MAKING BIRDS AT HOME IN A MUSEUM: BY ROBERT H. MOULTON

A FEW months ago there was put on exhibition at the Chicago Academy of Sciences what is undoubtedly the most unique natural history display possessed by any museum in the world. It consists of twenty habitat groups showing the birds in their homes and in feeding.

Perhaps the most remarkable thing about these groups is the fact that the background is in each instance a photograph of some scene in the vicinity of Chicago, taken where the material was collected, enlarged and colored. These backgrounds are so cleverly executed and placed with regard to perspective that, in conjunction with the natural material used in the foreground, such as the branches of trees, shrubbery, grass, fences, stones, etc., they completely deceive the eye and make one believe that he is really viewing an out-of-doors scene.

The photographs used for the backgrounds were taken with cameras ranging in size from 4 by 5 to 8 by 10 inches, then enlarged to 5 by 15 feet, and tinted in transparent oil colors. The making of such huge enlargements was an achievement in itself. First it was necessary to build enormous trays in which to develop and fix the specially manufactured sensitized paper, it being impossible to find any single sheets of the required width and length in stock. In making the enlargements six men were required to run the paper through the developer, two at each end and two in the middle. After developing the print the developer was drawn off, fresh water run over the picture and then the hypo, to fix it, turned in, in the same tray.

All of the work of making the enlargements was superintended by Mr. Frank M. Woodruff, assistant curator of the Museum. Mr. Woodruff also conceived the plan by which photographs of the completed groups for illustrative purposes were obtained.

In order to secure the proper effect, it was found necessary to photograph the groups by the indirect light in which they are exhibited, an exposure of about two hours being required in the majority of cases. For the same reason the tinting of the enlargements was also done by artificial light. From ten days to two weeks was required to color each picture.

The mounted birds in each group are quite as remarkable in their way as their surroundings. In assembling the groups,
the Academy sought for the “news interest,” to make them interesting for the man who has no scientific knowledge and whose attention must be caught. One group, for instance, shows a couple of fine mallard ducks at sunrise. A while back and the ducks would have been as stiff as bric-à-brac; now they are poised in flight, as lightly and almost as vitally as though they were actually rising from some one of the neighboring waters. Another group shows a family of king-fishers in and about their nest in a cliff. The background for this group, which shows a stream in which a number of cows are wading, was photographed at a point where an exactly similar cliff, housing a family of king-fishers, existed.

The twenty groups cost $25,000, and required a year and a half to complete.

Anyone who has taken the trouble to watch the interest with which visitors
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**Pine woodwork given weathered oak finish**

It's quite the vogue now-a-days to finish pine, fir, cypress and other soft woods to present the same attractive effects which hitherto have been attainable only with hard woods.

In the room pictured, the pine woodwork is finished with a Weathered Oak Non-Fading Oil Stain, with a soft, greenish cast that is very pleasant and restful. A mission finish is secured with Lowe Brothers Mission-Finishing. The walls are Olive Green Mellotone, ceilings Ivory Mellotone. This gives an effect in delightful harmony with the soft brown of the Wilton rug, the brown, red and black of the fireplace, and the Spanish leather chair seats.

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The Bedroom Set as shown is in blue with the antique finish. It is displayed in one of the furnished rooms in The Craftsman Shops, with hand woven rugs and French Block linen hangings. May also be supplied in gray or brown. There are no limits to the possibilities of color schemes when hangings and furniture can be made to harmonize.

Chromewald Chiffonier, 45 inches high from floor to base of mirror, 34 inches wide, 21 inches deep. $42.00 without mirror; $55.00 with mirror.

Chromewald Bench, 40 by 14 inches, $18.00; 32 by 14 inches, $14.00. Suitable for hall, living room or bedroom use.

Chromewald Bed, 50 inches wide, $32.00; 54 inches wide, $36.00, both 75 inches long.

A bedroom furnished with Chromewald furniture in shades of blue would be strikingly beautiful and most unusual.

