suggest also that the Dental Apparatus of the Echinoidea had a similar origin. The still greater specialization here lead to an early loss of the little used epineurals of the outer portions of the ambulacra. Covering plates or epineurals in Echinoidea were undoubtedly once present and if not already found we may with every reason still expect to find them in older members of this group.

The absence of the usual members of an aborad skeleton and the presence of the shifted interradial may lead others to consider that we are viewing the aborad face of the oral skeleton. This would make Stelleroid ambulacra of the plates here designated as epineurals. I may say that I have myself entertained this idea only to reject it and I am prepared to defend my position.

THE EVOLUTION OF THE WORLDS.

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(Continued from page 34).

And now what happens when the particles begin to move towards the centre of gravity. Work is done by them and, as the form that work done eventually takes is heat, it is evident that, as the nebula condenses under its own attraction, the temperature rises, it grows hotter. A very striking example of condensation accompanied by heat must have been often noticed by those who use automobiles or bicycles. When air is pumped into the tires, the pump becomes quite hot. Possibly some of you have put this down to friction but you would find it impossible to generate much heat by running the plunger up and down in the open. You push the air particles closer together, do work on them, which is converted into heat and the temperature rises. On these two laws, that of gravitation, and that of the transference of work into heat is based the whole scheme of stellar evolution. Gravitation is the force that impels the particles to do the work that is transferred with heat. As condensation of the nebula proceeds it grows smaller, approximates in form to a sphere, gets hotter and hotter and becomes star or sun-like in its form and temperature.

It may be as well to digress for a moment and try to get a clear conception into our minds as to the physical condition of the stars. The great majority of the stars or suns are entirely gaseous, composed of incandescent vapors at enormously high temperatures, our sun about 11,000°F., while the white and