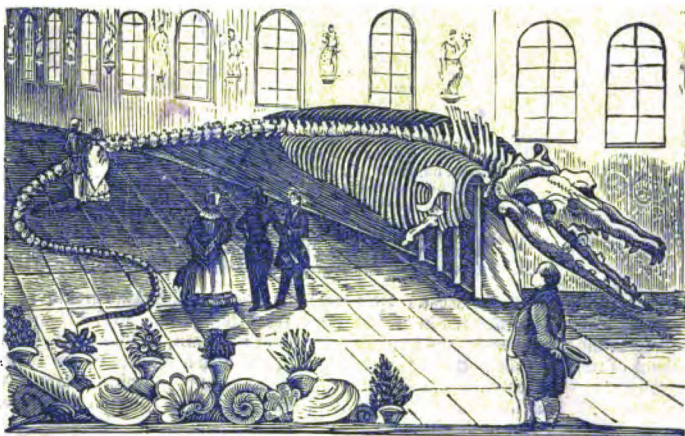


# DESCRIPTION <sup>2</sup>

OF THE FAMILY OF ANIMALS NOW EXTINCT, BUT KNOWN TO THE  
SCIENTIFIC WORLD UNDER THE APPELLATION OF

## HYDRACHEN:

These animals, when living, were the most gigantic, powerful and horrible beasts  
of prey, that ever ruled over, and spread terror through the  
primative Oceans.



ALSO, AN ACCOUNT OF THE DISCOVERY OF THE REMAINS OF HYDRA-  
CHEN IN GENERAL, AND PARTICULARLY OF THE

## ZEUGLONDON MACROSPONDYLUS,

OF MÜLLER,

BY DR. ALBERT KOCH,

CORRESPONDING MEMBER OF VARIOUS SCIENTIFIC SOCIETIES.

NEW ORLEANS:  
PRINTED AT THE OFFICE OF THE DAILY TRUE DELTA.  
1853.

*Extracted from the New York Evangelist.*

The people of this country have, at length, an opportunity of seeing a genuine inhabitant of the World before the Flood. There is no doubt that this is one of the most stupendous creations of Almighty Power and Wisdom. The mind is filled with wonder at its contemplation. And it is not a little singular, that these colossal remains should have been discovered just at a period when the unbelieving sciolists of our day are making such a noise with their theories about the vestiges of creation. We should be curious to know what rank in his scale of development the Vestige-author, fathers men upon monkies, would assign to this floating colosseum of existence, what niche in nature's progress he would have him fill up.

It is a most astounding creature! All the freaks of the nightmare never yet frightened the brain with such a dream of bones and ligaments. He must have seen strange things in his day. What a huge involving bulk he carried through the waters! He must have looked like Milton's snaky sorceress of Sin at Hell's door, or like Satan himself,

With head uplift above the wave, and eyes  
That sparkling blazed; his other parts besides  
Prone on the flood, extended long and large,  
Lay floating many a rood: in bulk as huge  
As whom the fables name, of monstrous size,  
Titanian or earth-born, that warred on Jove,  
Briareus or Typhon, whom the den  
By ancient Tarsus held; or that sea-beast  
Leviathan, which God of all his works  
Created hugest that swim the ocean stream:  
Him haply slumbering on the Norway foam  
The pilot of some small night-foundered skiff,  
Deeming some island, oft, as seamen tell,  
With fixed anchor in his scaly rind,  
Moors by his side under the lee, while night  
Invests the sea, and wished morn delays.  
So stretched out huge in length the arch-fiend.

This is indeed that sea-beast. He must have been an ambitious creature. There is great grandeur in the manner in which he carries his jaws. And his eye doubtless fired up in the green sea-depths like great-lamps in a cavern, or like the lights by night in front of railroad locomotives. And if we might figure a wonder of earth, which this creature may be likened in the sea, it would be an immense train of cars, with steam engine and all, shot into the bowels of the deep, and flying through the water at the rate of sixty miles an hour.

Doubtless he made a great show among the smaller fishes; "he maketh the deep to boil like a pot." How they fled afar off at his gambols, as well they might from a creature who could swallow a shoal at once. And even the *hattanim*, the great whales, could have stood but little chance with him. He could have beaten them into mummy by the blows of his tail. He could have twisted it round about them, and slung them off, as a shepherd would let fly a stone from his sling.

