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How Far is the Argument of Homology Acceptable to Reason

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Jordon D. & Kellog V. --- EVOLUTION AND ANIMAL LIFE

New York -- D. Appelton & Co. 1907., p. 489

This book is a elementary discussion of facts processes, laws, the rites relating to life and evolution of animals. Evolution is the one means to express the cause of things. Any other theory would not be satisfactory in the explaing of the changes that took place.

Kellog V. ---Darwinism Today

New York -- Henry Holt & Co. 1907., p. 403

The purpose of the book is to present the arguments of Darwin, in the way he interpreted the facts along with his and owrers, and to present the side of those who were and are against him. He discusses the criticism of Darwin and then those who defend the doctrines partially or wholly. The book represents the attitude the scientific men toward Darwin at the period of publication.

Lull R. ---The Ways of Life

New York -- Harpers & Bros. Co. 1926., p. 365

The writer is a staunch supporter of evolution as the means to express everything on it. There are three sections to the book. He first discussing the nature of things; living and non living matter the origin of life, the platicity of living things and their adaptations to enviornment. In this same section he also takes up variations, heredity, selection. The section that follow presents the part played by palaentology, morphology, and ontogeny play to proove the existence of evolution. The book is closed by history of the prehistoric men, discussion on direct and potential creation and a history of men allied to the subject of evolution.

Lull R.---- Organic Evolution

New York -- The MacMillan Co. 1929., p. 743

This volume was written more as a text, than as a direct defense of evolution. He classifies all the observation noted into his book, to make pure text. It traces the history of evolution from the time of Aristotle on.

to the problem. The writer is facing several other men, whose lectures are also given, on one night, his talk was the last.

Windle B. -- THE SECRET OF THE CELL.

St. Louis -- B. Herder 1906 p. 46

The book is a lecture given at Cathedral Hall Westminster, March 22, 1906. The purpose of which was to bring together some of the arguments, which can be advanced for the existence of a factor in the living organism, unknown outside living matter, and of a wholly different character to anything within the domain of Chemistry, physics and mechanic. He shows the difficulties in the way of such a paper, and indicates a solution to the problem.

Windle B. -- EVOLUTIONANY PROBLEM AS IT IS TODAY.

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The theme of the book is to show what the status of evolution is today. In explanation given to show that evolution cannot be absolutely demonstrated and upon this the whole book is based.

Zerve Alvin -- EVOLUTION IN A NUTSHELL

Chicago -- Laura & Co. 1926 p. 150

The purpose of this book is to present both sides of evolution in a clear manner. He gives the lines of proof for evolution along the line of zoology, comparative anatomy. (Homoley) em and Geneke. His answer as to whether evolution is a satisfactory and comprehensive world view, no!

Mason F. -- CREATION BY EVOLUTION

New York -- The MacMillan Co. 1928 p. 392

This book is the concensus of opinion as set forth by leading authorities in non technical language that all may understand.

Newman H. H. -- THE GIST OF EVOLUTION

New York -- The MacMillan Co. 1926 p. 154

The purpose of the book is to show what evolution is in a simple manner. What evolution is and what it is not is very explicitly brought out.

Dwight Thomas -- THOUGHTS OF A CATHOLIC ANATOMIST

Longman S. Green & Co. p. 241

This book or rather the writer is against the accepting the doctrine of evolution as being the only explanation for the origin of things. He attemps to bring out the errors that the evolution makes.

Fasten N. -- ORIGIN THROUGH EVOLUTION

New York -- Alfred Knopf 1929 p. 456

The purpose of this book is to show upon what evidence, evolution is based upon. Evidence as cited from homologies, embrology and palaentology are presented in a simple form. An attempt is made to show how belief in the organic evolution will not interfere with the idea of creation. The book on the whole is mainly concerned in presenting the evidence.

Frank K. -- THEORY OF EVOLUTION-ON THE LIGHT OF FACTS

St. Louis B. Herder p. 241

The theme of this work is to throw some light on the theory of descent. The origin of the problem is explained and the conditions involved. Frank treats extensively the palaeontological argument, with the objections and the affirmations. The evolutionary hypotheses can only go as far as giving the reasons. There is an explanation of different evolutionists. Then he puts in a suggestion for a reliable hypothesis. The conclusion to be drawn from the book is that the evolutionary hypothesis cannot be used as the explanation for everything.

Gerard J. Rev. S. J. -- EVOLUTIONARY PHILOSOPHY

London -- London Catholic Truth Society. 1909 p. 119

The argument as presented in this book is not with evolution as a fact, but with what is styled evolutionary theory, which presents itself as a philosophy, and which comes before us as the fundamental principle, which eliminates all other factors in the universe.

Wasman E. S. J. -- PROBLEM OF EVOLUTIONARY

St. Louis -- B. Herder 1912 p. 266

The book is built on a series of lectures on the problem of evolution, concerning the validity of evolution as to being a theory and the relation of evidence from zoology, paleonlology

Osborn H. -- FROM GREEKS TO DARWIN

New York -- The MacMillan Co. 1904 p. 743

An outline of the evolutionary from the Eliatics and Ionian down through the ages through D rwin and present. He presents the doctrine of each, the connect on of each man and who their apponents are.

O'Toole G. -- THE CASE AGAINST EVOLUTION

New York -- The MacMillan Co. 1925 p. 408

The purpose of this book is to show that evolution is not so perfect as it is supposed. He points out what the fallacies are in the arguments in favor of evolution, and makes suggestion to avoid.

Ward H. -- EVOLUTION FOR JOHN DOE

New York -- Bobbs-Merrill Co. 1925 p.354

This book is an att mpt to give a person unacquainted with biology, a survey of what is meant by organic evolution. The writer explains how the average person thinks in regard to the question. It is a book written for the purpose of settling disputes between people and demonstrates how one should think on the question.

Evolution is a subject that involves a great deal more than the average person really thinks about. To approach subject like this, one must try to obtain as many of the different factors that taken into consideration as is possible. This can be seen in the following quotation, (FASTEN, p. 15 chap. 2). In this age of specialization, who shall be considered an authority in a so-called field if not the so-called expert? For medical advice we call in the doctor; for legal guidance we consult the lawyer; in mechanics we regard the engineer as the authority; but in regard to evolution, many honest people forget that this is also a sphere in which only people qualified to speak should make assertions. Unfortunately, many of these who are attacking evolution either are totally ignorant of the facts or have a meager, undigested knowledge of the subject." Several years ago while working, with a man of little schooling, on a furniture truck, the following incident took place: A conversation that started out very meekly, lead us into the subject of evolution. My partner's point of contention was like this, I do not believe in evolution because man does not come from monkeys. To this I replied: have you ever read anything on evolution? He admitted he had not. Between his emotional dissertations, I managed to say that evolution consisted of a lot more than what he thought. My friend rebuked me for this statement, saying, "how can you believe in God and evolution at the same time! I need not continue this little episode for the words bring the idea that we must have sufficient reason to deny the validity of a thing, and not

to bring in sensational features that are insignificant and are of no longer of the highest importance. Today the majority of the scientists say that although there are points of similarity between man and the apes, there is not sufficient evidence in back of it to make man descendent of apes. Edwin Conklin says in (Direction of Human Understanding p. 5 of preface), "The spirit of science is freedom to seek and to find truth, freedom to hold and to teach any view for which there is rational evidence in recognition that natural knowledge is incomplete and subject to revision and that there is no legitimate compulsion in science except the compulsion of evidence." Experience shows that reason will accept only those facts that seem to have correct basis for the supposition. So in order to study the subject of evolution, one should have read the evidence given and then judge accordingly. One with a weak mind will be swayed, but the man with a strong will power can weigh all arguments and see which are acceptable to reason.

So far I have merely shown what background is necessary, to study evolution in the manner which will enable one to study and interpret it in the correct manner. A person must take into consideration another factor in the work, that of attitude. I mean by this, how far is one going to accept or rather interpret, the evidence given. Am I going to accept the tenets of evolution as the absolute explanation, or am I going to deny the facts given as being false entirely? To this one can answer by saying that to be right is to follow the media rather than the extremes. This I will explain more fully

later.

Many people, if not the majority, do not realize that there is a connection between philosophy and XXX evolution. To a lot of persons, philosophy is connected with a person who dreams away in idleness, little realising that there is a definite role to be played. What this is very few know, yet in every day positions one has the occasion to use it. I mean, that to present arguments and evidence in a manner which are capable of being developed in a systematic way, one relies on LOGIC. Or when evidence is found not to be acceptable to reason we reject the facts given as false or not sufficient. It is Metaphysics that enables one to get the correct interpretation of the facts given.

