culture, and has behaved in every way like typical white. It is, characteristically, completely recessive.

In the course of an investigation of morphological effects arising under X-irradiation, eggs and young larvæ from this white stock were exposed in considerable numbers to the unfiltered radiation of a Coolidge X-ray tube operated at 85 kvp. and 10 ma., the focal distance being five inches, with a wood backing. The tube was of lead glass with a thin sodium-glass window. The output of the tube was determined as 79·0 r./min. at the point of exposure of the material, a Victoreen dosimeter being employed. We are indebted to Dr. J. C. Hudson, of Cruft Laboratory, for this dosage measurement.

A total of 786 flies was examined from irradiated eggs and young larvæ. Among these were found two full reversions to Florida wild-type. It is believed that sufficiently elaborate precautions were observed in the technique adopted for irradiating and culturing the flies, so that the possibility of contamination from wild-type individuals was eliminated with reasonable certainty. No such reversions were observed in more than five thousand control individuals.

The second modification of interest arose in the stock of a culture of eosin *Drosophila* obtained from Turtox Service. Among more than 30,000 individuals examined, four were found in which a mutation to a colour considerably darker than eosin, but lighter than wild-type, was observed. We do not feel competent to name the colour modification. A single individual of the four constituted a mosaic representing a change which must have occurred very early in the development of the optic *anlage*, one eye of the fly being completely modified to the darker colour, the other typically eosin. Three of these individuals occurred in stock which had been irradiated under the same conditions as those stated above, but one was obtained from control populations grown on very old and highly infected molasses – corn meal agar medium. A very similar modification was independently observed by Dr. A. G. Richards, of the University of Rochester, and one of us, in control stock of a pure culture of eosin, obtained through the courtesy of Dr. Pincus, of Harvard University, and similarly held over old, depleted and infected banana – agar medium.

The modification seems of considerable interest in its further confirmation, not only that changes of whole eye colour may proceed from lighter to darker shades, but also that the wild-type condition is not necessarily the end-point of such a change. Again, sufficient care was used in handling the cultures, it is believed, to have eliminated the possibility of any contamination from an outside source with reasonable certainty. The change, indeed, was detected independently in three laboratories, at Rochester, Cambridge and Schenectady, and in none of these were stocks of similar eye colour present.

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[1] Timofeef-Ressovsky, N.W., *Nachrichten von Ges. d. Wiss. Göttingen*, N.F., **1**, 190.

The 'Road Runner' of North America

ONE of the most remarkable and interesting birds of the arid portions of North America is the road runner (*Geococcyx californianus*), a ground cuckoo, which is often seen running in the road, sharing this habit with the killdeer plover (*Oxyechus vociferus*). The genus extends southward to Nicaragua, being represented in that region by another species (*Geococcyx affinis*). The accompanying illustration

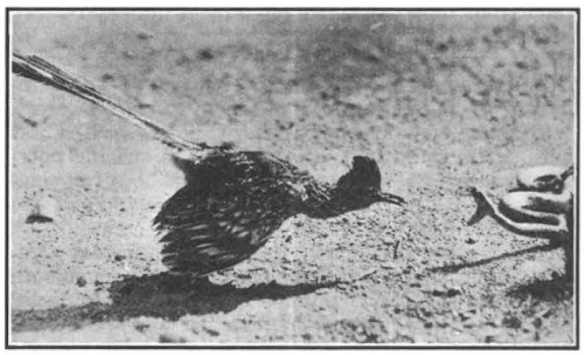

FIG. 1.

(Fig. 1) of a road runner attacking a rattlesnake, was furnished by Mr. G. A. Pearl of Garden City, Kansas. He got it from a travelling photographer whose name he does not know. Mrs. Merriam Bailey states that in the stomach of a single road runner, taken in New Mexico, were a large black cricket, a number of big grasshoppers, remains of a caterpillar and some beetles, a centipede six inches long and a garter snake a foot long.

The road runner was described by Lesson in 1829, but Pike in 1810 refers to a strange new bird, which from his vague account must apparently have been the road runner.

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Ascent of Air in Cyclones

A RECENTLY completed investigation on cyclones has led, amongst other results, to one which throws an interesting light on a long-standing problem. One of the deductions of W. H. Dines from soundings of the upper air was that the air in the troposphere in depressions, particularly between 4 km. and 9 km., is on the average cold for its level, though this air is, on the whole, ascending. The paradox is to explain by what agency the ascent of relatively cold air is maintained. Dines's results related to depressions crossing the British Isles or Western Europe, that is, to depressions which as a rule were in the later stages of their existence.

The present investigation shows that in a number of such depressions the structure comprises an outer region in which the average air speed varies inversely as r (r being distance from isobaric centre), and an inner region (at least in the polar air part) in which air speed varies directly as r. The existence of the outer simple vortex region is consistent with motion developed by convergence towards a central area: