moral quelities.

But the past history of events, whether of human or animal origine, is sub ject metter for scientinic inquiry, and the answer of suience is Evolution. The very great antiquity of Mon, the existence at am earlicx period of beings, man-like, but intermediate botween man and ither primates, together with the facts of man's anatomy, his embryology, his physiologtcal reactions, even his mentality, all point to his bodily kinship with the rest of living nature. It is not that men came
$02+66-20$
Fron monlogs, but thet men, monkeys ond apea all came from a common mamalien ancestry millions of years in the past. It is nore ressonable to bolieve that the Bible is a homan documont, rerosenting the history of an advence from the concont of a burbarous and vengeful Jehovah of the earlier wold Tostamert, throurh the God of righteousness and justice of the Inter prophets, me cuIminating in the concept of a Father as preached by Josus of Nazareth.

In the foregoing atatemen we hav comsidered the intelIectual aspocts of tho doctrine of Orgamic Evolution. There romain its social aspects. Evolution is one of the basic concepts in modern thought. Suppression of a doctrine estabIished by such overwhelming evidence is a serious matter. From the standpoint of the teacher the situation has more than academic interest.

Evolution has been generally accepted by the intellectrally competent who have taken the trouble to inform themselves with an open mina. The following letter was written in response to a request to state his position, it having been alleged that he was not a believer in organic evolution:
"Washington, D. C. 29th August 1922
"IMy dear Professor Curtis:
May it not suffice for me to say, in reply to your letter of August twenty-fifth, that of course like every other man of intruigerae ard education I do believe in Organic Prolution. It curyises me that at
this late date such quoations shoula be raised,
Sacomoty pracs.

WOOTHCW TESEON
Professor W. C. Curibis, Columbia, Missouri.

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In view of all the facts, may we not say that the present storm against organies evolution is but an exprossion of malign influences of prejudice and ignorance, hostile to what we may envision as the high destiny of our westem world.

