The Origin of the World

By R. McMillan.

THE CARBONIFEROUS.

CHAPTER XVI.

How rapidly I have run over the origin of the world, and what a lot of questions you would like to ask, if you got the chance! I'll tell you what to do. Whenever you come to a puzzle—and you will come to many—Make a note of it; and when you have finished the story, write and ask me all the questions you have noted down. That will be fair, won't it? I shall have had my say; then you can have yours!

I hope you understand that I don't pretend to know all about the origin of the world, or "all about" anything. I trust you won't take all my figures as perfectly exact. I don't pretend to teach you exact things, or to fill you up with facts. I want simply to give you an idea of the scientific explanations of the origin of the world, and leave you to think out for yourself. If you simply read this as you would a novel, and then throw it aside, you won't get much good out of it, and I don't think you will be much interested either. But I am hoping that you and your grandfather are both sufficiently interested in my story to have followed me so far.

Now I want to stop for a little while, and go back—to repeat things, as it were, so as to make them plainer. So be sure that you fully understand what I have said.

The first mist I began with was the primal start of the world. The force and energy inherent in matter were what started the whirling motion, and gave rise to all the movements of the sun and the planets. We saw that the moon cooled off from the gaseous state, and grew cold and dead, and we combined and formed water and solids, and there grew a crust over the central gaseous mass. That crust was frequently broken by the intenser heat of the central gas, and the poor earth had a very troublous time in getting fairly set. The water tore the solid earth to pieces over and over again, and re-deposited the material in the water. The volcanic forces tended to raise hills and mountains; the rains and the rivers, and the savage tides, tended to reduce them all to a dead level; and this world was the battle ground of the enormous forces of nature. The air was dense, and full of a steamy vapour, and long ages passed in that state, while the gases were entering into new combinations with each other, and the waters cooled. I expect that the first living things developed in the sea were simple sea-weeds and protoplasmic jellies. That only happened when and where the water cooled sufficiently to allow of such combinations, because no life can occur in boiling water, and at first all the water was boiling. But time was on the side of change, and the water cooled, and life began, and long ages of rock tearing and wearing took place, and equally long ages of re-formations, of sinking and upheavals, of strife and stress, ensued, and we had several different ages of rocks deposited, not on top of each other certainly, but in a definite order for all that. We call that deposit the "earliest" in which the simplest forms of life appeared. And when you come to read the Stone Books for yourself, as I hope you will, you soon find that there has been a gradual development of life from then—from the dawn of life in the sea—up to the present day. It is so wonderful, so true, so simple.

Now I want you to image that we have seen the origin of the world up to that time which the geologists call the Carboniferous Age. I want to pause at that, because I think it is the most wonderful and the most important, and the most clearly marked of all the geological epochs.

Before we go any further, let me make this clear. There are no geological epochs at all in nature. The process of world-building has gone on from the first fire mist till now, without a pause, without a break, without an intermission of any kind. When I speak about the "Carboniferous Age" I only mean the time when the coal was laid down, and the air began to clear, and life on the land for air-breathing animals became possible. But always remember what the Latin poet said: Natura non fecit saltum—Nature never jumps. That was one of the first things I learned in geology.

Now I feel that, with all this explanation, I may do what I have wanted to do, and that is to give you a long quotation from Edward Clodd about coal and the Carboniferous Age. It seems to me that he tells us far more briefly than I could do what is meant by the Carboniferous Age. He is a much more learned man than I am, and that must be my excuse for the quotation:—

"Coal is formed of compressed and chemically-altered plants, and occurs in all water-laid rocks, although in very different states and kinds. Sachs remarks that every experiment on nutrition with green-leaved plants confirms the theory that their carbon is derived solely from the atmosphere, and we get some idea how enormously large that derivation has been on 'reflecting that the deposits of coal, lignite, and turf spread over the whole earth, and the bituminous substances, as great or even greater in quantity, which permeate mountain formations, besides asphalt, petroleum, etc., are products of the decomposition of earlier vegetations, which, in the course of millions of years, have taken from the atmosphere the carbon contained in these substances, and transformed it into organic substance.'