As I had mentioned evolution consists of many parts and subjects. Probably one of the strongest arguments for the idea of ORGANIC EVOLUTION is the one based on the homologyies.

The problem will then be to find how far the argument from ismologies is acceptable to reason, to show how far one can interpret the evidence given.

History of Problem.

Writers in giving the history of evolution, go back as far as Aristotle and some even farther. However in discusing homologies, i.e. the argument, one does not have to go back far because, previous to the 17th century interest in comparative anatomy was very slight. So that the interest in the resemblances did not really start until the 17-18th centurys. According to H. Osborn(From Greeks to Darwin, p. 21), the principle of homology was first pointed out in 1805 by Vicq d'Azyr. The man who one can say gave real impetus to the argument of homology is Linneus (1707-1778. Previous to his time an organized classification of the plants and animals was unknown and previous attempts did not result in anything that was of value to the scientific world. It is to Linneus that one goes for the first good classification. Why would that have any reference to homologies? The answer is that classifications are built on the resemblances that exist between the different plants and animals. After the classification came out, men noted the resemblances more and more. The result was that the argument from homologies became more and more important as research developed.

There are other men besides Linneaus who helped to developed the argument from homologies, namely; Erasmus Darwin (1732-1778), the grandfather of Charles Lamarck(1744-1829); Johann Goethe (1749-1832); George E. Cuvier (1769-1832); Geoffrey St. Hilaire (1772-1844); Richard Owen (1810-1892); and finally Charles Darwin (1809-1882) who really presented the argument as we see it today. The men who followed him

may have varied when it came to explaining, for example, selection, but Darwin presented the homologies in such a form that the men who followed Darwin, saw in it a strong argument for organic evolution.

These men all lived in a period of observation. Each noted the resemblances that existed. Their contribution to the argument occupied only a small point in their discussions. We can notice in Erasmus Darwin, that he says that resemblances betokened a positive relation between species. In Lamarck resemblances are found to be based on heredity. Lamarck divided the animals into vertebrate and invertebrate. The first concept of the tree of life, i.e. the developement of all living things, can be laid to Lamarck. Most people know Goethe, as a great writer, but how many know him as a scientist. He advanced the contention that one should compare organs with one another when engaged in study. Goethe developed in 1796 the unity of type theory, (later expressed by Darwin) based on his own observations that lead to the explanation of vestigal structures. Georges Cuvier is considered the founder of comparative anatomy, since he worked a great deal on the different types. In his work, Cuvier developed the classification of Linneaus, and at the same period lived Geoffrey St. Hilaire, who likewise was deeply interested in comparative anatomy (Darwin read a great deal of this man.) The universal plan of composition lead him to emphasize the resemblances rather than the differences. Richard Owen is considered the greatest comparative anatomist after Cuvier. He is known for his work on the skull. The

last of this group Charles Darwin, who took as his base the results of these men, especially Hilaire, and combined them with the results of his observation, to give his idea of the argument.

To discuss an argument in favor of evolution one must have a idea of what we mean by evolution. Then, what is organic evolution? It is the term used to denote the developement of organic species, i.e., present forms are modified descendants of one or a few earlier forms of life.

The matter of attitude is of great importance in a subject like evolution. We are frequently biased and the tendency is to interpret facts given, far more than can be accredited to a clear mind. For example this quotation taken from H. H. Newman (<u>"The Gist of Evolution"</u>, chap. 4, p. 15-16) "Evolution is the philosophy of a changing universe. The vastness of it, the universe, leaves us with a feeling of awe and reverence of the ultimate power in back of it all and inherent in it. This feeling is nearly akin to worship. The scientist feels the inadeqacy of the finite mind, and the vastness and perfection of the whole scheme of things, and this together with his aspiration to know the truth about it all and nothing but the truth, is his religion. To him the process of his nature constitute the divine method of working out some vast and unknown purpose." He then says on the samepage, that"the only rival view of the universe is that based on GOD." One is rather astounded by this seemingly lack of logic and wrong interpretation. According to the quotation he places so much faith on the basis of evolution that he enters it as the final explanation for everything.

How can he when the field covered by evolution applies only to material things? Why would it be wrong, from the statement made to accept the idea of a supreme being, when he implicitly bases his facts--(the scientist feels the--and vastness and perfection of the whole scheme of things,) on the idea of a supreme being? To this contradictory statement he accepts the view of God as being a rival, when he implicitly believes in the idea of the Supreme Being. Newman tries to excuse himself by trying to attack those who follow the Bible as the one and only guide. These he calls the "CREATIONISTS". He says on page 17, "Creationists believed God created everything in one brief period of time and then left it in an unfinished state to go on forever unchanged". No doubt some did take the Bible too close to the words, but the fact that man was to go on forever unchanged without help was accepted only by a small group, but the majority probably believed that while not perfect one can still be set up as being complete. It would take a sceptic to deny the use of those faculties that Newman does not even mention. The higher faculties would stand as an objection to him. Then Newman admits that there is a union between evolution and religion quoting R. C. T. Evans--pp. 20-21, Gest of Evolution, "There are two great revelation to mankind. The one gradually unfolding to the man's mind of the physical and psychical wonders of the universe. The other the gradual unfolding to the man's spirit of the knowledge and appreciation of the spiritual."

"Both revelations are true. In both cases all of our

conclusions are not necessarily true. Our interpretation may err. The first revelation is the result of the keen observation of untold generations of men, upon the physical happenings about them. The second is the result of deep insight into their own being, which exceptional men posses. Such spiritual men appear from time to time throughout the existence of God."

"The two revelations are not mutually exclusive. They are but different views of truth. One is the almost limited to the visible iniverse, while the other not only concerns itself with the visible universe but with the spiritual state beyond."

"The descrepancies which loom large to many people between the two revelations are due to our misinterpreting the one or the other, and as mentioned above, each is colored and distorted by the medium through which it has been revealed, the mind and spirit of men". So despite the fact that one can accept evolution as far as one is able, evolution does not satisfy. It seems to me that Newman contradicts himself time after time. After starting with the idea that evolution can explain everything he lands at the opposite conclusion. This shows that one can not accept evolution as the absolute explanation.

Are we then to go to the other extreme and say that the facts of evolution are not sufficient to attach any interpretation to them, or to go still farther and deny the validity of the facts. Men have been known to be stubborn and refuse to accept the facts of evolution just from mere bias. The evidences that have been shown to be correct, mean nothing

to them because they believe their interpretation of the facts is the right one. Briefly discussing the extremes both are found to be lacking; neither side seems to satisfy. The answer to our problem can be found by taking a middle course. O'Toole says-p.13, The Case Against Evolution, foreword, "The safest way toward evolution is the agnostic one. It commits us to no uncertain position. It does not compromise our intellectual sincerity by requiring us to accept the dogmatism of scientific orthodoxy as a substitute for objective evidence. It precludes the possible embarrassment of having to unsay what we formerely said. And last it is the attitude of the simple truth; for the truest thing that science is, or ever will say concernign the problem of organic origin is that she knows nothing about it." Or as Windle says,-p.12, Evolutionary Problem As It Is Today-"Evolution is not a proved fact, but holds the field for the want of a better theory." Neither man would want the idea drawn that there is no organic evolution, but they imply that there are certain factors involved, that are not definitely proved. By not interpreting the facts correctly the opposite conclusion could be reached.

A question now faces us how can subjects like Metaphysics and logic be connected with organic evolution. Metaphysics is interested in organic evolution (i.e. the argument from homologies) in the way that all interpretations are acceptable to reason. If we see a interpretation that seems not to be sufficient for the result that it brings, one need not accept until further evidence is found or accept it only on

certain limitations. Certain things can represent true conditions; but often there is a tendency to let facts mean more than they are supposed to. Take for example this quotation by the Rev. J. Gerard, Evolution and Exact Thought, "At the same time there are undoubtedly men trained according to the older method of thought, to whom this claim amongst all the mysterious, and whose main difficulty in accepting its tenets is its utter inability to grasp the process of reasoning by which they are supposed to be established. To such it appears that in no respect is such reasoning so defective as in the utter confusion of its phraesology, and the fallacies which such confusion begets; moreover that, apart from this no attempt has been made to provide the system with a solid groundwork whereon it may ultimately rest; without which, were its parts ever so harmoniously jolted in, it must ever remain a castle in the air". He means here that we cannot attach a too deep meaning to the facts. On page 43 he says, "the point under examination would be just where it is. Our Affair is not with evolution as a fact but what is styled evolutionary theory, which is a totally different thing. This theory presents itself not as a chronicle, but as a philosophy, not as giving us to know the cause of things, but the causes likewise the causes themselves, it comes before us, not as a subsidiary system dealing with one department of nature alone, but as the great fundamental principle which eliminates from the universe all other forces and agents but its own. It is precisely because it does that,

that it holds its place before the world." The above lines refer the argument likewise, since it is a factor involved in evolution. As previously mentioned the thought to be interpreted is that all the evidences that have been examined may be true but we have no right to leave the field of our evidence and apply it to another field. In building up of our evidence one has to rely on logic to prevent our work from going off on tangents.

Now the problem which will be based around the argument from homologies, will be to show that facts brought in support and against will bring interpretations that are not acceptable to reason.

Homologies refer to the structural resemblances that exist between certain types. Darwin defines it as , "Members of the same class independently of their habits resemble each other in the general lay of their structure or organization. This term is often expressed by the term, unity of type, or by saying that the different parts and organism in different species are homologous." -Origin of Species.

Charles Darwin put evolution where it was readily grasped. To him belongs the first complete work on evolution, although men had known before what he wrote on, none had had any strong basis for coming out as he had. So it would be the correct procedure to analyze what he wrote on homologies that existed. The way he took up the subject is found in the ORIGIN OF SPECIES. Talking on the similarities, Darwin says, "Nothing can be more hopeless than to attempt to explain this similarity of pattern in members of some class by utility, or

by the doctrine of final cause. - p 423" He follows this statement up by saying in regard to creation, it has pleased the creator to construct all animals and plants in each class on a uniform basis; but this is not a scientific explanation. Successive modifications can explain these resemblances, as he says. - p. 424 "Each being profitable in some way to a modified form, but often affected by correlation of other parts of the organization. In changes of this nature, there will be little or no tendency toward the original pattern, or to transpose the facts (Progeniters had lines existing on one pattern). Modifications would not alter the framework. - p. 424 It is also conceivable that the general pattern of the organ might become so obscured as to be finally lost by the reduction and ultimately the complete abortion of parts, by the fusion of parts, and by doubling and multiplication of others, variation which we know to be within the limits of possibility."

The next thing taken up is the serial homologies, or the comparison of different parts of organs in the same individual and not of the same part or organs in different members of the same class. To defend this claim according to his plans he asks this question - p. 425. How inexplicable are the cases of serial homologies? as - p. 426. "It is probable that some serial structures are the result of cells multiplying by devision, entailling the multiplication of parts developed from such cells. It must suffice for our purpose to bear in mind that an indefinite repetition of the same part or organ, is the common characteristic, as Owen

remarked, of all low or little forms; therefore the unknown progenitor (vertebrata) probably possessed many vertebrae for example. - p. 426. "We have formerly seen that parts many times repeated are eminently liable to vary, not only in number but in form. Consequently, such parts being present in considerable numbers and being very highly variable, would naturally afford the materials for adaptation to the most different purposes, yet they would retain throughout the force of inheritance, plain traces of their original or fundamental resemblances, all the more as the variations which afforded the bases for their subsequent modifications through natural selection would tend from the first to be similar, the parts being at an early stage alike, and being subjective to nearly the same conditions, such parts whether more or less modified, unless their common organ becomes wholly obscured, would be serial homologous".

In the last paragraph I gave Darwin's argument from morphology. Darwin looks to only one side of the question and corrects the other according to his words, "a final cause is not necessary and if it is not, how could anything in the last analysis be explained on a firm basis?" The beginning of evolution is a vague supposition and a mere probability so why would it not be justifiable not to accept the doctrine of the final cause. An interpretation of the facts would lead to the conclusion that the doctrine of the final cause would be just as good. However, the evolutionist is limited, his realm only extends to the material side. The idea of final cause lies in a field that goes beyond experimental evidence,

We enter into the field of Metaphysics. To be correct then Darwin should have said that it lies beyond his field and therefore it would not necessitate his spending the time on it. Since the place where evolution begins is not a proven or even a known fact, why would the idea of creation be a false view, when science enters into a field that goes beyong scientific verification. Then Darwin objects to explaining resemblances by creation because it is not a scientific explanation. This he can't prove since the world was not a fanciful pleasure of the Creator. Why would every man recognise the idea of there being a supreme good toward which he strives during his entire life? Science demands that something to back any statement made, so why could not an Infinite being with a vast store at his disposal create a world and why wouldn't it be a scientific explanation? We can't accept Darwin on those points because his interpretation of the facts have led him to err. The basis for my opposition rests in the fact that my reason points out the errors in his argument. As for a natural selection, it has been generally discredited.

