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The young man's book of amusement

Halifax, 1848

Solar Microscope

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ments of opaque glass, and dark colours that do not transmit much light, and all pieces of spun glass or coloured plates should be as thin as possible.

Solar Microscope.

Make a round hole in the window-shutter, about three inches in diameter, and place it in a glass lens of about twelve inches focal distance. To the inside of the hole adapt a tube, having at a small distance from the lens, a slit, capable of receiving one or two very thin plates of glass, to which the object to be viewed must be affixed by means of a little gum water, exceedingly transparent. Into this tube fit another, furnished at its anterior extremity with a lens half an inch focal distance. Place a mirror before the hole of the window shutter on the outside, in such a manner as to throw the light of the sun into the tube, and you will have a solar magic lantern. The method of employing it is as follows: having darkened the room, and by means of the mirror reflected the sun's rays on the glasses in a direction parallel to the axis, place some small object between the two moveable plates of glass, or affix it to one of them with very transparent gum water, and bring it exactly into the axis of the tube; if the moveable tube be then pushed in or drawn out till the object be a little beyond the focus, it will be seen painted very distinctly on a card or piece of white paper, held at a proper distance; and will appear to be greatly magnified. A small

insect will appear a large animal, or a hair as big as a walking-stick ; the eels in vinegar, or flour paste will look like small serpents.

The Portable Diorama,

Is a most instructive and delightful production of art, capable of affording endless and refined amusement to all ranks and ages. A neat box contains a series of transparent views, abbey ruins, sea-pieces, various landscapes, &c., which fit into a slight wooden frame. There is also a number of atmospheric, and other effects produced by having similar transparencies painted in clouds, with a rainbow, with a moon, or merely plain pieces of silk, of crimson, yellow, &c. ; any of which being placed behind the first-mentioned views, (and occasionally combined with a moveable gauze curtain,) impart to them all the changes of morning, evening, dawn, sunset, moonlight, &c., &c., and gratify the spectator with the most charming and picturesque changes. Objects seem to take novel positions, and the entire scenes, have all their relations varied from tempest to profound repose. It is really difficult to imagine seeing them, how materials so unimposing in their forms should be made to convey such gratification to the mind.

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