

scribed by the sacred historian—"the people married and were given in marriage until the day that the flood came." It is gratifying to reflect, however, that in this appalling state of affairs in Montreal, the calls of humanity have been responded to. Toronto, Hamilton, and Quebec have come nobly forward, and New York, ever ready in such a case, has laid Canada under a deep debt of obligation, by the generous and spontaneous aid it has afforded. We rejoice to think that in this way the sufferings of the poor outcasts may be speedily alleviated, and a home and its comforts again restored.

Want of space to-day prevents us noticing at length the very fine Panoramic exhibition in the St. Lawrence Hall, at present. We would advise all our young folks to make a call.

#### MORE HASTE LESS SPEED.

Did ever I tell you, Tom, that I found forty dollars a few days ago.

I think not! I suppose you mean to say you lost forty dollars; that would be much more like the mark in your case, else fortune has at last begun to favour you.

Well, well no matter, I found forty dollars at all events, and I was very much overjoyed at the circumstance.

I should think you would,—more particularly if you discovered their owner, and handed them over to him, with the caution to take better care of them in future;—for you know Honesty is the best Policy.

Well, I did hand them over, and the owner and I were both alike thankful.

Last time I was driving down from Hamilton, I was very desirous to reach Toronto early, and as I had a call to make by the way I started in good time, and prepared for the road. I had forty dollars of spare cash that I wished to get a bank check for, but on going to the bank I found that I was too soon by half an hour, and not in a mood to wait so long, I wrapped up the notes, and slipped them, carelessly, in my vest pocket. In putting on the horse's harness in the stable, it is possible I had rattled up my vest, but I was unconscious of anything wrong, and started off full speed for Toronto. When about five miles on this side of Hamilton, I began to think of the money. The horse was brought to a dead halt. I searched my pockets, but in vain. What was to be done—the loss was more than I could stand without making some exertion to recover it; but the difficulty was, as to where it had occurred. In a few minutes more the horse was retracing his footsteps, and the inn from which we started was shortly reached. The loss was announced, but no spare cash had been seen. A search was instituted, and on reaching the stable, here lay the money, quietly nestling on the horse's bedding. I was delighted with its appearance, and, having given it a careful lodgement, resumed my journey, with the determination, that, at least in money matters, I would scrupulously keep in mind—that "the more haste the less speed." Now, I suppose I have satisfied you that I found forty dollars.

Yes, you have, and your experience may be turned to good account; for it is clear that you lost part of your time—gave yourself an uneasy mind—made the road from Hamilton to Toronto ten miles longer than it is naturally—and imposed on your pony a good deal of extra labour, all for want of putting things in their proper place at the proper time. P.

#### THE GROWTH OF THE HAIR.

Having retained the idea for some years past, that the human hair was merely a simple tube—indeed, optical deceptions have misled many

well informed persons to suppose the same,—I therefore, undertook a series of microscopic observations, the result of which may be interesting to your readers. At first, I found it extremely difficult to demonstrate the nature of the internal structure of some hairs, even under a powerful magnifier, on account, I suppose, of the colour being equal throughout their whole length,—but I have detected three or four remarkable regular cells near the roots, resembling quills in their first stage. A quill, in fact, be considered as a large hair, and no one doubts a continued power of development in feathers until they have reached the full size. Upon closer examination, I discover that each hair is more or less provided with a number of cells, very regular in their distribution, indeed, more so, than in some quills. I find also, that the shorter the hair is kept, the cells become more numerous, and the circulation of the fluid more freely taken up. When the hair is thick and of a light colour, its cellular structure can be easily seen under a good magnifier. A hair taken from the chin of a native of New Zealand, whose face was closely tattooed, and which hair was of a bright blue colour, from its having taken up some of the colouring matter used in tattooing, showed its cellular structure very distinctly under the microscope. No hair of any animal is a simple tube, but the interior of all is cellular, like that of a quill. The fine hairs of all rodents and many other animals, such as the mole and ornithorynchus, are cellular, and considered very regular. In the last mentioned class, the colouring matter is confined strictly to the cells. The growth of the beautiful hairs of the bat tribe can hardly be explained without allowing them an independent power of development,—the hair of all animals must therefore, be attended with circulation of fluid—probably like that in the cells of plants, which are specifically intended for the secretion and retention of their colouring matter. I have mentioned before, that the shorter the hair of the head of man is kept, the cells increase; and with such an increase a more natural and easy circulation of the fluids. I minutely examined the long hair from the head of the female sex, and find nothing more than an equal colour throughout—still more or less cellular near the roots. I must, therefore, agree with M. Mandl in the following extract: He says, "he is inclined from some phenomena which he has observed in the growth of hair, to arrive at a different conclusion relative to this process from that generally received. He states, that, in individuals who have had their hair recently cut, each hair preserves its diameter to its free end which presents a truncated extremity, where the eye may distinguish the section both of the cortical part, and that of the internal canal. But if these hairs are examined after a long interval, each hair is found to be terminated by a pointed extremity, more or less long, but with its extremity closed. This change of form M. Mandl considers to be the result of a vital process, and as proving the possibility of a movement of fluids in the interior of the hairs. He thinks this opinion is still further supported by the fact, that when hair is kept long, instead of the formation of a pointed extremity, obliteration of the extremity of the canal alone takes place, which he supposes to be caused in all probability by the difficulty of the movements of the fluids." C.

