brothers again met at Simla, previous to commencing the operations intended for the summer of 1856. M. Adolphus, on leaving that place, crossed the Himalaya, went over Thibet, Baltistan, and visited the interesting spot where several mountain crests meet, and the Hindookoosh joins the range lying to the north of India. He then returned to the Punjaub through the valley of Kashmere. MM. Herrmann and Robert proceeded to Ladak by different routes. Under good disguises they were enabled to penetrate into Turkistan Proper, by crossing the Karakoroum and the Kuenluen mountains, and descending into the great valley of Yarkande, a region never visited before, not even by Marco Polo. It is a vast depression of between 4,000 and 3,000 feet, separating the Kuenluen, on the northern frontier of India, from the Syan Chane, or mountains of Central Asia, on the southern border of Russia. They then returned to Ladak, and entered the Punjaub by different routes through Kashmere. After a two years' negotiation, M. Herrmann was, at the commencement of 1857, admitted into Nepaul, where he determined the altitudes of the Machipoora and Mount Yassa, which have hitherto been vaguely called the Dhawalagery, which means nothing else but "snowy crests," and is applicable to all snow-capped mountains. M. Robert proceeded to Bombay through Scinde, Kutsch, and Guzerat, where he surveyed the chain called the Salt Range, and determined the changes effected in the course of centuries in the course of several rivers. Before returning to Europe he stayed three months in Ceylon. M. Adolphus visited various parts of the Punjaub and Cabool, previous to returning to the Himalaya, where he still is.

The chief results obtained from this careful exploration of Asia are the following:—The Himalaya mountains everywhere exercise a decided influence over all the elements of the magnetic force; the declination everywhere presents a slight deviation, causing the needle to converge towards the central parts of that enormous mass, and the magnetic intensity is greater than it would be anywhere else under an equal latitude. In the south of India the increase of the magnetic intensity from south to north is extremely rapid. The lines of equal magnetic intensity have a remarkable form, similar and perhaps parallel to those of certain groups of isothermal lines. The three travellers have collected all the materials necessary to ascertain this important fact. Irregular local variations in terrestrial magnetism are rare in those regions. In the Deccan and Behar the rocks are magnetic. On the Himalaya, at altitudes of 17,000, and even 20,000 feet, the daily maximum and minimum variations of the barometer occured nearly about the same hours as in the plains below. Again, at the above altitudes, the inversion of the curves of daily variation, which is met with on the Alps does not take place. At the altitude of 17,000 feet the diminution of transparency produced by a stratum of air of the thickness of 3,000 feet is no longer distinguishable by the eye. During the dust storms which frequently occur in India, the disk of the sun is seen of a blue color; if small bodies are made to project their shadows on a white surface under such circumstances, the shadow is of an orange colour, that is, complementary to blue. The transparency of the waters of the Ganges, the Brahmapootra, and the Indus, was tested by letting down a stone into them, which generally became invisible at a depth of from 12 to 15 centimetres (5 to 6 inches,) showing that they are overcharged with earthy particles, for in the sea near Corfu a stone is visible to the depth of 50 feet, and in the seas under the tropics it remains visible at a depth of 30 feet.—*Upper Canada Journal of Education.*

—At the meeting of the Canadian Institute, on the 12th December, the nominations were taken for office-bearers for the ensuing year. The Chairman, on opening the proceedings, proposed the re-election of the Hon. Chief Justice Draper, as President of the Institute. The Rev. Dr. Ryerson was also re-nominated; but his name, at his own request, has subsequently been withdrawn. Various other nominations to the subordinate offices and Council then took place; after which the Rev. Professor Hincks read a brief paper on the Botany of Western Canada, and Professor Chapman contributed some additional observations. The Chairman then called upon the Rev. Dr. McCaul, President of University College, for his promised paper, entitled "Notices of some ancient inscriptions found in Britain." The learned Doctor, in responding, stated that the paper in question was of a character too purely philological to admit of being read with profit before a general audience, but that he would give an abstract of its contents, and enter into a few explanatory observations on the mode of analysis adopted by him in the interpretation of these inscriptions. The remarks which followed, and which occupied more than half-an-hour, were of a most interesting and instructive character, and Dr. McCaul was warmly applauded at their close. The paper itself will appear in full in the next number of the Journal of the Institute. On the ensuing Saturday, (Dec. 19,) the Report of the Council was read, and the election of the following office-bearers and members of Council for 1858, proceeded with:—President, the Hon. the Chief Justice Draper, C. B.; 1st Vice-President, Colonel Baron de Rottenburg, C. B.; 2nd Vice-President, John Langton, Esq., M. A.; 3rd Vice-President, Hon. W. B. Robinson; Treasurer, D. Crawford, Esq.; Recording Secretary, Thomas Henning, Esq.; Corresponding Secretary, E. A. Meredith, L. L. D.; Librarian, Professor H. Croft, D. C. L.; Curator, Professor H. Y. Hind, M. A Council, Professor E. J. Chapman, Professor J. B Cherriman, M. A., Sanford Fleming, C. E., J. George Hodgins, Esq., M. A., Rev. Professor W. Hincks, F. L. S., Professor D. Wilson, L. L. D. A very cordial vote of thanks was unanimously given to the office-bearers of the last year. The next meeting of the Institute will be on the 9th of January.—*Colonist and Globe Reports.*

AN HOUR WITH AN AMBROTYPIST.—Look a few seconds into the brass tube attached to that square box, on three legs, into which the operator has put a little piece of glass with some chemicals on it. Be still. There, it is over. The operator has closed the tube, taken out the little piece of glass, and gone into his *dark* room. In a few moments he comes out with a fine picture. It looks natural as life. Each feature perfect and distinct, even to the slight pucker of the mouth, occasioned by the effort to keep from smiling. The brow, lips, chin, good-natured smile, are all there. Now, let us see how it was done.