And this creature was born in the Antediluvian world! Who knows but he had seen the Ark? Who knows but Noah had seen him from the window? Who knows but he may have visited Ararat? Who knows how many dead and wicked giants of old he had swallowed and fed upon? Perhaps, when we now touch his ribs, we are touching the residuum of Cain's descendants, that perished in the deluge. Perhaps the sea-serpent, that has lately appeared off our coasts, may be some relative of this colossal creature, buried so solidly in limestone, some great-grandson, whose filial piety has stirred him up at the unceremonious exhumation of the bones of his ancestor.

Who knows but those human giants of old may have tried their strength upon him, may have given chase to him? Their famous sea-captains saw him sometimes, and sometimes he may have swallowed their anchors, or carried away their jib-booms, and when they returned home to describe the adventure, they were treated as fish-story tellers; the thing was pronounced a hoax! Who knows?

But there is no hoax in this. If it were humbug, Dr. Koch would make his fortune from the stupendous ingenuity, science and skill evinced in its construction. As it is, it takes him some time to overcome the incredulity of the people. But it is only those who have not seen the monster, that can indulge the slightest questioning as to its genuineness and authenticity. And Dr. Koch deserves the thanks of our whole country, and of all men of science in the world, for that persevering sagacity and industry, with

# DESCRIPTION

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ALSO, AN ACCOUNT OF THE DISCOVERY OF THE

## ZEUGLONDON MACROSPONDYLUS,

OF MÜLLER,

AND OF THE REMAINS OF HYDRACHEN IN GENERAL.

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## DESCRIPTION, ETC.

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A few remains, belonging to those most highly interesting animals known under the name of Zeuglodon Macrospondylus, and belonging to the family or race of Hydrachen, were first described by me in the year 1845, and the first ones of them were found in 1835, in the State of Arkansas, and described by the late Professor Harlan, of Philadelphia, who placed the newly-discovered animal, with the Saurier, under the name of Basilosaurus. In the year 1839, Harlan took these forementioned remains to London, where they came under the special examination of Professor R. Owen, who pronounced them as belonging to a Mammalia, and to the order of Cetacea; he also observed a certain analogy of these new animals with the Mantias, and gave them the name of Zeuglodon. In the year 1843, Mr. Buckley found remains of a similar animal in Clark County, Alabama, which afterwards were described by Professor Emmons, of Albany.

Induced by these aforementioned discoveries, and greatly desirous, if possible, to throw some more light on the natural history of these heretofore imperfectly known animals, I undertook, in the year 1845, a journey of discovery to Alabama, where, at last, after a long and expensive research, I succeeded in finding a large collection of remains, proving, after critical examination, to belong partly to the forementioned animals, and, partly so, to two new species of the same genus. One of these new species were, some years after, described by Professor Carus, of Dresden, under the name of Zeuglodon Hydrachos, and as being the smallest known of the genus. The second was described by Professor Johannes Müller, of Berlin, under the name of Zeuglodon Brachyspondylus, and as being much larger than the specie described by Carus, still never reaching the colossal dimensions of the first known one, to which Müller has now given the name of Zeuglodon Macrospondylus.

The aforementioned collection contained, among other remains, the greater portions of two skeletons—the one of them being of a *Zeuglodon Brachyspondylus*; the other being of a *Zeuglodon Macrospondylus*. I exhibited the latter mentioned skeleton, at first, in New York, shortly after my return from Alabama, after this, in Philadelphia, Baltimore, and Boston. Unfortunately, however, was, at that time, the race of these extinct animals, so imperfectly known even among comparative anatomists, that, after about one year's exhibition in America, I found it advisable to go with the whole collection to Europe, for the purpose of laying it there before the celebrated comparative anatomists and naturalists, Professor Carus, of Dresden, and Professor Johannes Müller, of Berlin. From this time, the collection attracted not only the utmost attention of these forementioned gentlemen, but also that of Alexander Von Humboldt, together with all the distinguished naturalists of Europe, and thus laid in April, 1847, the aforementioned Professor Müller a report before the Royal Academy at Berlin, containing the results of a two month's most critical examination made by him of the collection. In May of the same year, the e appeared in Leipzig and Dresden a work written by Professor Carus, in connection with Professors Gunther, Reichenbach, and Geinitz, entitled, "Results of Geological, Anatomical, and Zoological Examinations, concerning the Remains of a huge Animal, described by Dr. A. Koch, under the name of *Hydrachos*, and brought by him to Europe, where, at the city of Dresden, in Saxony, these remains were first exhibited." Seven large lithographic plates were attached to this book, showing some of the most interesting parts of the collection. A work of the same subject, written by Professor Burmeister, of Halle, appeared in June of the same year, and in July, a second report was laid before the Royal Academy of Science at Berlin, by Professor Johannes Müller, giving the results of his further examinations concerning the *Hydrachen* remains.