#### LECTURES AT THE ROYAL INSTITUTION.

The first of a course of six lectures, on "The laws of colour," was delivered at the Royal Institution, on the 27th ult. to a tolerably numerous audience, by Mr. F. Grace Calvert, F. C. S. M. R. A. I. He commenced his lecture by remarking that he had selected this subject because he

believed that anything relating to colours must interest every one connected with that institution. The laws of colours would apply to the artist's picture, the display of manufacturer's goods, the ornamenting of houses, and the arrangement of ladies' dresses. The laws of colours have become of late years a subject of such deep interest on the continent, that in France, where good taste generally speaking, predominated, the government had appointed gentlemen to lecture on those laws in all the large manufacturing districts. Persons who were constantly handling colours gradually got into the habit of judging that such a colour would agree with another; and an artist, after many years' labour, ascertained that such and such a tint of colour would suit the effect of his picture; but this was the study of years, while by understanding the laws of colours, a person might in a few hours obtain the same information. Therefore, if they took it only on that point, his audience would perceive the advantages which would result to the manufacturers and artists who were called upon every day to employ colours, in producing the best effect they could. As the laws of colours entirely rested on the composition of light, it was impossible to arrive at a perfect understanding of those laws without a knowledge of the composition and laws of light. Newton was the first to give us a key to the composition of light, and he also demonstrated several of the laws which enable us to explain it. It was his (the lecturer's) master, M. Chevreul, who first obtained a knowledge of the laws of colours, and that not by pure induction or mere chance, but after ten years' labour. The passage of light from the sun was accounted for upon two theories. The first of these, which was promulgated by Newton, was, that light was an imponderable fluid, which left the sun and travelled to us at the rate of 195,000 miles per second. The other theory, which was that of Huggens, or Euler (for it was not known with which it originated), was, that the sun, or any other luminous body, caused the ether, which filled a space in everything, to vibrate, and that by means of this vibration, light was conveyed; the intensity of the light depending upon the intensity of this vibration of ether. The first law of light to which he thought it necessary to call their attention was that when a ray of light was reflected from a plane surface, the angle of reflection would be equal to that of incidence, or the angle at which the ray of light had struck the reflecting surface. Were the mirror concave or convex, different effects would be produced; and in all these respects the laws governing the reflection of light and heat were similar. When a ray of light passed from a rarer to a denser medium, it was refracted or bent towards the perpendicular; but the contrary was the effect if it passed from a denser to a rarer medium. It was upon these principles of refraction that depended all the effects produced by lenses, as exhibited in telescopes, microscopes, and other optical instruments. Newton discovered that when a ray of light was in its various colours, as in the case of prismatic spectrum. The reason why light was not seen in these different colours, but simply as white, was, reflected at an angle of from 45 to 60 degrees as by a prism, the light was decomposed, and shown that, owing to the rapid passage of light, the retina of the eye had not time to receive an impression of each colour. Newton supposed that light was composed of seven colours, but four of these colours could be composed of three others, viz. red, blue, and yellow, he (the lecturer) thought it more rational that light was composed of but three colours, which are called primitive ones; while the other four, which are called secondary, or complementary colours, because they completed the light, were formed by the mingling of the primary ones. If all the colours