

flies to believe that temperature exerts the greatest influence during the turning into chrysalis, but nearly as much shortly after that time; and he considers it very possible that a period may be fixed at which the original tendency might be diverted more strongly. As related above, the chrysalids of *tharos* which were subjected to cold three hours after forming reached the same result as those which were exposed six and nine hours after forming. The period of exposure, 7 days, did not seem to me at the time very long for the purpose in view, especially as in Dr. Weismann's experiments the exposure had been from 34 days to three months. This too at a temperature of 33° Far., while in case of *tharos* it was but 40°. It is true, the greater part of the chrysalids of *tharos* which did not have an exposure to this artificial temperature also produced the winter form of the butterfly, but on the other hand some were not changed at all, whereas in all the chrysalids subjected to ice the change was complete and extreme. Nevertheless, it would have been more satisfactory had chrysalids of the summer brood been experimented with, and if I live to another summer, I will test the matter. It seems to me very probable that a much shorter exposure to cold immediately after the forming of the chrysalis—a day or two, or even a few hours—may be found to divert the direction of the form, in this species.

There is a very great range of variation in the winter form. It exhibits at least four well marked types, and there are sub-varieties about each of, and connecting, these. The first, A, has the basal area of under side of hind wings (which area comprises half the wings, and is occupied by the reticulated lines, while beyond is a clear field for a certain space) whitened or silvered, as is also the whole series of sub-marginal crescents, and there is either no marginal cloud, or but the slightest; the extra basal space buff. A sub-var. of this has the basal area whitened, but the rest of the wing clouded, and is between A and B. The second, B, has the whole surface, except a narrow border along costal margin, dark brown, running into blackish, but with a clear white or yellow belt formed of the outer reticulated lines, across the disk. Its principal sub-variety has the brown area broken, discovering a yellow ground, the belt remaining white, and is between B and C. The third, C, is variegated and gay, the ground being of a deep rich yellow, the marginal cloud extended quite to the belt, and ferruginous in color; a large patch on the disk and another on costal margin, both ferruginous; the reticulated lines of same color and distance, and a lilac flush over the whole hind margin. Sub-varieties of this have the