Sometime after this, the celebrated great work written by the aforementioned Müller, on the Remains of *Zeuglodon*, was published. In October, 1848, appeared, in the Annals of the Leopoldinisch Carolinik Academy, at Breslau, a second report of Carus, entitled, *Das Kopfskelette des Zeuglodon Hydrachos*, v. 1. In January, 1851, a report, written by me, on the family of *Hydrachen*, and accompanied by a large lithographic plate representing the skeleton of the *Zeuglodon Macrospondylus*, together with some of its separate parts, was published in the transactions of the Royal Geological Society of Vienna.

It would be a repetition should I endeavor to give here a history concerning the discovery of my first *Zeuglodon* collection. May it therefore be sufficient to state that this collection was highly appreciated by the

scientific world of Europe; that the King of Prussia, who encourages art and science in a most praiseworthy manner, saw proper to have this collection purchased and placed in the Royal Anatomical Museum attached to the University of Berlin, where it is now under the particular care of the aforementioned Professor Müller. This took place in the year 1847.

As soon as these scientific treasures were in this way taken off my hands, I felt at freedom to realize my great desire to commence a new voyage of discovery to those parts of Alabama where I had once been so successful. Still it was not before the 17th of January, 1848, that I arrived at Washington Old Court House, Washington County, Alabama, at which place I intended to make headquarters during my stay in this State. The knowledge, as well gained during my former stay in this section of country, as also the personal acquaintance formed at that time with its kind and, in a high degree, hospitable inhabitants, proved a great advantage to me and my researches. During my absence from Alabama, a number of American and European geologists had been visiting this part of America, for the purpose of paleontological and geological researches; but none of these gentlemen succeeded in making a discovery of importance, notwithstanding that some of them advanced as far as Washington County, where they left hundreds of traces, made on the limestone rocks, during their researches, which signs of their industry I have met even within a few yards where I was so successful as to discover the large skeleton of the *Zeuglodon Macrospondylus* now exhibiting, and a perfect skull of the *Zeuglodon Hydrachos*, described by Carus.

As soon as I arrived at Washington Old Court House, I came to the conclusion to commence my researches just at the spot where I had left them off, at the time of my first visit to Alabama. Great was my surprise and enjoyment in finding here, beyond my expectation, that not the least alteration had taken place, excepting that now briars and grass covered the place where, some years ago, I had been excavating those *Zeuglodon* remains, forming a portion of the forementioned collection which is placed in the Royal Anatomical Museum of Berlin.

In the course of a few weeks, I succeeded in finding and excavating on the same spot not only a number of vertebræ, but also several important parts, which, at the time when the *Hydrachen* were the ruling monarchs over the primitive seas of Alabama, were portions of those *Zeuglodon*s which had previously been here. I took them afterwards also to Berlin, where they thankfully were received, and arranged into the skeleton of which they originally had formed a part.

On the 7th of February, 1848, I was so fortunate as to discover, with

the assistance of a certain Mr. Land, the place from which I have excavated the large *Zeuglodon* skeleton now exhibiting. The deposit in which it was placed is a lonely, worn out field, belonging to the plantation of Colonel Prince, which gentleman kindly and liberally, as well as his neighbors, had granted me the permission to pursue, at leisure, my paleontological researches on the whole of his premises. I shall also never forget the great hospitality with which I was received and entertained in Colonel Prince's house and family, as also in the houses of those citizens of Alabama with whom I had the pleasure of becoming acquainted during my first and second journey in that State. The above-mentioned field of Colonel Prince is situated very near the lines of Washington and Choctaw Counties, and on three sides enclosed by deep ravines, in the bottoms of which the clear waters of small rivulets swiftly glide along to unite eventually with larger streams. This field is also, on all sides, surrounded by heavy forests; its surface affords a very wild and rugged appearance, being more or less wildly torn up by larger and smaller ravines, sending their waters into different directions. On many places the lime rock, which contains thousands of fossil shells, more particularly various species of the oyster, appears more or less extensive on the surface. In other places, where more or less soil is predominant, we find this covered with bushes of shrubbery, palmettoes, briars, and grass, giving to the whole a wild, romantic appearance seeming not unworthy of being the burying place of those primitive monarchs, who, ages and ages ago, were ruling over those ancient seas rolling then their mighty waves over this now flourishing country.

