

visible all night long. He is in Virgo not far from Spica on line toward Regulus, and is moving slowly westward, in the direction of the latter star. Jupiter is morning star in Aquarius, rising at about 4.40 a.m., at the end of the month. Saturn is morning star in Capricornus, and rises about an hour and a half earlier than Jupiter.—*Condensed from Scientific American.*

### BIRD STUDY.

READ BY MR. F. A. GOOD, AT THE CARLETON COUNTY, N. B., TEACHERS' INSTITUTE.

When Kipling wrote his "Jungle Tales" a dozen years ago, he could not have foreseen the avalanche of animal stories that was to be hurled upon the English speaking world. True, Kipling was not the first in the field. Natural history had been "popularized" by scores of writers long before his time. But the animal story as we have it now is purely modern, and its evolution is not difficult to trace.

Gilbert White, the Selborne naturalist, was one of the first to invest the story of lowly creatures with the charm of real literary talent. But he was of too serious a turn to add the spice of fiction. Then for a century after his time, works of this class were either imitations of White's immortal book, or else were attempts to serve up natural science in a cheap and palatable form.

During the last half century three American writers, Henry David Thoreau, John Burroughs and Maurice Thompson, following on somewhat similar lines, did much to render popular the story of the lower animals—especially of the birds.

Audubon's great work was an artistic and scientific achievement, rather than a literary labor.

Kipling then introduced, or reintroduced, the story form, giving the lower creatures the power of speech. This, the later writers have pretty generally taken away, but by careful study of their lives, have so interpreted each action that we have their biographies almost as accurate as if they did speak. It is no wonder then, considering the subject matter and the ability of the writers, that these tales have taken a great hold on the masses. There is, doubtless, much of faddism about this tendency, and it is not to be expected that the rage will last in its present violence, but that these will go the way of the historical and the problem novel. The good they are doing in the meantime, however, is almost incalculable.

And here let us notice the fact that three of the leading writers of animal stories are Canadians: Ernest Thompson Seton, W. A. Frazer and our own Charles G. D. Roberts.

In the works of these and other writers, the largest members of the animal world appear to be favored, but the greatest actual effect of these is seen to be a great increase in the study of bird life. This may be proved by the number of bird magazines that have sprung into existence in recent years. These maga-

zines have no counterparts dealing with other divisions of the animal kingdom.

And the reason why bird study has attained such prominence is not far to seek. There are few studies so delightful, few that can be carried on with so little detriment to your ordinary pursuits, whether they are other studies or business affairs. The study is not trivial, it is very important—important from an economic, scientific, literary, and humane standpoint.

First, from an economic standpoint. Birds are a great economic agency and, as such, they deserve our serious attention. The need of such knowledge among the masses is best seen when we understand the true value of bird labor. Bird life is so vitally connected with human life that we cannot afford to ignore it. There are thousands of natural products that would be more expensively raised, or found impossible to raise, were it not for our feathered friends. Indeed, scientists do not hesitate to say that our very existence would be threatened, if birds were exterminated. So greatly would weeds multiply that the struggle for existence on the part of many cultivated plants would be increased manifold. But man could combat the weeds. The greatest danger, however, would come from the rapid multiplication of insect life. Many a famine has been caused by a phenomenal increase of certain destructive insects. This, man cannot well defend himself against. But the birds, working for nothing and boarding themselves, are willing to do this for him.

Now, strange to say, the hand of man has been for ages raised against certain classes of birds which have proved to be his best friends. This is notably so in the case of the hawks, owls and woodpeckers.

Now, don't rise and say that if they have been destroyed for ages, and if none or few of these dire consequences have followed therefrom, that there must be a flaw somewhere in the reasoning. It must be remembered that much of America, until recently, was an almost unbroken wilderness; that it formed the breeding ground for millions of birds, the overflow of which could easily keep up the supply in the more populous parts. Now the west is filling up fast, and the great negro population of the south habitually slay our common song birds for their own tables and even for the hotels. Our robins and bobolinks go that way by the million. Cruel fashion demands that millions more, and of the most beautiful too, shall be killed for the ladies' hats.

And again there is the heartless instinct to kill, which we inherit from our savage ancestors. The boy with his first gun and the grown up man simply anxious to show his skill, take away quite a percentage of the remainder.

It is true that their enemies among the carnivores are thinned out too. But while that may preserve a goodly number of the feathered folk, it also imposes extra duties upon them. Take for example the thinning out of the foxes. There was nothing