vapor, that would produce a rain of more than thirty inches per annum all over the earth, must annually pass out past the earth in order to supply fuel to be dissociated by the heat that annually passes the earth; and why we can see the stars, although most of the solar radiations are absorbed within some reasonable distance of the sun."

It can be hardly looked on as a strong answer to the first question, that "the gases, being for the most part hydrogen and hydrogen compounds, have a low specific gravity as compared with the denser gases forming the permanent solar atmosphere. On flashing into flame in the photosphere, their specific gravity would be vastly diminished, thus giving rise to a certain rebound action, which, coupled with their acquired onward motion and with the centrifugal impulse they receive by frictional contact with the lower atmosphere, constitutes them a surface-stream flowing from the polar to the equatorial regions, and thence into space." It is certainly hard to understand why the atmosphere of any member of the solar system should not be made up of the gases of interplanetary space in the same proportions in which they may exist in such space, if there is the free circulation called for by Siemens' theory.

Faye objects that the presence of such a resisting medium in space as the vapors is not to be accepted, with our present knowledge, and that the centrifugal force at the sun's equator is far too small for the action required.

Hirn, starting with the supposition that the sun's temperature is 20,000° C., writes, that, although the dissociated gases might unite in the chromosphere, they would, on passing down through the sun's atmosphere, be again dissociated, and absorb as much heat as they had given out on combining. To this, Siemens might have answered that the gases would again combine on passing off at the equator.

The discussion of the theory at the time of its first statement was most earnest; but, in spite of the ingenuity displayed in its elaboration, it as yet cannot be accepted as probable.

INSPIRED SCIENCE.

Eureka; or, The golden door ajar, the mysteries of the world mysteriously revealed. By ASA T. GREEN. Cincinnati, *Collins*, 1883. 141 p., portr., cuts. 16°.

THE publisher acts as editor of this book, interspersing his own chapters among the author's in an odd fashion. The florid periods of the one form a curious setting for the rough, ungrammatical language of the other.

The author has 'revelations' of a 'wonderful knowledge' which he obtained, partly in the woods, and partly in Oil City, and desires to impart them to scientific men. We will offer them a bit.

> "If we would lay a telegraph-wire down down (*sic*) from every point of the earth, and of water, and all points telegraph at one time to a given point, the result would be to find that the atmosphere was going as fast as the earth, and the earth as fast as the atmosphere. *Thus you see* it is the atmosphere that carries the earth around. . . .
>
> "Third reason why the earth is round; namely, because the mountains are up. If the earth was flat, the mountains would be just as liable to be down as up, but as the curvature of the earth is up, hence the mountains are up. . . .
>
> "If sound travels by vibration, as science teaches, and science teaches that vibration creates heat, that if a cricket should stand on one end of a solid slabstone and rub his wings together, why is it that the vibration with the particles of stone does not completely melt the stone in ten minutes? I deny the hypothesis."

'Wonderful knowledge,' indeed!

WEEKLY SUMMARY OF THE PROGRESS OF SCIENCE.

MATHEMATICS.

Points of inflection. — Let $U = x^{\alpha}y^{\beta}z^{\gamma} + ku^{\delta} = 0$ be an equation in homogeneous co-ordinates; x, y, z, are the sides of the triangle of reference, and $u = ax + by + cz$; α, β, γ, δ, are integers such that $\alpha + \beta + \gamma = \delta$; a, b, c, are given quantities, and k a variable parameter. For $\alpha = \beta = \gamma = 1$, this equation gives a system of cubics having, as is well known, their points of inflection distributed by threes upon three right lines; viz., the three real points of inflection upon u, and the remaining six points, in threes, upon two imaginary lines.

The author, M. A. Legoux, proposes to consider the general case of curves of the order δ. The three sides of the triangle of reference are tangents to all the curves of the system in the points where these sides meet the line u. The order of contact is $\delta - 1$: if δ is even, the curve in the neighborhood of the point of contact lies on one side of the tangent; if δ is odd, the curve here cuts the tangent, giving a point of inflection of a higher order. M. Legoux shows that the proposed curves have imaginary points of inflection, which are distributed upon two conjugate imaginary right lines which are independent of the value of k. If δ is even, there are no other inflections; but, if δ is