Nearly in the centre of the aforesaid field, the close observer might have noticed a portion of the exposed lime rock, which not only contained fossil shells, but also, together with them, a number of more or less exposed remains of a huge *Zeuglodon*; and, even before expending much labor on this place, I was enabled to see that I had here found a deposit, consisting not only of a parcel of single *Zeuglodon* bones, but that here was a spot containing nearly the whole skeleton of such an animal, whose natural history I was so desirous to develop, but which desire only could be accomplished providing I, or some one else, was successful in finding the more or less connected bones of one of those leviathans of old.

The general position which the spinal column of the animal in question occupied, led to the presumption that it had expired in a somewhat circular position, notwithstanding its vertebrae and other parts had evidently been somewhat dislocated even before they had found their final place of deposit. The whole of these *Zeuglodon* remains were seemingly occupying not more space than the animal itself had needed



at the time it found its untimely end. Nearly in the centre of the whole groupe, appeared a mass quite different from the rest, which, after it had been excavated, proved to be the skull, together with the lower maxilla.

A few months' labor, with the assistance of a number of faithful workmen, were sufficient to excavate the skeleton so far as to enable me to transport it, partly enclosed in its native lime rock, to the city of Dresden, in Saxony, where, after eight months' faithful labor, I had the pleasure, on the 6th of May, 1849, to have it ready for its first exhibition. During this previous labor, I was visited weekly, twice or three times, by Professor Carus, who, together with other naturalists, far and near, took the greatest interest in the progress of my labor, and very frequently have I received their kind assistance. After the various parts belonging to the Zeuglodon skeleton were thus far chiseled out of the lime rock which had enclosed them, that they could be articulated, I was furnished most liberally by the Royal Academy of Dresden with a large and beautiful saloon for the exhibition, which now was visited by the whole Royal family of Saxony, and for several months by crowds of highly-pleased spectators from most all parts of the world. The second exhibition took place in the Silesian city of Breslau, where Count Henkel von Donnersmark, urged to it by a great desire of a scientific association of that city, furnished most-kindly a large location. The Zeuglodon here also received an undivided applause. From thence I went, according to a highly honorable invitation, to the Austrian capital of Vienna, where the exhibition at first was placed in a building attached to the palace of the Duke of Lichtenstein, and afterwards in the celebrated saloon belonging to the University, and known under the name of the Aula, being the same saloon which has become so notorious during the revolutions in Vienna. Having thus been more than one year at Vienna, I went to the Bohemian city of Prague, from whence I had an invitation to Munich, the capital of Bavaria; but, unfortunately, the only saloon disposable there was too small for the exhibition, and some urgent business now required my presence in America. Thus I concluded to take the Zeuglodon back to its native country, after it had established its just fame in Europe.

#### PALEONTOLOGY OF THE ZEUGLODON.

May I be permitted to make some observations concerning the paleontological part of this extinct race of animals, as far as such may with safety be done by an anatomical examination of the remains of it.

The animals to which the name of Zeuglodon is given, form a genus, of which, thus far, three species are known, and they belong to a newly described race of animals, which, according to the investigations made by the most distinguished European comparative anatomists, may find

their place between the Whale and the Seal. The name of Hydrachen, proposed by me to this new race when I had first described it, has now been adopted, since the certainty is established that the Hydrachen are actually forming a hitherto unknown race of animals. Since that time three genera of this race have been described, and from each of these several species have been discovered. The remains of the first known genus, namely, those of the Zeuglodon, are only found in the Eocene rocks of the United States of America; those of the second, called the Squalodon, have been found in Malta, in Bordeaux, and near the city of Linz, in Austria. The remains of the third genus, called the Palanodon, were also found in Malta, near Suffolk, in England, and near the city of Linz.

All the genera and species belonging to the Hydrachen are thus far alike in their character, as the shape and structure of their teeth plainly show that these animals were exclusively of a carnivorous nature, and that their teeth bore a remarkable resemblance to those of the Seal, where, as in other parts of the skeleton, certain analogies are notable with those of the Whale. Still, there exists, also various characteristics which can only be found in the Hydrachen alone.

