bake its surface for two weeks, with a temperature that would melt lead, and then disappears for two more weeks, to leave the moon a prey to intense cold. Prof. Very proved by an observation made during the recent eclipse that during the lunar winter nights the temperature falls to 200 degrees below zero. He used an exceedingly sensitive bolometer invented by Prof. Langley. Such vicissitudes would soon depopulate our earth. Let us imagine that we have climbed to the top of Tycho, one of the most conspicuous objects upon the moon's southern limb. We are standing upon a mountainous volcano 16,600 feet high, looking into its crater, which is fifty miles in diameter, and covers an irregular area of two thousand square miles. Let us look away from the crater and admire the terrific ruggedness of the hundreds of smaller craters and ring mountains. Then let us glance at our feet, and wonder at the ribbons or streamers of sheeny lava that radiate from the huge crater in every direction for hundreds of miles, and then multiply all this by twelve, and we can form some idea of the volcanic activity that was stilled ere the bubbling crust had time to cool. Let us wander all over its surface, everywhere we shall see saucer shaped blisters and strange walled plains, surrounded by continuous mountain chains, let us peep over their walls, to find plains within, whose centers are surmounted by solitary spires or cones of frozen lava.

Let us wander over the beds of twenty-two seas, lakes and bays, that have in some strange manner lost their water. We are certainly convinced of two facts, that water once existed in the moon, because the coast chains that surround the lunar seas, are steepest next to the shore lines; again, if we climb down, and stand upon one of these bottoms, we shall find that it is darker than any land we have seen, and it is composed of a conglomeration of soils washed down from the mountains. Let us examine the peculiar canals or canyons; we shall find that they were produced by the forcing power of water. One glance at its surface will prove that the whole crust was a plastic mass of volanic eruption. Its desolate silence tells a pathetic story of premature death, its hot blistered envelope had hardly cooled, ere some unfortunate disaster made a ruin of this world. Theories have been advanced from time to time. The first, that the atmosphere and water retreated to the interior to form with the crust the water of crystallization. If such was the case, it would reappear as vapor, for the heat of which we have spoken, would be more than sufficient to vaporize it, and cause the rocky substance to become anhydrous. Secondly, a comet was the robber; this could not be, for the solidity of the moon would preclude any such possibility. Thirdly, chemical force caused the combustion of its hydrogens, and enveloped this planet in flames; had such been the case, our moon would have been a blackened cinder, and would have been a dark planet, incapable of reflecting the suns light. At all events, its atmosphere is minus. You demand proof. Let us notice any bright star that is passing behind the limb of the moon. We will find that it suffers no diminution in brightness. An atmosphere would gradually cause indistinctness by the occultation.

The scientific world has neither proved nor disproved the theory that the moon has fulfilled the grand destiny of design, and is a dead and useless sphere, where youth, manhood and old age have run their allotted course, and sprinkled her mountains with silvery locks, and yet it has never advanced a proof, merely accepted the situation theoretically. Let us see, as the lawyers say, if we cannot make a strong case. We will arraign the earth as the robber that stole the moon's aqueous elements, and use the science of to-day as our main witness, which tells us that our world was a nebulous star, then a fiery sun, the fire was imprisoned, a crust was formed, and geology finished what astronomy began. We have already spoken of the intense volcanic activity that once existed upon the moon's surface. This fact, which few astronomers will deny, proves that our satellite perished in the earliest stages of her existence. Science tells us this igneous process of world formation belongs to the childhood of planets, not when old age has deadened their energies. We will travel backwards in the geological history of our earth, and present a duplicate picture of the moon's blistered surface. Our ocean of fire had been confined beneath a thin and unstable crust that received upon its bare heated surface the awful downpour of acid rain, composed of carbonic, sulphuric, and chlohydric acids, which, coming in contact with our red-hot globe, was vaporized and sent heavenward to be condensed and fall in solid showers, to gradually cool the steamy crust that was radiating its heat into space. The Laurentian had lifted its V shaped continent above the wide waste of waters. The Upper Laurentian was then deposited.

It was at this stage of our existence that our earth resembled the moon. When thousands of volcanoes hurled forth their fiery contents consisting of ashes and scoria What land was above the ocean was unstable and plastic. This was a death dealing geological age. While Lower Laurentian showed signs of life, and even those conditions which would indicate that life was possible, existed in its limestones and beds of iron ore, the Upper Laurentian deposits were scoria and volcanic ashes. This layer is devoid of life throughout its area, and even those conditions that could support life are wanting. Our earth's land surface would have presented a similar appearance to the moon's if our atmosphere and water had been removed, the sedimentary rocks would have well represented the lunar basins, while the blisters, ring mountains, and craters would have marked our crust in the same manner; but they have long since been washed into the ocean to form our igneous rocks, and have been worked over half a dozen times. If the moon perished with wrinkled age, how is it that her density is so small in comparison to the earth's? As Proctor states, "The earth's volume exceeds the moon's 49½ times, but the moon's material is either lighter or less compressed, for the earth's mass exceeds hers not only 49½ times, but nearly 81⅓ times. Her density of 3 5 of the earth's, and 3½ times as dense as water." Her mean density is 63-100, being only 11-100 greater than Mars. Here is a very serious stumbling block; for aged worlds are very dense, because layer after layer has been deposited to press the heavy crust upon the heavier nucleus to become almost a solid globe.

