tions were concerned, the College was now well supplied, for with no very great additions it could have equipped two or three observing stations, besides Montreal. But these other stations would have involved considerable expense and it was necessary to provide for this—to allow so much "observing plant" to lie unused while Canada generally was not too well supplied, would not have been creditable to Montreal. In February, 1880, I read a paper before the Athenaeum Club of this city, explaining the state of the case, and afterwards another paper on the same subject in May, 1881.

Subsequently the question was taken up by the Corporation of the College and a committee was appointed to consider the means of providing for the expenses and other matters. In their name I wrote to the Astronomer Royal explaining our situation and asking for information as to the expenses of stations in 1874, and advice and instructions generally, since any observations must be made in concert with those of other observers. The letter was submitted by him to the Committee of the Royal Society who have charge of the management for all the British Transit of Venus expeditions, and in his reply he gave us ample information which was of great service, in addition to sending the report of the British Observations of 1874, which had not long been published, together with the "Instructions to Observers" in that year. At a later period five copies of the "Instructions" for 1882 were sent out.

(To be continued.)

ANIMAL PHYSIOLOGY.

The typographical reproduction of photographs. An indispensable accompaniment of the applications of photography to physiological experiments is the exact reproduction of the images obtained, the facility with which proofs can be struck off, and the possibility of incorporating them with printing; these requirements have been fulfilled in a very satisfactory manner, by M. Petit's process of "*simili-gravure.*" Two specimens of these proofs will enable the reader to estimate all the resources of photography as applied to certain scientific demonstrations. Fig 1 (page 29) shows the successive positions of a man marching, and was obtained by the process of taking successive impressions upon one plate. The imperfections of the proof are almost wholly due to defects in the original stereotype. Thus, at the lower part, the background is not sufficiently dark and the outlines of the legs and feet are not well defined. This is due to a faultiness in the screen before which the photographs were taken; the lower part of the screen did not comply with the conditions of absolute blackness as well as the upper part. A vertical white band may be observed upon the fifth image. This band is the picture of a post which supported the screen, and may be made to disappear by an alteration in the arrangement. The clothing necessarily interferes to some extent with the exact representation of the bodily movements. The proof, however, such as it is gives much information. It shows that in every complete step the body assumes different positions, that the step occupies $\frac{6}{10}$ part of a second, and that the head during the same time makes two vertical oscillations; that the arm makes a wide oscillation in a direction contrary to the movement of the corresponding leg. The successive phases of the displacement of the foot and leg can be easily followed, and the actual value of the displacement between two consecutive images, *i.e.*, in $\frac{1}{10}$ of a second can be determined with a compass.

Fig. 2 represents a white horse clearing a fence. It was an old Syrian animal, and an expert can easily recognize the signs of age. The arrangement of the screen had been improved in this series of photographs, and the details come out better in the lower part. It is needless to say that the method is not yet perfect, but an important point has been reached in the application of photography to the illustration of science.

NOTES.

The *Chemical Review* states that recent analyses of the water from the Holy Well at Mecca, which is so eagerly drunk by pilgrims, shew this water to be sewage, about ten times stronger than the average London sewage.

Mode of Discovering the Adulteration of Honey.—20 parts of honey dissolved in 60 parts of water and mixed with alcohol, gives a white precipitate of dextrine if glucose has been added to the honey; if the honey is pure the liquor only becomes milky.

Domestication of the Edelweiss.—The edelweiss, that curious and interesting alpine plant so much desired by travelers in Switzerland has recently been grown by an English gardener in the midst of domestic vegetables. It behaves like a biennial. The search for it in Alpine districts has been so keen that in order to prevent its extermination, many cantons have thought it wise to prohibit its sale.

A New Kind of Rose.—In the publication of the Torrey Botanical Club, it is stated that three American botanists while riding through lower California, discovered a new rose which is apparently distinguished by botanical and horticultural peculiarities from the new and old world species. Dr. Engelmann has called it the "Rosa minutifolia" on account of the smallness and form of its petals. Seed-plots of it have been made.

Water filtration.—The use of spongy iron has now been applied on a large scale to the water obtained from the River Nette for the supply of the City of Antwerp Dr. Frankland has visited the Antwerp Water Works at Waelheim, about fifteen miles above that city, and reported on the results of his inquiry. He attaches especial value to the fact that spongy iron filtration "is absolutely fatal to bacteria and their germs," and he considers it would be "an invaluable boon to London if all water supplied from the Thames and Lea were submitted to this treatment in default of a new supply from unimpeachable sources."

Hygiene.—In the *Comptes Rendus* M. Burcq remarks that workmen who absorb in the form of fine dust, considerable quantities of copper are protected from cholera, save in instances quite as rare as those relating to the insufficiency of vaccine as a guard against small-pox, and that the same workmen seem to enjoy the same immunity with respect to infectious diseases, especially typhoid fever. M. Burcq proposes to employ salts of copper as an antiseptic for the planks of huts, infected ships, in the same manner as they are employed to protect the seeds of cereals and certain timbers employed in the industries, from insects.

The Watering of Plants in Pots.—Watering, says the *Neuste Erfindung*, is one of the most important considerations in the cultivation of plants in rooms and greenhouses. It must first be ascertained whether the plant really needs water and this can be done by striking the pot on the outside near the middle. If it gives out a clear ring the plant needs water; if the sound is dull there still remains enough of moisture.

Water is not required more than one or twice a day; in the morning in summer, in the evening in winter, but never when the sun is shining on the plant. Never use well water but either rain or running water.

MEDICINAL PROPERTIES OF WARM MILK.

Milk warmed (*not boiled*) to a moderate temperature is said to be a common remedy in India in cases of the most violent diarrhœa, stomach complaint, cholera and dysentery. According to the *Medical Times and Gazette* the employment of milk thus prepared is especially recommended for typhoid fever, and is the only food which nourishes the invalid and gives strength without unduly loading the stomach.

PROCEEDINGS OF SOCIETIES.

Montreal Microscopical Society.—Certain members of the old Microscopical Club met last month and organized a new Society, which held its first regular meeting on the evening of the 4th. The number of members is limited to thirty, and the meetings are to take place in the second Monday in each month. At the meeting on the 4th Dr. Osler read a paper on Parasitic bodies in the blood of the Frog, describing the Trypanosoma sanguinis of Grubo and the Drepanidium ranarum of Lankester. Specimens of the latter were exhibited. Among interesting objects shown were the Filaria huminis sanguinis by Dr. Osler, Tubercle bacilli, prepared by Dr Wilkins, by Mr. W. B. Craig, and Prof. Bemrose exhibited a slide and called attention to the presence of bacteria in samples of pepsin.