In the genus Squalodon are a far greater number of teeth than in those of the Zeuglodon. In all known species of the latter genus, we notice thirty-six teeth, viz: twelve in the upper maxillæ, six in the intermaxillæ, and eighteen in the lower. In the different species of the Zeuglodon thus far known, there exists in each of them a difference between the number of molars and incisors; still, all of them have only four canine teeth—that is, two in the upper and two in the lower maxillæ. For instance, there are, in the largest species known under the name of Zeuglodon Macrospondylus, twenty molar teeth found—four canine teeth and twelve incisors; whereas, in the Zeuglodon Hydrachos we find only sixteen molars, four canine, and sixteen incisors. The dental system of the Zeuglodon Brachyspondylus is not yet sufficiently known.

The Molares Zeuglodon have each two flattened roots whose length occupy at least two-thirds from the length of the whole tooth, the yoke like shape in which they appear, induced Professor R. Owen, of London, to give to the animal the name of Zeuglodon or Yoke-tooth. The crowns of those Molares are compressed, lancet shaped and somewhat bent backwards, they are exclusively built for cutting and sawing up those creatures, which were so unfortunate as to come in their iron grasp. Each of the crowns of those teeth terminate with from four to nine lancet shaped, compressed points cased on both sides of the tooth in pyramidal manner. The posterior ones of these molares are the smallest, and in leaving them going towards the fore

part of the maxillæ we find the front ones to be the largest, as they are at least as long and as broad again as the hindmost ones. In the upper maxillæ the two posterior teeth are placed close together, thus no space is left between them, but observing the third, fourth, fifth, teeth, etc., we may notice between each of them a larger or smaller vacancy, the size of which corresponds with that of the upper or lower tooth which fills it up when the jaws of the animal are closed. In the lower maxilla we observe the difference that the four posterior teeth are placed closely together, but the fifth and following ones leave vacancies between them similar to those in the upper maxillæ. The hinder teeth of the lower are completely concealed by those of the upper jaw, and the following ones fit tight between each other.

The canine teeth bear more resemblance to the incisors than to the molares, still each of them have two roots which, however, are not separated like those of the molares, but closely connected. The incisors have only one root each, which as well as its crown are bent backwards so that the whole of the tooth appears in the shape of a sickle. The teeth are so deeply implanted in their alveolæ that never more than one-third of their length appears exposed to view, and this exposed portion is covered with a thick coating of enamel.

The skull of the *Zeuglodon* is greatly elongated, the cavity for the lodgement of the brain being remarkably small and apparently compressed. The forepart of the head has almost the appearance of a large bird bill. This is caused by the unusual elongation of the intermaxillæ, to which the long, narrow and hollow lower maxillæ correspond.

The description of the *Zeuglodon* given by Professor Carus, of Dresden, in the year 1849, affords an excellent idea of the skull of the *Zeuglodon* in general, and I deem it proper to insert here in the way of an extract, a portion of this description.

Carus says: "I am glad to be enabled to lay now before the scientific world in general, the first true, and in its minutest parts, correct drawing of this great and wonderful curiosity; a drawing which shows how entirely erroneous the former ideas and suppositions were, concerning the skull of this family of animals.

The comparative anatomist in looking at the skull of the *Zeuglodon Hydrachos*, contained in Dr. Kock's collection will, without the least difficulty, find the extraordinary features existing in no other known animals exhibited there. We will, therefore, begin our observations with examining the full skull, which in comparison to the rest of the head shows an extraordinary smallness. It would be of the utmost interest to see the interior part of such a brain case, it being the

center of all the roots of the nerves of an animal bearing of such colossal dimensions. I have compared the form or shape of this skull with those of all known animals, but never have found anything like it. The close observer will soon notice that the high, rugged, short-cut skull, bears a similarity to that of the hawk, in which characteristic it differs greatly from the rounded skull of the cetacean, to which in other respects exhibits many analogies. The skull is the only portion of the head which shows that the animal belongs to the order, Mammalia, whereas the center and the front part of it, are of such form and dimensions as are in general found in the order of the amphibious, but never were before known to exist also in Mammalia.

Comparing the heads of the Hydrachen with those of the larger species of Seals, whose teeth bear so great an analogy to those of the Hydrachen, it appears more particularly striking how much higher organized the latter are when compared with the former, especially so respecting the organization of the brain; this is also the case by a comparison with the heads of the Dolphin. On the occipital portion of the Hydrochen's skull the seat of powerful muscles may be noticed. By means of these muscles the head of the animal was capable of a free motion; and another presence leads, also, to the presumption that the Hydrachen were gifted with a larger neck than that found in the Cetacea.

