

Scientific American.

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Are the Stars Inhabited?

It is a positive, and not very creditable fact to many men of scientific ability and reputation, that they devote more time to controversy and speculation on subjects of no practical benefit whatever—and respecting which they never can arrive at any correct conclusions, than to subjects of real utility in which every person has an interest. In no instance has this been so clearly manifested as in the controversies respecting the question embraced in the above caption. A short time since a book by an anonymous author was published in London (since re-published by Gould and Lincoln, of Boston) entitled "the Plurality of Worlds," in which it is assumed that our earth, solitary and alone, of all the starry host, is in all probability, the only planet that is inhabited. The author displays much learning and a fine imagination, but so far as the question is a scientific one, it appears to us that it really makes no matter what the opinion of one or ten thousand men may be, as it can neither be settled by argument nor science, in its present state.—If we possessed telescopes of sufficient power to survey the surface of any of the planets the same as we can that of our own, and whereby we can observe objects of life moving unconstrained at distances far beyond the scope of common vision, then no argument would be required to prove or disprove the question of the planets being inhabited, any more than it requires controversy to prove that a drop of water teems with life, when examining it with a microscope. And since we have not instruments to accomplish this, the best thing for astronomers and opticians to do in the premises, instead of quarrelling upon the subject, is to endeavor to construct such instruments as will settle the question beyond the shadow of a doubt. This advice we tender especially to Sir David Brewster, that eminent philosopher who has just replied to the author of the work in question, in a keen and cutting article in the last number of the "North British Review." The author of "the Plurality of Worlds," concludes that the planet Jupiter is nothing better than a huge, pasty mass of mud and water, on which no inhabitants can dwell. Sir David Brewster considers, that although the gravity of Jupiter in proportion to its size, is no greater than that of an equal volume of water, yet, it may be hollow, and its surface as inhabitable as our own globe. If there are inhabitants in Jupiter, the anonymous author concludes, that according to its mass the men are required to be 1649 lbs. weight each, while according to the reviewer, who take the radius of Jupiter—not its mass—as his line of measurement, they are not required to be over 2½ times as heavy as the men on our mother earth. This question could be far better determined were we informed of the particular food of Jupiter's sons, and the abundance or scantiness of its supply, whether it was bread and beef, or tea and toast, as we find that these things have a wonderful effect on the gravity of both aldermen and common citizens on our little planet.

Herschel has suggested that the sun may be inhabited, and that between its luminous atmosphere and its surface, there may be interposed a screen of clouds, whereby its inhabitants may no more suffer from intense heat than those who live in our tropical regions. This may be so, as we all know how much the heat of the sun's rays, in the hottest days of summer, are modified by an interposing cloud, or "a swift passing breeze." We also know that on the extensive table lands of high mountains in the tropics, the glacier and ice field reign as supreme as in the arctic regions, and all this although they are nearer the sun than the adjacent burning plains. The depth of the atmosphere, and its pressure upon the surface of the earth, affects its temperature as much as its relative distance from the sun, and thus it is that many simple questions must enter into

the calculation, to determine by reasoning, the complex question of the probability of the stars being inhabited. We believe that neither the sun nor the moon is inhabited. The moon has been found to be destitute of any atmosphere, consequently no living thing can dwell there; at least, none possessing the same functions necessary to life, as the oxygen-breathing creatures of the earth. As the sun has not an atmosphere like ours, we also conclude that there are no inhabitants there. These two orbs appear to perform—according to science—no other duties than those described in the first chapter of Genesis, "let the sun and the moon be in the firmament to divide the day and the night, to be for times, and seasons, days and years, and to give light upon the earth."

It is our belief that some of the planets, and thousands of other heavenly bodies in other systems are inhabited, but we can present no scientific proof in favor of this belief being positively correct, neither can any person present proof that it is untrue. All we can say about it, is, that probabilities are in its favor, for we judge, that as our planet teems with life, so may others. It is a reasonable inference, from what we see around us, that other worlds may be furnished as luxuriantly with life and beauty as ours. We cannot believe that our planet is the only theater of life in the universe—that here alone, among all the starry host, the great Creator has deigned to display his manifold power, wisdom, and goodness.—We cannot believe that our sun, and the suns of other starry systems shine for only one single globe, which, among the rest, is but a speck on the starry ocean. To believe otherwise, would lead us to contemplate a Being who had brought into existence a magnificent assemblage of means, without a corresponding design, and who has prepared habitations fit for the enjoyment of rational creatures, but has failed to people them. To such a view we cannot subscribe; all probabilities are favorable to the view of "the stars being inhabited."

