



X. Method to destroy or drive away earth-worms and various other insects hurtful to fields and gardens

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other function, in regard to one species of mineral, it continued that function in all the varieties of that species.

The crystals of rhomboidal iron are found among those of the iron ore of the island of Elba. But it is very uncommon for the law of decrement to attain to its boundary, and for the rhomboid not to be modified by facets parallel to the faces of the nucleus.

If the decrement which produces the rhomboid took place at the same time on the eight solid angles of the cube, there would result from it a polyedron of 24 facets, all like the trapezoidal granite, of which I shall speak hereafter, but with a very different structure. This result is realized by nature in the crystals found at the Calton-hill near Edinburgh, which are considered as zeolites.

[*To be continued.*]

X. *Method to destroy or drive away Earth-worms and various other Insects hurtful to Fields and Gardens, by M. SOCOLOFF. From the New Transactions of the Imperial Academy of Sciences at Petersburg, Vol. V.*

THOUGH it is certain that earth-worms occasion great destruction by gnawing the tender roots of shrubs and plants, and that other insects, such as caterpillars and locusts, are exceedingly hurtful both to fields and gardens, few have given themselves the trouble to devise any remedy for this evil. I flatter myself, therefore, that I shall do a service to the public if I point out an easy and sure method, certified by experience, of either killing or driving away from fields and gardens all noxious vermin.

As the destructive power of quick-lime, heightened by a fixed alkali, which corrodes, dissolves and destroys all the tender parts of animals, has been long known, I thought this mixture would be the best means for accomplishing the object I had in view. I took three parts, therefore, of quick-lime

lime, newly made, and two parts of a saturated solution of fixed alkali in water, and thence obtained a somewhat milky liquor sufficiently caustic, highly hostile and poisonous to earth-worms and other small animals; for, as soon as it touched any part of their bodies, it occasioned in them violent symptoms of great uneasiness. If this liquor be poured into those holes in which the earth-worms reside under ground, they immediately throw themselves out as if driven by some force; and, after various contortions, either languish or die. If the leaves of plants or fruit-trees, frequented by the voracious caterpillars, which are so destructive to them, be sprinkled over with this liquor, these insects suddenly contract their bodies and drop to the ground. For though nature has defended them tolerably well by their hairy skins from any thing that might injure their delicate bodies, yet, as soon as they touch with their feet or mouths leaves which have been moistened by this liquor, they become as it were stupefied, instantly contract themselves, and fall down.

I had not an opportunity of trying a like experiment on locusts: yet we may conclude, and not without probability, from their nature, and the general destructive qualities of the above liquor, that they, in the like manner, may be driven from corn-fields, if it be possible to sprinkle the corn with the liquor by means of a machine.

With regard to plants or corn, these sustain no injury from the liquor; because it has no power over the productions of the vegetable kingdom, as I have fully learned from experience; or, if any hurt is to be suspected, all the danger will be removed by the first shower that falls. This liquor may be procured in abundance in every place where lime is burnt. If the lime be fresh, one part of it infused in about seventy parts of common water will produce real lime-water. The want of the fixed alkali may be supplied by boiling wood-ashes in water, and thickening the lye by evaporation.

This liquor might be employed also to kill bugs and other domestic

domestic insects which are noxious and troublesome ; but, on account of its strong lixivious smell, which disposes the human body to putridity, I dare not recommend the use of it in houses that are inhabited. Besides, bugs may be easily got rid of, as I have repeatedly found from experience, by the oily pickle that remains in casks in which salted herrings have been packed. To this liquor they have a strong aversion ; and, if they are moistened with it, they die in a very short time.

XI. *On the Revivification of some Kinds of Insects killed in Spirit of Wine.* By M. SOCOLOFF. *From the New Transactions of the Imperial Academy of Sciences at Peterburgh, Vol. V.*

IT is very singular, and worthy of great attention, that a small insect intoxicated with spirit of wine and then immersed in it, or killed on purpose in that manner, may, by certain means, be revivified, after having been deprived of all signs of life for about a quarter of an hour. I had occasion to observe this circumstance, for the first time, in common flies ; for it is well known that these insects are strongly attracted by the smell of spirit of wine ; and that, becoming intoxicated by it, they fall into the liquor, and are drowned. Having thrown a great number of flies which had perished in this manner in a glass, into a stove among wood ashes scarcely warm, and looking into the stove a little while after, on account of some experiments I was making, I observed, not without astonishment, the flies start up from the ashes, and, after wiping themselves clean from the dust adhering to their wings, fly away as if nothing had happened to them*.

My

* A circumstance of a similar kind occurred to the late Dr. Franklin. While he resided in France he received from America a quantity of Madeira