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shows a British Golden drone. The drone has seven dorsal segments—one more than the worker or queen, but only five of these are seen from above, for the first segment occupies the basal end of the abdomen, and the last one is underneath. I should state that British Golden drones vary a little in the extent of the black on the fourth segment. We all know that the drone is always produced parthenogenetically, i.e., without sexual union. The production of a male by parthenogenesis is rather unusual in Nature. More often, as in Aphids, it is the female that is produced parthenogenetically, and then the species can reproduce itself through several successive generations without fertilization, and while this kind of reproduction is going on the male disappears completely, but with the bee this is not so. Fertilization by the drone is needed for each fresh generation of workers and queens. Most of us have proved to our own satisfaction that the drone can be produced parthenogenetically. A colony loses its queen in winter, and a new queen is reared, which fails to get fertilized, with the result that she produces drones only. But are all the drones produced by a fertilized queen the result of parthenogenesis? Perez, in 1878, thought not, for on examining 300 drones produced by an Italian queen, fertilized by a French black drone, he found 149 which he thought indicated hybridism. It is clear that if it is true that the drone is always produced parthenogenetically, the queen, provided her gametes are pure, must produce pure drones, no matter what kind of a drone has fertilized her. I have bred drones from about half-a-dozen of my golden queens every season for some years. Some of these golden queens were producing all golden workers, others certain proportions of intermediates, others all intermediates. Now the drones from the queens producing all golden workers were all

golden, as shown in Fig. 6, though they varied a little, as were also the drones from most of the queens producing some or all intermediate workers, but two of these queens produced certain proportions of darker drones. One of these was a queen raised last year. The workers she produced were all intermediates. On May 29 of this year I examined seventy-seven of her drones; twenty-six had the first four segments largely yellow, ten the fourth segment smudged with black, twenty-seven had only three segments yellow, the fourth segment being black, twelve had only two segments yellow, and two had the abdomen entirely black, with only the edges of the first and second segments yellow. One's first thought in trying to explain this remarkable result is to suspect that the queen was not producing pure golden gametes, but the facts that the queen had the scutellum, and the abdomen almost to the tip yellow, and that a queen thus colored had never been known to produce a black worker, oppose this view. On the other hand, up to 1908, golden queens, with the scutellum darkened, were occasionally produced, and black workers were often bred from these, indicating they were heterozygous. But latterly the separation between golden and intermediate has been more complete, and such queens have not been produced.

This incomplete separation is additional evidence of the presence of more than one factor for color. In review of the situation, the production by a golden queen of dark drones cannot be said, in the light of our present knowledge of the inheritance of color, to upset the universally accepted and apparently well-founded theory that the drone is always produced parthenogenetically, but, in view of the fact that in all our efforts to breed bees this theory plays a leading part in guiding the operations, such cases as this that seem to shake it should re-