Let us consider the proportions of land and water upon our earth, and we shall find that of the 196,861,750 square miles upon its surface, only 51,205,133 represent its habitable parts. Thus we see the peculiar feature of our sphere is its superabundance of water. We gaze upon the vast expanse of oceans, and then at our waterless moon, and we can but feel that "might made right," the stronger robbed the weaker. The theft was committed ages and ages ago. Like the moons of Mars, our moon was at one time much nearer, and her motion in her orbit much more rapid than at present, *how she must have raised the tides that then rolled from pole to pole, while* the red hot crust was glowing with heat, her orbit was a long eclipse. This pull in a contrary direction to the earth's axial rotation, caused the moon's atmosphere and water to pass over to the earth. Whether the Creator intended that it should be so, we cannot tell, but two strange results were produced. The moon's water aided very materially in cooling the earth's crust, and could well account for the strange axial rotation that presents the moon's same side to us always, for the water falling from the moon would have produced just such a result. Another strange thought—perhaps the primordial germs of human existence that peopled the earth may have come from the moon, since everything in nature proves our watery origin. Chemistry is very strong upon this point, and geology backs the former. So, instead of finding inhabitants upon a dead planet, all we have to do is to look nearer home.—*Prof. J. L. Hempstead in the Lake Charles American.*

THE MIDNIGHT SUN.

It is very hard to describe the midnight sun. "Mind you write and tell us exactly what it does," many of our friends had urged upon us, as if on the stroke of twelve o'clock they expected the sun to spin rapidly round, or turn a somersault, or do something equally queer. Well, the sun does nothing very peculiar; it is what it refrains from doing—*i. e.*, that it does not set—that is the extraordinary part. Imagine yourself on a ship at anchor looking west or straight in front of you; there is a broad expanse of sea a little to your right hand, behind you will be the rugged coast, and to your left the long, narrow fiord between the islands and the mainland that *the steamer has just traversed. You watch the sun as it slowly, slowly sets;* the island and the coasts look like a rich, dark purple, and the shadows cast by the ship's mast, etc., grow longer and longer. After a bit, when the sun has sunk to apparently twelve feet from the horizon, it stops, and seems to remain stationary for about twenty minutes; then the very seagulls hide away, while the air all on a sudden strikes chilly; each one has an awed, expectant feeling, and surrounding even the tourist steamer broods a silence that may be felt. Soon the sun rises very slowly once again, and the yellow clouds change with his uprising to even greater beauty, first to the palest primrose, and then to a bluish pink. The sky, which was just now rose color, becomes grey, then pale emerald green, and lastly blue; rock after rock stands out, caught by the sun's bright rays, and the reign of day has begun once more.—*From a Jubilee Jaunt to Norway, by Three Girls.*

INDUSTRIAL NOTES.

One of the most complete establishments, down to the minutest details, in the Dominion of Canada, is that of the well-known firm of Clayton & Sons, manufacturers and wholesale and retail dealers in clothing. Their manufacturing business is continually on the increase, all kinds of clothing, the best for the price that can be bought, being turned out and sold to the Maritime Province trade. Country merchants are finding out that nowhere else can they purchase cheaper or better goods, and as a result, are now coming to Halifax to make their purchases, and giving the Upper Province the go-by. Formerly, traders were compelled to carry heavy stocks, but now, through the facilities offered by Messrs. Clayton & Sons, they are enabled to order as they need the goods. The firm deal directly with the mills, and employ their own hands, refusing to give the work out to jobbers, as is the custom of Upper Provincial merchants. It speaks well for the firm that their work girls are not going to the States as formerly, and that many who were carried away by the exodus fever in former years are returning this year. One reason for this is that Messrs. Clayton & Sons keep their girls at work the year round, and do not follow the reprehensible system adopted in the States, where the custom is to pay heavy wages in busy seasons, but to discharge all hands when business is dull. The Fennon steam cutting machine, with a capacity of 1,000 suits a day—wonder the lawyers have not adopted it?—is still in use in their establishment, and gives satisfaction. An improvement in their extensive premises is a large double cellar 19 feet high, 70 feet wide, and 65 feet long, blasted out of the solid rock. The buildings are heated throughout with hot water, while all kinds of sewing machines, button-hole machines, etc, are run by steam power. A visit to their large and airy working rooms, where the hands are now busy in working up stock for next season's trade, was quite a revelation. Hundreds of pretty, happy-looking girls were busy as bees with their allotted tasks, and all was hurry and bustle.

The Buckingham Brick and Tile Company have filed their declaration of partnership. The company was incorporated by letters patent in April last, and will carry on business at Buckingham as brick and tile makers.

American express service is to be placed upon the fast railway trains in England, France, and Germany. At present express freights for the most part go on slow trains on the Continent.