Well, should Darwin be absolutely be discredited? The fact that evidence shows that organic evolution could have happened, justifies his claim in accepting it as an explanation. As long as he sticks to points that are within the realm of science he can base facts on probabilities.

Through Homology the Botanist and Zoologist have been able to make a scientific classification of animals and plants. They are classified according to resemblance. The highest

class is the species where there is major difference, although minor defections may justify the subdivision into variaties and races. The argument of homology brings out this question: How can the diversity and the similarity be explained?

The argument, for simplicity sake, will be divided under several headings. Those in support of the argument base their conclusion on the cell, similar tissues, rudimentary structures, transitional types and serology. The objections to these are; going beyond scientific verification, incomplete enumeration of all the possibilities, blood test not a sufficient test. Each argument will be presented and then the objections will follow.

It is generally accepted that the cell is the unit of structure of the body, of plants and animals. The fact that all contain protaplasm is reason for building up this idea. To quote from "Lull, The Ways of Life"- p. 227. "The analysis of human protaplasm from each of its several aspects shows it to be the same basic material as found elsewhere. For as we have seen, if protaplasm did not differ, all organic beings would be alike, since their variation from one another is as fundamental as protaplasm." Then, in Fasten, we find thet idea that since all have nucleus, centrosome and cytoplasm, each functioning the same in all, we have the right to accept that here as in the cells, is an evidence for descent from a common ancestor.

The second argument is the one from like resemblances of organs. For example the voluntary muscle in the vertebrates

and the invertebrates are the same essentially. FASTEN p. 191, "Comparative anatomy shows that principle organ-systems of animals show considerably similarity, and in many cases are homologous, possessing not only the same internal organization, but also the same origin from the stand point of development. Example of this, vertebrae--all are built on the same plan."

By rudimentary structures is meant those which lost function and appear to be useless. A common illustration is that of the muscle near the ears. Some people can wiggle the ears, but majority have lost the property of doing so. In support of the idea of rudimentary structures take this quotation, Jordan & Kellog, Evolution and Animal Life, p. 180. "By the theory of special creation it was supposed that these rudiments where created in accordance with tendency in the creative process to adhere to a ideal type. But this cannot be too clearly understood that tendencies in biology exist only as a function of particular organs. The tendency to adhere to a type is part of heredity, the function of the germ cell."

Then there is the transitional type; that is, types that are mixtures; for example, the Duckbill, that resembles birds and mammals. Another example is Peripatus, a combination of annelid and arthropods.

The last proof for the argument is the one based on serology, which deals with the fundamental chemical nature of protoplasm that underlies the organism, particularly that fluid which comprises the so-called circulatory fluid, whether it comprises sap of plant or blood of animals. Certain

chemical reactions have been traced which have shown the degree of relationship which exists between lower animals and the human species. The closer the animal the more marked is the action and the farther the animals the reaction is less faint. Relationships are supposed to be told in this manner, FASTEN, p. 211, draws the conclusion that the blood of the higher forms is relatively more complex than in lower forms. The closer one organism is to another, the greater the similarity between the chemical and physical reactions of their blood stream. An example- all mammals resemble each other but the blood of the apes is the closest similarities to man. Thus we have shown what the argument is based on, and now I will show what the objection against the argument is.

One of the arguments that are offered in objection is that of blood relationship. That the idea does not always hold true can be seen in the case in Chicago last year that caused different scientist to disagree on the matter of identity of two babies. Karl Frank in discussing this matter says in THEORY OF EVOLUTION, p.2, "We observe indeed, that blood relationship never establishes a more general or more extended similarity than the specific similarity, the most perfect similarity we know of. Progeny of the same parents never depart so farffrom each other or ever from their nearest relatives that we rank them of different species, and therefore we must create a race for all of them generally."

