

to London and Berlin, the population of London within the municipal area was 4,200,000, and there were 25,724 instruments, while in Berlin, with a population of 1,578,794, there were 36,620 instruments.

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#### UNIVERSITY AND EDUCATIONAL NEWS.

THE University of Chicago has established a College for Teachers, which has been endowed by Mrs. Emmons Blaine with \$250,000.

PROFESSOR W. LE CONTE STEVENS, of the Rensselaer Polytechnic Institute, has accepted the chair of physics in Washington and Lee University.

DR. CLEVELAND ABBE, JR., has resigned a fellowship in the Teachers College, Columbia University, to accept a chair in Western Maryland College, Westminster, Maryland. Dr. C. C. O'Hara has been elected professor of geology and mineralogy in the South Dakota School of Mines. Mr. Wm. H. Butts and Mr. A. W. Whitney have been appointed instructors in mathematics in the University of Michigan.

DR. ZOGRAF has been elected extraordinary professor of zoology, and Dr. Mrensier, extraordinary professor of comparative anatomy in the University of Moscow.

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#### DISCUSSION AND CORRESPONDENCE.

##### OBSERVATIONS ON BLUE JAYS.

TO THE EDITOR OF SCIENCE: The nest of an English sparrow was broken up, and four fledglings, nearly ready to fly, were thrown to the ground. A blue jay seized on one and devoured it. One young sparrow was then placed in the nest of the blue jay—presumably the same—along with its own young, and was tolerated, but not fed, by the parent jays. On the second day, however, I observed the jay once feed, perhaps by mistake, the sparrow. For two days the parent sparrows watched their chance when the old jays were away from the nest and came hastily and fed their sparrow, but not the young jays. On the third day the young sparrow flew away from the jay's nest.

While a single incident can hardly form the basis for generalization, yet, as has been sug-

gested to me, the origin of rites of hospitality may be hinted at here. A blue jay devours a young sparrow outside its nest, but tolerates and may even adopt the sparrow placed in its nest. Once within the home nest there is a certain hospitality, which biologically means protection to its own young, for the jay might readily acquire a habit of devouring its own young, if the nest-life did not mean protection. We may surmise that the right of hospitality has its biological significance as a home protection act of the greatest service to the species.

The nest was studied through a telescope placed in a window, and as the eye was brought within a few inches of the nest without disturbing the birds, a little foliage having been removed, a very close study was possible. The male often turned food over to the female to be given to the young. With one beakful several young were fed, the beak being thrust far down the throat and a portion of the food pinched off, and then another portion pinched off in another's throat. The *excreta* were constantly removed, in one case the parent taking *excreta* directly issuing from the young. The parent sometimes took *excreta* far into the mouth and held it for some minutes. The jay often stands on the nest half brooding, and in full brooding it slips its feet to the bottom of the nest with exceeding deftness. A common warning cry is sharp metallic mouí, mouí, in energetically producing which the jay sways his body up and down, vibrating its perch. In excitement it pecks aimlessly at its perch.

The telescopic method might well be used in getting complete studies of nest life. From a house window, or from a platform in a tree, a continuous study of nesting could be made and experiments tried for instinct and intelligence. Certainly for psychological study the method is invaluable, since it gives the close unhampered observation of expression which is the only key to the mind of the bird. A binocular magnifying about fifty times would be generally convenient, though higher and lower powers would often be useful. Leaves, etc., which screen the nest at the point desired, should be removed at night. A powerful glass might reveal the home life of eagles, vultures and beasts of prey. As