I don't think it necessary for me to describe the little box, called a camera, into which the operator put the little piece of glass, for you have all seen one, and you know just how it looks. But the next time you go into the room where ambrotypes or daguerreotypes are taken, ask the operator to let you look into the box when some one is sitting in the chair, and you will see how the image is formed upon a piece of ground-glass in the camera. As almost any work on philosophy explains all about this, I will not occupy space in describing what you can learn just as well anywhere else. So let us look at some things not explained in the books. I take it for granted, then, that you know all that is necessary about the camera. Let us take a picture also.

Take up this piece of glass, about three inches by four. Put some very finely pulverised rotten stone on it, and wet it with a little alcohol. Then scour with a piece of white Canton flannel, until you get the glass perfectly clean and dry. Upon this you pour a thin film, called *collodion*. Then immerse it in the bath, or silver solution, the collodion side up. Let it remain from one-half to three minutes, until it looks smooth, and of a bluish-white colour. Place it in the *tablet*, and then expose it in the *camera* from five to thirty seconds. The time will depend upon the power of the light and the quality of the silver solution. Then take it into the dark room. Immerse in the developing solution, until faint outlines of the picture are seen. Take it out, and from a faucet let a stream of pure rain water run upon the collodion side, washing the other side with your hand until the oily appearance disappears. Then immerse in the fixing solution, or pour this solution on it, until the bluish appearance is gone. Again wash in pure water from the faucet, and stand it upon its edge to dry. If you wish to colour the lips, use a little rouge on the collodion side. Then pour on the negative varnish in the same manner as you did the collodion, drain well, and dry with a spirit lamp: then put on the black japan, dry it, and put in the case.

Now you have gone through the process, let us see what the bath solution, &c., are composed of.

Collodion.—This is made of gun-cotton, alcohol, and sulphuric ether. To make the gun-cotton, use nitre, sulphuric acid, and cotton. Powder the nitre in a druggist's mortar, pour in the acid and put in the cotton, and stir it with a piece of glass. It must then be washed until it is free from the acid. This is gun-cotton.

Put the ether, ten ounces, and alcohol, eight ounces, into a bottle. Then add the gun-cotton, eighty grains, and shake well, and most of the cotton will be cut or dissolved. Let it stand and settle. Pour off, and then make it ready for use, thus:—

Dissolve iodine of potassium, twenty-four grains, and bromide of potassium, seventeen grains, in as little water as possible, then pour this into collodion, six ounces, and shake well. Then add iodide of cadmium, nine grains, and a few drops of tincture of iodine. This makes the collodion. Most operators buy this collodion already made, and thus escape the trouble and perplexity of making it.

Bath, or Silver Solution.—Make a solution of nitrate of silver, in the proportion of forty grains of the silver to one ounce of water.

Dissolve five grains each of iodide of potassium and nitrate of silver in an ounce of water. This will form a yellow precipitate or settling. Put this precipitate into the silver solution, shake well, let it stand over night, and then filter it. This has a tendency to keep the bath good for a long time. A few drops of nitric acid should be added to the solution.

The *tablet* is a little frame-work into which the glass is placed before it is placed in the *camera*. It has a slide to it to keep the light from it until you are ready to let the image of the one whose picture you want, fall upon it.

The *dark room* is a place in which silver solution and developing solution are kept—from which all natural light should be excluded. The light here used is that of a spirit lamp. Natural light destroys the chemicals, or changes them, so as to make them unfit for taking pictures. It is the action of the light upon the chemicals that makes the image.

Developing Solution.—Dissolve proto-sulphate of iron, one and a half ounces, in water, one quart, and add acetic acid, four ounces; or take five ounces of this solution, and to that add six drachms of acetic acid.

Fixing Solution.—With one quart of water put cyanide of potassium, one ounce; nitrate of silver, ten grains; chloride of gold, five grains.

Transparent negative varnish is gum-demar, thinned with spirits of turpentine.

These preparations are varied by different artists; but the ones I have showed you here will work like a charm.

The *japan*, which is gum asphaltum cut or dissolved in turpentine, is used on the glass plate to secure the picture, and at the same time make it visible—as it is very difficult to see the picture unless it has a dark substance behind it. Sometimes two glasses are used. On one is the image; the other is simply a piece of glass with the japan on it. They are held together by a strip of paper with gum-arabic on it.—*North-Western Christian Advocate.*