Some claim that all the possibles are not taken into consideration. To quote Zerbe, EVOLUTION IN A NUT SHELL,

p. 34, quoting Professor W. B. Scott: "The same elements are present in the human hand and arm as in the foreleg of the horse. But in each case characteristically modified to serve different ends. Man's hand is really primitive and undifferentiated structure and can be put to a great many uses. Had it been highly specialized for a single purpose, human progress and civilization would have been impossible, for these have always depended upon the coordination of hand, eye and brain." Then Zerbe adds, p. 35, "Here we see some degree of similarity in widely different structures and little that we see that indicates the identity of origin." Another point he says is, "Differences between man and higher animals are not all typical and fundamental. Example: The upright stature of man and the stooping posture of the apes."

What about the cell is another query that will be heard rather frequently? Bertram Windlein, THE SECRET OF THE CELL, shows that this idea of the cell can not be carried out. No chemical or physical explanation has ever shown what proteplasm is, and as long as this condition exists, one cannot use the basis of protoplasm as the proof for the argument of homologies.

Some claim that the morphological argument does not amount to an absolute demonstration. To quote B. Windle, EVOLUTIONARY PROBLEM AS IT IS TODAY-p. 45, quoting Morgan, CRITIQUE OF THEORY OF EVOLUTION, who, discussing how far evidence from comparative anotomy can be used as an argument for evolution, says, "It is the resemblances that the plants and animals in any group have in common that is the basis for

such a conslusion, it is not because we can arrange in a continous series any particular variation. In other words our influence concerning the common ascent of two or more species is based on the totality of such resemblances, that still remain in large part after each change has taken place. In this sense the argument from comparative anatomy while not a demonstration carries with it a high degree of probability."

The last is, does the evolutionist go beyond experimental verification? This is answered correctly by Henshaw Ward, EVOLUTION FOR JOHN DOE, p. 234, "The origin of life is not known by science and science probably will never know it. It does not know with mathematical assurance that the earliest forms oflife is one-celled but it finds all the indications in that direction and makes the supposition until some contrary evidence appears."

We have through the last pages discussed the different arguments for other sides and given brief quotations with each. Now before discussing these factors, I wish to give a list of quotations as addidtions. I will not divide these groups into the three divisions, so that in each set there will be extremes and moderates. The first group will contain those in support of the creationist theory and the other that against wholly or partly.

The following are quotations from Karl Frank, THEORY OF EVOLUTION, p. 2, "Is all this classification as expression of a general plan, which the creator wished once and for all to realize or whether this similarity rests upon actual

relationship, i.e. blood relationships. We can easily come to the latter conclusion." p.16, "It is not necessary to assume that the present forms descend from others of difference, but from like or very similar forms which previously existed near the different ones, the remains of which have so far been not discovered." p.118 "The type determines by itself alone nothing as regards the perfection of the animal; the degree of differentiation in separate tissues and organs yields, however, an objective creation, one based on reality, of the height of the nervous system."

Thomas Dwight, THOUGHT OF A CATHOLIC ANATOMIST , p. 237 "There must have been in developing organism a living impulse to change for a special end, and also in a certain prescribed manner."

O'Toole says, THE CASE AGAINST EVOLUTION. p. 4, "In confounding the defintion proper with its theoretical interpretation the modern biologist is guilty of a logical atrocity. Homology is a simple anatomical fact which can be quite adequately defined in terms of observation nor is the definition improved by having its factual elements diluted with explanatory theory." p. 47 "In weighing the argument from homology two important factors must be kept in mind; the first is, influence of common ancestry in the case of homologous forms is based, not upon this or that particular likeness, but upon an entire group of coordinated resemblances; the second is the resemblances involved are not exterior similarities but deep seated structural uniformity perfectly compatible

with the diversity of a superficial and functional character."

THe quotation that follow will tend to take the opposite view point. Jordan & Kellog, EVOLUTION AND ANIMAL LIFE, p. 173, "Closest homolgies are shown by animals coming from common stock. Fact of blood relationship shows itself always in ho homology. As far as we know homology is never produced in any other way, therefore the actual presence of homologies among plants and animal implies as we shall see, their descent from stock producing these characteristics.

Richard Lull says, THE WAYS OF LIFE, p. 227, "There is, we believe, no possible argument to be offered other than one of sentiment and prejudice in favor of man's exclusion from the rest of organic nature. Whatever may be the nature and origin of the spirit, his body is composed of the common matter of the universe and contains no new element or materials or even combinations of elements not found elsewhere."

