ducing only a transient effect. 4. Probably the chief cause of a comparative greater destruction can be found in the difference in soil, and more especially in the climate; that is, when European countries are compared with districts, like California, cultivating a similar variety of vine. It has been a notable feature in California experience that the spread is usually very slow, and only showing noticeable rapidity in exceptional cases. In our observations (see 'Report of college of agriculture, 1886') we have shown that a peculiar growth of roots, induced by late rains, or again by surface manuring, will produce the winged form in great abundance. But the general climate of California is extremely dry during this growing period, and therefore no such roots are apt to be formed; while in the portions of Europe where the spread has been most rapid, their type of vine being similar to that of our own, a growth of fine surface rootlets is undoubtedly induced by the summer rains, and myriads of the winged-form insects developed and spread to adjoining vineyards. The effect of fertilizing on the production of similar rootlets is doubtless greater than is usually supposed.

4. Is there any reason to suppose that the pest will be mitigated by natural causes as time goes on? As yet there seems to be no evidence in favor of such a supposition. This case should be analogous to that of other insect pests, which have been overcome only by insect enemies. This insect has been with us many years; and yet no enemy which can destroy all the forms has appeared, although the gall-type, accessible above ground, has undoubtedly been decreased in numbers by such enemies as the thrips, tyroglyphus, and others. No enemy with the needed multiplicity of forms, enabling it to traverse the vine and at the same time all parts of the roots, is known. Until such does appear, there is little doubt that the loss caused by any local disturbance will soon be replaced by the other types, and thus the species will be continued. F. W. MORSE.

Berkeley, Cal., April 22.

Topographical models or relief-maps.

I hope you will find space in your paper for the following description of a new method of making topographical models from contour maps. I completed it a few weeks ago, and have made several models of complicated surfaces.

Make a careful tracing of the contour lines on waxed or oiled tracing-paper. Linen must not be used, as it will distort the lines when wetted. Paste the tracing on a clear piece of white holly veneer an eighth of an inch in thickness, and cut or have cut, with a fine fret-saw, the lines of contour, leaving spaces now and then, should the lines so run that the intervening wood would drop out. Fasten the veneer to a board, being sure that the surface is flat. Fasten veneer by the edges, and not through the spaces between contour lines. Cut or have cut strips of thin brass, each strip being as wide as the height of each contour line, and insert the strip into the corresponding saw-cut in the veneer. They must be pressed down until they touch the board below the veneer. When all the contours are in place, paint the whole surface over with heated wax, which will prevent the moisture of the clay from distorting the wood. When all is coated, fill in the spaces between the strips with clay until only the edges of the brass show. Where spaces are left, the strips are cut with a slanting end long enough to span the space uncut, and the line of contour is thus unbroken.

By this method nothing is left to the eye, and perfect accuracy is gained. I have made some models for Prof. N. S. Shaler, and it was at his request that I send this description to your paper.

HENRY BROOKS.

Boston, April 26.

Poison rings.

Appreciating your kindness in inserting my previous letter, containing a number of questions as to what we know of the past of the pest phylloxera, and what we may expect for its future, answers to which would certainly interest many laymen like myself, and not discouraged by the lack of response from your readers, I venture to send you this.

In the recently published volume (xx.) of the 'Encyclopaedia Britannica,' under the head of 'Ring,' it is stated that "Pliny records, that, after Crassus had stolen the gold treasure from under the throne of Capitoline Jupiter, the guardian of the shrine, to escape torture, broke the gem of his ring in his mouth, and died immediately." Hannibal is also recorded as having killed himself with his ring; and the writer further says, the "*anello della morte*, supposed to be a Venetian invention, was actually used as an easy method of murder."

Can any of your readers inform me whether any of these ancient rings are still in existence, and, if they are, how they are made, and with what poison they were filled? A. M. D.

New York, May 3.

[We publish this week a reply to 'A. M. D.'s' queries about phylloxera; and, doubtless, information as to 'poison rings' will be forthcoming. — ED.]

A swindler abroad again.

It has just come to my knowledge that the 'tramp' geologist who has been 'wandering up and down the earth' for the last three years, the man of many accomplishments and aliases, is now in the vicinity of St. Cloud, Minn., posing as 'Capt.' I. C. White of the West Virginia university.

I would say, in my own defence, that the title of 'captain' is not worn by me, and that in this case I can establish an *alibi*, with the help of my friends.

Cannot something be done to throttle this nuisance before he scandalizes every geologist in the country? Probably a committee from those whom he has swindled and misrepresented would hunt him down most successfully, and I am sure such a committee could be trusted to squelch him effectually.

I. C. WHITE.

West Virginia university, April 29.

Pompous prolixity of the French.

One reads with amused surprise, on p. 403 of the last issue of *Science*, that the literary style of French scientific writers is characterized by 'pompous prolixity.' We all understand that "that which is not clear is not good French." We had supposed that the genius of that sententious language was as much opposed to pomposity and prolixity as to obscurity.

A. G.