The construction of the nose is also a very remarkable one, and may be placed between those found in the Seal and that of the Cetacea. The nostrils are in proportion to the long snout, rather short, still much longer than in any species of those animals belonging to the cetacea and never could have been designed for a spout hole. On the whole these nostrils bear more analogy to those of the Seal, and there are good grounds to believe that the organs of smelling in the Hydrochen were not inferior.

Through the new discoveries of A. Koch there is now sufficient material on hand to know the form and articulation of the lower maxillæ, which in their general form bear a great analogy to those of the Dolphin.

After having made this extract from Carus' works, I return again to my own observations.

The larger number of the vertebræ found in the spinal column of the Zeuglodon Macrospondylus, are different in various respects from those of the known Mammalia, and more particular so, by their great length. This length of vertebræ, together with the proportioned shortness of the rib, gives a slim appearance to the body of the Zeuglodon, not unlike those of some serpents. The posterior lumbar and the anterior dorsal vertebræ are the largest ones of the spinal column.

The cervical or neck vertebræ are small, still not very thin and they indicate the free motions of which the neck and head of the animal were capable. The anterior dorsal vertebræ are remarkably small and each of them has a spinous process from eight to thirteen inches in length, which increases from the first one to the fourth and fifth, from thence decreasing to the eight and ninth in the same ratio, from hence they become gradually shorter until they entirely disappear in the caudal vertebræ. The great length of the spinous process of the dorsal vertebræ is of considerable importance, whereas it again points out a considerable difference between the Hydrachen and the Whale, for in all the species of the latter, the longest of the spinous processes are found in the center of the spinal column.

But as we recede from the head and approach the posterior or inferior dorsal vertebræ, they become larger, until at last they reach a magnitude of 13 to 15 inches in length, by a breadth of 7 to 8 inches. The dorsal vertebræ may be divided from three distinctive marks into three classes, viz: the anterior, the centre, and posterior. The first of them have no transverse processes, the second have only indications of them observable, and in short flattened transverse processes on the end from each of them is a cavity with which the head of the rib articulates. To the centre of the dorsal vertebræ the heads of the ribs articulate in cavities found on each side of the bodies of these vertebræ, and in the anterior ones the ribs articulate in cavities found between the vertebræ.

The lumbar vertebræ are from fifteen to eighteen inches in length and have long flattened transverse processes, and long narrow oblique ones, which latter almost horizontally point backwards.

The anterior caudal vertebræ are about one-third part of the length of the tail, fully as large as the posterior lumbar; from hence, however, they become smaller and smaller until they at length form a point of the tail; and the transverse processes of the caudal vertebræ also decrease in length as they approach the hinder part of the tail, until traces of them only are left, and in each of these transverse processes there is a perpendicular hole.

The spinal end is also of considerable interest. In general it appears flattened, and it is proportionately broad. Most remarkable is the manner in which it narrows and widens out; for instance, the whole of its breadth in the Atlas or first neck vertebra in large animals, is from two and a half to two and three-quarters of an inch, from hence it increases in breadth as the vertebræ increase in size until the last one of the dorsal vertebræ measures from five and a half to six inches, but from hence it decreases with a far greater rapidity, notwithstanding the great enlargement of the vertebræ themselves, and in examining the last,

of the huge lumbar vertebræ we only notice a small trace of the cavity left there for the spinal marrow.

The anterior extremities of the *Zeuglodon* are extremely small, in comparison to the colossal body, and all portions known of them evidence that those extremities afford a very free motion. This is more particularly shown by the ulna and the radius, which evidently afforded a perfect freedom of articulation against the lower part of the humerus, an articulation entirely wanting in all animals belonging to the whale species.

Those known *Zeuglodon* bones which belong to the forefoot and to the toes of it, indicate long fingers and a free motion of the foot, which, seemingly, was webbed.

Only a few fragments of the bones which have as yet been found, indicate the presence of hinder extremities. Judging from those remains, the hinder extremities were even smaller than the front ones. Still, they also bear a striking analogy to those of the Seal.

There appears no reason to doubt that the long and powerful tail of the animal afforded him the means of propelling his colossal body, and his motion must have been rapid when in its natural element, the water; which powerful and rapid motion must have been needful to the *Zeuglodon* when in pursuit of its prey, which, as is proved by his teeth, did not consist of small creatures like those which afford sustenance to the whales, but rather of large fish and animals.