Newman, GIST OF EVOLUTION, p.48, "True structural resemblance signifies blood relationship, and the closeness of such resemblances runs essentially parallel to with the closness of kinship." p.66, "Creationists insist upon placing man in a biological isolation as a creature without affinity to the animal world."

Fasten says, ORIGIN THROUGH EVOLUTION," not only is structural organization a basis of complexity and relationship, but a fundamental protaplasmic constitution is also a similar basis. These facts lead to no other interpretation than the evolutionary one. The reason that they are closely related

organisms of similar organization, behavior and underlying chemical identity is because they undoubtedly have envolved from each other, or from types which were similar to them, that for same reason, have long since passed out of existence."

Now having stated the argument from homology, the question is now to say how far we can accept it or reject. Let us first discuss the arguments in favor of the homologies.

If one were to look at the fore limb of say a horse and compare it with man, one could not deny the fact that a resemblance existed between the two. Examination between higher and lower animals shows that it may and is a possible explanation that man has come from some lower form, but the fact that it can be considered the only explanation is the ground for controversy. We can't deny the fact that there are rudimentary structures and that they may have the key to the solution, but why should man use this as an all explaining explanation. We can justly consider the transitional types in the same manner. Our point then is, we do not deny the fact that these facts are true in so far as they are used to show that organic evolution has taken place, but there is no reason to try to make the argument into a philosophy. Science only deals with the material things.

The fact that there are objections besides what I have mentioned above, should act as a stimulus to observe only the facts that are true and then to interpret them correctly. The banking on blood test as a means for testing relationship

has been carried out of its own field. Blood tests are a possible explanation, but the fact that we are not as sure on all points as indicated by the Chicago case, should warn us not to accept the points as a basic fact. Reason could not interpret the facts in no other way. Then there is the objection that the scientist goes beyond experimental verification, the real method of science is expressed by Edward Conklin, THE DIRECTION OF HUMAN EVOLUTION, "The method of science is to proceed from observation to tentative explanations which are then tested by further observations and experiment, thus reaching general explanations or theories." This objection as we see, refers only to those who are radical, i.e. extremist who enter into the field covered by philosophy and lying beyond experimental verification. The moderate scientist may enter the field of probabilities, but experimental evidence is possible to work out his statement. Since man does not know everything, it is possible that he will miss some evidence wither because no laboratory has revealed it or there is nothing in nature to show it. This does not mean that it ever will or will not appear but indicates that there are certain factors that are now unknown that will change the course. Work may indicate that a probable unknown factor has done this on that, and work accorkingly. In this way we would not go beyond experimental evidence for a time. Then what is the point of this whole discussion? The point is this that we can make mistakes in assuming that our evidence applies in all cases and that one has the right to

go beyond verification if facts indicate that in time it would probably be worked out. Finally, we must take into consideration that unknown factors can play an important part.

As Delage says, THEORIES OF EVOLUTION, "We personally contend that every individual has the right to follow the path he judges right, even if his actions are not justified from any point of view (scientific). Scientific theories are not immutable, and what seems to be today a rigorously exact conclusion, may tomorrow in the light of new facts or new conceptions appear erroneous."

Summary.

We learn what the way is to approach the subject by the understanding of different subjects so as to interpret the facts correctly.

The problem to be discussed is how far can the argument from homologies be acceptable to reason. In this way noting the relation of philosophy to homology. To approach the subject one has to have a brief history; in which appear the names of several men before Darwin who had developed the argument from homology.

Organic evolution is developement of organic species. We should not accept it as dogma or disagree entirely.

Metaphysics is interested in homologies in the way that all facts in the argument are acceptable to reason. Homologies refer to the structural resemblances between plants and animals.

Darwin is first to combine facts of evolution. His error lies in giving too wide an interpretation to his evidence. He interprets his evidence to mean more than it does. Darwin is correct as far as he recognizes these structural resemblances.

Evidence in favor of organic evolution based on homologies is founded on cell, similar tissues, momentary structures, transitional types and serology.

The objectors say that men go beyond experimental verification in accepting homologies. That the blood test is not accurate and all the possibles not mentioned.

Conclusion to be drawn from arguments.

1. That the homologies can be acceptable to reason as long as one does not interpret the facts as meaning more than

they should.

2. The homologies can only refer to the naterial factors.

3. We can misguage or misinterpret facts by being biased.

4. Through metaphysics and logic one can penetrate beyond the argument from homologies.