"The climate and soil, during long eras of the Carboniferous system, specially favored the growth of plants most fitted for coal formation. A large part of Europe (and the like conditions apply wherever the true coal measures abound) was then covered with shallow waters, both salt and fresh, divided by low ridges, the bases of future mountain chains, and dotted with islands; while numerous rivers traversed the land, and silted up lagoons and lakes with the derbis worn from older rocks. Vegetation flourished apace on these river banks and marshy flats, and, with intermittent subsidence of the soil occurring again and again, was buried under sand and mud, becoming changed into coal of varying seams of thickness. Hence the abundance of this mineral in the Carboniferous strata, which, as a whole, yield more of value and variety for the service of man than all the other systems put together. Sandstones for building, marbles for decoration, metals for machines, coals wherewith to drive them, purest oil from muddy shale, jet for the lapidary's art, loveliest colours, exquisite perfumes, and curative drugs from gas-tar, even sugar therefrom, three hundred times sweeter than that from the cane—these are the rich gifts of the deep rocks, which, struck by a more magic rod than Moses wielded, have given up their treasures for man's need and delight.

"Of the plants forming the coal measures, the larger number are obliterated; but they all belong to the lower orders, as do the club-mosses, tree-ferns, and other forms which, in the warm moist atmosphere of those times, reached a gigantic size, and had a world-wide range far into north polar regions, where coal seams have been found. Of the animal life that dwelt among them we know very little, nor do the extant fragments represent a tithe of the forms then flourishing. In the later deposits the lower sub-kingdoms are represented by spiders and large scorpions; by land-snails, beetles, cockroaches (of which above eighty species occur), walking-stick insects a foot long, huge May-flies, and other insects; the honey-seeking, pollen-carrying species being still absent from the sombre forests. The first-known land vertebrates appear in the salamander-like and long-extinct amphibians called labyrinthodonts, from the labyrinthine structure of their teeth. The marine remains are still dominant. The lower types persist; the trilobites are on the verge of extinction, but higher forms of the same group, allied more nearly to the lobster and the shrimp, succeed. The first-known oysters appear, and, to the joy of the epicure, have survived all changes until now, spreading themselves over the whole northern hemisphere. Forerunners of the beautiful ammonites are found; and the fish, while still of the armoured species, have a more reptilian character than their Devonian ancestors."

Next Lesson: The Beasts of the Carboniferous.

The Clarion Mail Bag

BY SID EARP

CORRESPONDENCE received since last issue is quite satisfactory and would justify a renewal of activity on the part of any comrade who wearies of the struggle for working class advancement.

A fine revolutionary spirit of enquiry is displayed in a number of letters and whatever is done in the way of encouragement is well worth while. Short letters containing subs to the "Clarion" come from Sydney Mines N. S. Amherst, N. S. and Ottawa.

Also a splendid letter from Com. Goudie, St. John, N. B. containing eleven dollars for the "Clarion" from the Reds of that city. This is a desirable form of revolutionary action, more power to you St. John.

There is little news from Winnipeg this time, but Brandon is better represented by enquiries, subs, and renewals. A new reader from Winnipegosis asks for an understanding of the "antagonism of the international powers in the oil fiields." So that he may read the daily press better. He thinks the "Clarion" could do this well.

A comrade in Fiske, Saskatchewan, sends a renewal of his sub, also an order for "Communism and Christianism," and "Pritchard's Address to the Jury." A renewal of "Clarion" sub comes from Moose Jaw.

A hearty letter arrived from Com. Chambers who is in Tofield Alberta at present. He encloses a sub and expresses satisfaction with the "Clarion" which he states, enables him to read between the lines of the capitalist papers. He hopes the masses will soon reach the stage of intelligence to throw off their yoke. Our sentiments exactly; but we see considerable digging ahead. F. Cusack writes from a place on the Alta-B. C. boundary. He is on irrigation work and "lives" in a travelling van with sixteen others, "like circus animals," no lamps or light. Fall out at 6 a.m. and fall in at 8 p.m. to sleep, perchance to dream. He says it is a Mormon outfit and doubts his ability to write an article under present circumstances. We seem to hear Cusack talking as we read his letter, and the faint echo of his laugh.

Lamont writes a forceful and descriptive letter from a logging camp in B. C. He is working in his own way upon the slavish mentality and general ignorance in that particular district. Sends best wishes and two dollars for varied pamphlets.

British Columbia is well represented in the "Mail Bag" this time.

Com. Moore sends for the "Clarion" He is in Lund at present and quite prepared to receive the "mental dynamite." Com. Andrews sends notice of change of address to Vernon, also encloses a dollar for "Clarion" renewal.

Enquiries come from Powell River and Penticton respecting the "Clarion." Subs arrived from Prince Rupert also from Chancellor Channel, B. C. Com. Corlan writes from Namu, too briefly, "Enclosed find 2 bucks, keep my "Clarion" coming." We'll do it!

Com. Goodspeed writes from Port Hardy for advice regarding immigration to Russia, also for books on the Russian language, also sends a sub to the "Clarion." The best thing to do is to communicate with the agent of the Kubas enterprise—E. Levitt, Box 301 Seattle, Wash.

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