I have been fortunate in finding also some of the skin or outer covering of the *Zeuglodon*, which, in its rugged deposite, has been kept in a high state of preservation. It is divided by nature into polygonal-shaped fields, and consists of a bony substance, with a slight coating of enamel, and during the life of the animal, rested on a leather-like skin.

Notwithstanding that the *Zeuglodon*'s skeleton now being exhibited, is without exception, by far the most perfect one of its kind, it appears still advisable to restore those parts of it which were injured or in part wanting. There is, however, no restoration made except under my particular care, and I employed an artist of Dresden, who was fully approved of as being competent, by the most eminent comparative anatomists of this city.

which he has brought this prodigious skeleton to light, and produced it in public. He is himself a man of true science, most unassuming and affable, far from all trickery and ostentation, a German, with true German simplicity and thoroughness.

And now, we cannot help thinking, what a shame it would be to our country, if this astonishing remnant of the Antediluvian creation should be lost to our possession, should be suffered to find its way to the British Museum, as that stupendous skeleton of the Missouriium did before it, to remain there by the public spirit and scientific liberality of the British nation. Let the city of New York purchase it, and make it the nucleus of a great museum of science, or let the city purchase it, and put it in a hall by itself. Or if it must go to Europe, as doubtless it will, let it be first purchased in this country, to be returned here, and let us no more subject ourselves to the reproach of having no other passion for antiquity but the miser's for rusty dollars. This Hydrachos of Dr. Koch ought to be retained in this country at all costs.

We shall close our remarks on this amazing object of past creation by printing the 41st chapter of Job; for we never conceived, much less beheld, any shape of possible existence, that, clothed in flesh and blood, might answer so accurately to that sublime description. Let the visitors of this wonderful skeleton take that chapter of Job with them, and if they do not experience a conviction that here is the monster leviathan there described, or one of his class and species, or at least a monster of whom, if living in the full power and pride of his colossal existence, that description might be written, it must be because they can see nothing but dry bones in anything.

Canst thou draw out leviathan with a hook? or his tongue with a cord which thou lettest down?

Canst thou put a hook into his nose? or bore his jaw through with a thorn?

Will he make many supplications unto thee? will he speak soft words unto thee?

Will he make a covenant with thee! wilt thou take him for a servant forever?

Wilt thou play with him as with a bird? or wilt thou bind him for thy maidens?

Shall thy companions make a banquet of him? shall they part him among the merchants?

Canst thou fill his skin with barbed irons? or his head with fish spears?

Lay thy hand upon him, remember the battle, do no more.

Behold, the hope of him is in vain: shall not one be cast down even at the sight of him!

None is so fierce that dare stir him up: who then is able to stand before me?

Who hath prevented me, that I should repay him? whatsoever is under the whole heaven is mine!

I will not conceal his parts, nor his power, nor his comely proportion.

Who can discover the face of his garment? or who can come to him with his double bridle?

Who can open the doors of his face? his teeth are terrible round about.

His scales are his pride, shut up together as with a close seal.

One is so near to another, that no air can come between them.

They are joined one to another, they stick, that they cannot be sundered.

By his neesings a light doth shine, and his eyes are like the eyelids of the morning.

Out of his mouth go burning lamps, and sparks of fire leap out.

Out of his nostrils goeth smoke, as out of a seething pot or caldron.

His breath kindleth coals, and a flame goeth out of his mouth.

In his neck remaineth strength, and sorrow is turned into joy before him.

The flakes of his flesh are joined together: they are firm in themselves; they cannot be moved.

His heart is as firm as a stone; yea, as hard as a piece of nether mill-stone.

When he raiseth up himself, the mighty are afraid: by reason of breakings they purify themselves.

The sword of him that layeth at him cannot hold: the spear, the dart, nor the habergeon.

He esteemeth iron as straw, and brass as rotten wood.

The arrow cannot make him flee; sling stones are turned with him into stubble.

Darts are counted as stubble: he laugheth at the shaking of a spear.

Sharp stones are under him: he spreadeth sharp pointed things upon the mire.

He maketh the deep to boil like a pot: he maketh the sea like a pot of ointment.

He maketh a path to shine after him; one would think the deep to be hoary.

Upon earth there is not his like, who is made without fear.

He beholdeth all high things: he is a king over all the children of pride.

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