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observe and study these and other bird groups in other museums mounted within their natural surroundings will realize how great an educational factor they are. Children feel greater love for the birds when they see them patiently brooding upon a nest hidden among the grasses and flowers, when they see the mother quail teaching her little ones to “freeze” beneath an oak leaf, when they see how cleverly they weave their nests, binding them tightly to the tree branches.

How much wiser and more sympathetic a way to teach bird life than the
olden way of dissecting them or of committing their names mechanically to memory without learning much about their pretty human ways. City children who have not the privilege of getting out into the country to see the birds in their native haunts will find such groups as these a wonderful help to their imagination. They will never forget these groups any more than they would a trip to the country where real birds live.

Few children, city or country, have seen an American eagle upon its nest, few are able to see a snowy owl. These groups are almost as good as a real trip to the woods. The noticeable difference between the stiff unnaturalness of the old methods of mounting and the life-like naturalness of these is typical of the increased interest in bird study and knowl-
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ON THE SMALL TABOURETTES, useful for flowers, smoker's table or tea stand, attractive pieces of creme may be placed under the glass, giving a bright touch of color in harmony with the color scheme of the room.

SMOKER'S STAND—square, 24 inches high, 12 by 12 inch top, turned legs, $6.50. Glass top, $1.50 extra.

SMOKER'S STAND—square, 24 inches high, 12 by 12 inch top, straight legs, $4.00. Glass top, $1.50 extra.

TABOURETTE, round top, 24 inches high, 12 inches diameter, $5.50. Glass top, $1.50 extra.

THE CLOVER LEAF TABLE shown above may be had in a rich shade of blue with the antique brown finish showing through or in any of the other Chromewald shades; it is just the thing for a living room. 26 inches high, 26 inches wide, $14.00.

WINDSOR CHAIRS adapt themselves with unusual grace to color; Through historic associations and their own inherent beauty they are admirably fitted for summer cottage use. Price $12.00.

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12 a
edge of their habits. This increase of interest in our little feathered friends is the result, in part, of the widespread information sent out by our Government, of the great value these pretty songsters are to our country. Heretofore we have felt them to be beautiful like the flowers, now we know them as of incalculable value. The more we learn about our bird friends the better for us all.

THE TWELVE SECRETS OF THE WOODS

(Continued from page 239.)

school education who could pass these tests, and I do not believe that one out of the thirty-eight is without its actual value for the development and usefulness of woman-kind.

And when you have become a needlewoman of fame, you may also take the degree of the canner and jelly maker. This is a delightful department. It reminds one of the education the pioneer women of America must have had and must have given their daughters, and it certainly would add to the popularity of any young woman to be able to do all that is demanded of her as a real jelly maker. But it is not enough to be a needlewoman and a jelly maker; you may, if you wish, become a housekeeper in the highest sense of the word, that is, one possessing all the knowledge for the comfort of real home making, by entering the lists of the Colonial Housekeeper. The tests here are twenty-nine and they involve the learning of many of the most delightful occupations, it seems to me that youth could turn to. Fancy gathering bayberries and making a half dozen candles; gathering the sap and making a pound of maple sugar; dyeing pieces of dress goods and skeins of yarn; or dyeing twelve squares of felt in different colors with stuffs found in the woods—butter-nut bark, golden oak, sassafras, golden-rod tops! It is a pastime for a Shakespeare sonnet. Also you must know how to make a cherry balm of black cherry bark, and you must crochet your own sweater and you must gather the hops and make a hop pillow and you must know how to make candied fruit and mincemeat and you must brew sage tea and camomile tea for the health of your playmates or, happily some day, your family. And you are taught to candy sweet flag and mint leaves and you make a marigold salve, which sounds like some mysterious fairy ointment, and then after you have become a Colonial Housekeeper, there are still more honors, a greater knowledge of Nature, a wider understanding of humanity that await you.

All human beings delight in badges