The New Patent Bill.

We have already received quite a number of letters from inventors and persons interested in inventions, expressing their opinions and feelings in regard to the new Patent Bill, and our comments thereon, as published in the Sci. Am. of last week. They are unanimous in condemning the objectionable clauses of the bill pointed out by us, and they hope it will not pass in its present shape. But as Congress will perhaps not adjourn until some time next month, the bill may be hurried (as many bills usually are) through both Houses at the end of the session, without due reflection and examination. We hope, however, this will not be so, but inventors who can, without sacrificing their interests, apply at once for patents on new completed inventions, should lose no time in taking advantage of the present low fees, as the prospective ones are so much higher.—We do not advise any person to do this, however, where a hasty application would lead to the sacrifice of any important feature to be claimed.

Although we feel confident that the Bill will not pass in its present form, at the same time, we counsel inventors, mechanics, and all who are interested in patents, in the different cities and towns, to get up remonstrances as soon as possible, against the objectionable features of the Bill, and send them to their respective senators with the utmost dispatch. This is the only proper method of making our Representatives in Congress acquainted directly with the feelings and opinions of their constituents. Petitions can be drawn up from the Bill as published; these should state the objections of the petitioners calmly and clearly, all of which can well be done by intelligent mechanics in every village in our land.

In this age of light, knowledge, and progress, we certainly expect that new laws for the protection of inventors, shall be an improvement upon the old system, 'his cannot be said for the new Patent Bill; it is an improvement backwards, and is not fit, in its present shape, to become a law for intelligent inventors.

Prompt action is necessary since it is so very difficult to secure any useful legislation from Congress, and especially so in favor of inventors interests. The schemes of the scurvy politician have hitherto over-ridden nearly every other interest, and this state of things is growing worse all the time.

Now let us have an improvement or nothing.

Crystal Palace Notes.

ANGLE RAILROAD WHEELS.—In the Paris correspondence the New York "Daily Times" of the 3d inst., there occurs the following passage:

"One of the most interesting sights in Paris, and one that no American ever thinks of visiting, as he probably never heard of it, is the railroad from the Barrier d'Enfer to Sceaux. It is but seven miles long, and was built as an experiment upon a new system of wheels.—The engine, tender, and hindermost car of the train, are furnished with oblique wheels, under the ordinary upright ones. Where the track is straight, these do not touch the rails; but at the curves, they come into play, rattling along the inner edge of the rails, and preventing the train from running off the track. The road was therefore made purposely tortuous, and the most sudden and seemingly dangerous bends were introduced at frequent intervals.—The two stations are circular, and the train as it receives its passengers, is doubled up into a ring of 50 feet radius. The smallest curve upon the road is 68 feet radius, and over this the train goes at full speed. The corners of the cars are cut off, so that the vehicles, in following the curves, do not infringe upon each other. Sceaux is upon an eminence, which the road ascends spirally, with something like a mile of track—it only going, in advance, a hundred feet. The invention—which, by the way, is ten years old—has proved practically very successful; but it has never been applied to any extent."

Few Americans, no doubt, have heard of the above, just as the said correspondent appears to know nothing of the very same invention in America, and which is to be seen at the south end of the machine arcade, in the Crystal Palace. The exhibitor of the model carriage, with the angle wheels, exactly on the above principle, is I. Dickson, of Carbondale, Pa.—The French railroad on the same principle, has the advantage of being more than a mere model, the track being no less than 7 miles long. We hope that those of our readers who after this may visit Paris, will not forget to profit by the advice of the "Times" correspondent, and not leave that city without seeing the railroad of Sceaux.

MINIATURE STEAM ENGINE.—A very skillfully constructed Lilliputian steam engine has been placed on exhibition in the machine room, on the left side, near the entrance on the east nave. It is a high pressure beam engine, composed of 150 pieces, boiler, stack, &c., all complete, and only weighs 9 drachms, 12 grains. The stroke is 3-16 of an inch, diameter of cylinder 1-16 of an inch, diameter of fly wheel 5-8 of an inch. The cylinder, beam, and cross-head are of gold. This miniature working steam engine was constructed by Cyrus Chambers, Jr., of Kennet Square, Chester Co., Pa., a lad 16 years of age. It certainly does great credit to his skill, taste, and patience.

