

of those figures that the lowest possible numbers will include all.

CASTING PATTERNS.

Patterns are made of pasteboard or mapping-paper, by overlaying it with the colored sheet already described, and then carefully spreading the figured copy over both, tracing with a bodkin all the outlines of articles distinguished by figure 1; thus impressing the pattern-sheet with detached outlines of every section falling into that pattern. These figures must then be cut out with a penknife, and the pattern varnished, with copal varnish, to prevent its becoming saturated with water colours and wearing by attrition from the paintbrush. Patterns from all the numbers must be cast and prepared in the same manner. These patterns may be proven by laying them over each other, accurately, so that the lines may bear the same relation which they did in the original; and if the whole is correct, the figures or articles cut out of one pattern are supplied by the same being left in another pattern. Although all of the picture is cut out of the different patterns, yet when they are placed in the manner described, and held before a light, no loopholes will appear, and the whole piece will be distinguishable and any imperfection detected.

COLORING.

Taste and judgment are as necessary in coloring through patterns as upon a coarse print. The only mechanical assistance practicable, is to lay each of the patterns upon the original painting, accurately, so that the colors will appear through those figures through which they are to be painted on another surface; and then the edge of each article may be stained with its respective color. The surface to be painted is then spread over a plain wooden form not unlike a trestleboard, and overlaid with the first pattern, and both made as fast as possible. The colors must be put on through the pattern, by the eye, with constant reference to the original, going over some parts several times according to the shade required. Each pattern must be laid down in turn, and much care must be taken in adjusting them to parts already painted. Stems and other very small articles, being inconvenient in patterns, must be finished by measurement and the eye. Velvet is painted with a small, stiff brush, made of bristles, to raise the pile or nap; fresco is laid on with a common paintbrush, the colors being mixed in milk.

SOPHIA.

ESSAYS.

"The soft amusement of the vacant mind."

FOR THE CASSET.

THE PRINCIPLE OF LIFE—

WHAT IS IT ?

This Profound question has puzzled the greatest and wisest philosophers that ever lived; and in giving my humble opinion upon it, it may be thought the highest degree of presumption in me. I trust, however, it will not, since the opinion of every one is worth hearing. Of all questions, this involves the most difficulty, and needs

the most extensive research. It is only to the attentive and intelligent observer of nature and her mysteries, we need look for its plausible and practicable demonstration in any degree. I have always been inclined to think with Professor Hunter, that this invisible and long sought for Principle is in the Blood of animal; and, in the vegetable Creation, in the sap or juice of the tree or shrub. There is no other theory that has ever been offered to the world in which so many convincing arguments may be adduced for its demonstration and plausibility. The first signs of vitality, in the egg, consist in fibrous integuments, red and resembling blood veins; and the first indication of motion in the heart, which is caused by the imperceptible action of the blood upon that organ. Here is almost a convincing Proof at once. We all find that our health, vigour, and looks depend upon this one thing, blood. If we are too full of blood, the consequence will be sickness, unless we are timely discharged of it; and a lack of the same material necessarily causes depression and dejection of the animal spirits. How similar this action is to that of the sap in vegetables, which supplies the place of blood in animals; an overflow of sap finds vent in oozing from the bark of the tree, as an overflow of blood in animals by ejecting itself in the shape of humors. Stop the circulation of the sap in the tree and its extinction will ensue immediately, at certain times in the year. There are times when the circulation of the sap in trees is discontinued—for instance, in the winter season; but have we not a similar action of the blood in animals, at the same season of the year? There are several animals that lie in a torpid state four or five months of our year, without the least nourishment—as instances I can quote the whole reptile tribes, frogs and snakes, and our common bat, with a certain species of swallows, the latter of which have been found in hundreds buried in the banks of rivers and lakes in this Province. In this case the action of the blood must cease, or, at least, be invisible; as in trees and vegetables the flow of the sap retires to the roots of the tree or plant, and ceases to circulate. In the course of time, the tree becomes superannuated, and, of course, (from a lack of its primary and essential support, the sap or juice,) dwindles to a mere half-and-alive thing, until its total extinction. In the same manner animals, in the course of the several ages allotted to them, become feeble and sickly from an invigorous blood, or rather invigorous frame incapable of working that blood as it ought and formerly did. If you have a large quantity of blood taken from you, the consequence is, your constitution fails and you become wholly exhausted—proceed a little farther, and, the heart having nothing to act upon, immediate death ensues. The action of breathing depends upon the blood; for, as the blood passes through the lungs, it throws off a certain degree of its impurity and receives a corresponding quantity from respiration. In fact, when we consider that the whole

substance of our food goes towards increasing and invigorating our blood, we will feel inclined to give a great deal of credence to this theory. There are certain insects which apparently have no blood; but still these mites and animalcules have in their frames and bodies a substance answering the same purpose and probably making it an intermediate substance between blood & vegetable juice—thus demonstrating that wonderful & invisible concatenation and connexion of Creation and created things, so admirably evinced in all the works of the Creator of the Universe. Bow down, then, O humble Man, to his secret majesty and incomprehensible greatness! I am aware of the existence of many other plausible theories advanced upon this subject, and that arguments can be adduced against my reasoning, which, lest I should make this article too long, I will not touch upon at present.

BRITON.

POETRY.

WRITTEN FOR THE CASSET.

ON MAN.

Eternal Fountain of creative power,
Primeval Cause of all this wondrous scene
Our eyes behold, of all our fancy views.
Through Universal Nature's vast extent;
Supremely great Incomprehensible,
Thou universal Parent, Lord of all—
Teach me to know why this stupendous frame,
This mighty fabric of machinery, [bro't
This complicated mass of things were
Into existence; for what purpose man—
With all his knowledge, yet still ignorant
Of what himself is, or of what thou art—
Was first created. Was it but to live
A few short moments, to admire those scenes
Which ever-varying nature to his soul
Portrays? Or for some nobler end design'd?
Stupendous thought! on which hangs all the care,
[ing man
That deep suspense which weak unknown—
Is doom'd to suffer, till reveal'd from thee.
Creation's Fountain, with thy image stamp
The seal of truth on each responding heart,
In pity to the poor degenerate race
Of that ambitious restless creature, Man.
G. H.

Hamilton, Feb. 27, 1832.

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A. CROSMAN