ROOFING SLATE.—A few years ago all the slate employed for roofing in our country was imported from Wales, but the discovery of excellent slate quarries in Vermont, and other places, have obviated the necessity of sending abroad for such a useful material. In the yard of the Crystal Palace, a number of specimens of American slate are exhibited by two different parties, such as fine blue slates from "Rowland Parry's quarry," by John Brodie, agent, No. 627 Washington St., this city; and blue, green, and red slate by Newell Sturtevant, President of the West Castleton Slate Co. No description of the quarries, or of the districts where these slates have been obtained, accompany the specimens; like too many other articles on exhibition, they are there to look at like merchants' signs in a painter's shop. We have been informed that a number of fine workable slate veins have recently been discov-

ered in various parts of New York State, but we cannot fully vouch for the accuracy of our informant's information. Good slate is very useful for a great many purposes besides roofing for houses, and it affords us no small degree of satisfaction to know that our country possesses an abundant supply of such beautiful specimens as those to which we have alluded.

AN ENQUIRY.—In connection with the subject of slate, we present the following brief letter from one of our correspondents:—

GENTLEMEN:—I should be glad to learn by letter, from some of your numerous readers, if there are any deposits of slates suitable for the roofing of houses, in any of the Western States, and their exact location. Such additional particulars might be communicated as would be likely to interest an enquirer. In return for this information, I would be able to communicate some facts of great interest to the owners of slate quarries, as well as to the readers of the "Scientific American."

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RICE.—Some fine samples of this cereal are on exhibition in the northern department.—One bunch of last year's crop, with the straw attached, has been forwarded by I. H. Tucker, of Charleston, S. C., and another bunch (the only samples that we have seen in the Palace) by Junius Davis, of Wilmington, N. C. Rice is almost the universal food of man; it forms the principal food of the multitudinous inhabitants of China, Japan, the Indies, and Africa. It is a healthy, pleasant, and nutritious cereal, and capable—in its husk—of being carried without damage, on very long voyages. Its cultivation on low, swampy grounds in our Southern States, is unhealthy, it is stated, but in Hindostan the coarse varieties are cultivated with as little danger to health as wheat or rye. South Carolina is our principal rice growing State, and Georgia, we suppose, is the next.—We have noticed, in one or two of our New Orleans, La., exchanges, that rice has been cultivated in that State for nine years, by A. Babin, of Terrebonne. The kind of rice cultivated is the "gold-seed" variety, and was first brought from S. C. It has produced 70 bushels to the acre, is of a fine hard grain, and of a beautiful pearly appearance.

Rice is not exclusively a native of hot climates. A variety of it grows wild as far north as the 54° lat. in Canada. A small lake (Rice Lake) which has received its name from the wild rice growing in its shallow, muddy waters, brings forth abundant crops annually, without the plow or the hoe of the husbandman being employed in its cultivation. This lake is situated behind the Coburg district of C. W., not far from Lake Ontario. The wild rice crops are claimed by a tribe of Indians living in the vicinity, and they jealously guard their natural rice fields from the intrusion of the white man. It is a very palatable grain, but not so beautiful nor fine as the rice of Carolina.

Death of a Venerable Editor.

Thomas Ritchie, or as he was otherwise styled "Father Ritchie," the oldest newspaper editor among us, died on the 3d inst., at his residence in Washington, D.C. No editor in our country was better known than the venerable man now deceased. He belonged to the Democratic State Rights party, and spoke out his opinion of men and things freely, especially while in Washington, consequently he had many enemies while he was in active life, but all who knew him personally esteemed him for his gentlemanly deportment and rare abilities. He died calmly, in the bosom of his family at the advanced age of 76 years.

Shortest Atlantic Passage on Record.

The American Steamship Baltic arrived at this port from Liverpool, on Saturday morning the 8th inst., at 1 A. M., having made the passage in 9 days and 17 hours real time, 9 1-2 days apparent time. It brought the news of the Russians having evacuated all the Turkish territories. The Turks, unassisted by the allied armies, have defeated the Russians in almost every battle.

We have 25,000 miles of Railway in the Union, and \$200,000,000 invested in them.