

## FEATHERS

A FEATHER is a heavy product of the skin of birds, of which it is the distinctive characteristic. It arises from a nipple at the bottom of a pit in the skin that begins to form long before the embryo is hatched. Around this nipple there forms a cap of secreted horny material that presently becomes loosened and is pushed up by another cap forming beneath it. Thus a tube results, which is the shaft or "quill" of the feather, and in which the succession of "caps" may be seen. When the full size of the feather is reached, the growing process ceases, the root end of the quill closes, and the

feather is easily pushed out, and may be discarded if necessary.

Even the mature feathers are not intended to be worn always. They become worn and torn and are shed or "molted" at least once a year. The feathers are replaced by a new growth from the same source.

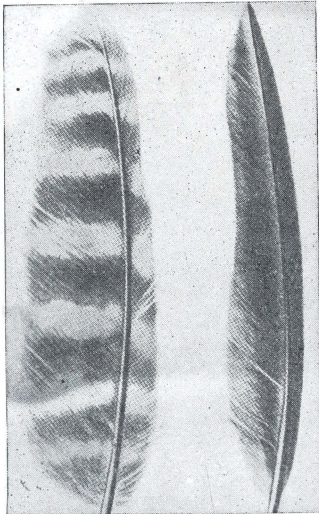
A feather consists of two parts, the "quill" and the branching growths which form the "vane." Sometimes these branches are disconnected, or nearly so, as in down and in ostrich plumes. The different kinds of structure of feathers are very numerous. On account of this and the beautiful colors of many, a feather is one of the most beautiful things in nature.

The colors of feathers may be due to pigments, or may result from mechanical conditions. There are many colors and patterns of colors.

Feathers form a warmer covering than scales or hair. They keep out the cold and help to retain the heat of the body. This causes a warmth of the body and produces bodily activity. It is the acquirement of feathers that has lifted bird life far above its ancestors, the reptiles.

Feathers are useful to man in many different ways. They are used for bedding and upholstery; feathers and plumes are used for ornamental purposes. Woven feather cloaks are famous. Connected with the ornamental use of feathers are many highly significant and ceremonial usages that make the study of this phase of the subject very interesting. There are a number of superstitions connected with the use of feathers. These have survived from very ancient times.

(Please turn to page 221.)



The flight of a bird with "soft" feathers (illustrated on the left) is slow; that of a bird with "hard" feathers (illustrated on the right) is swift.

## SCHOOL BANK

*(Continued from page 219)*

and the money is given him. The principal writes the word "withdrawn" across the card and after the pupil's name in the deposit book; also the amount withdrawn. Drawing out time is during the thirty minutes each day after the dismissal of classes.

If a pupil loses his deposit card, he can draw out his money just the same, but has to pay a fine of one centavo. The fines are put in our athletic equipment fund. Hardly any one ever loses the deposit card.

Our school bank is very useful, because before it was started a number of pupils lost small sums of money given them by their parents. Now no one ever loses any money.

## SCHOOLROOM

*(Continued from page 219)*

were sold. The money went into our picture fund. Finally our teacher had enough money in the fund, so that she ordered many beautiful pictures of different sizes. We mounted these on colored paper and put them up in our room. Across the front of the room we made a frieze of fairly large sized copies of famous paintings. Above these we had two large framed

## MUSIC DEMONSTRATION

*(Continued from page 219)*

is the rhythm band, in which various percussion instruments are played to keep time with music which is played on the piano. The members of the rhythm band have uniforms, and the leader wears a tall hat and keeps time with a baton.

Some of the older pupils told about some of the great composers of music. We got this information from different issues of THE YOUNG CITIZEN. Our music teacher illustrated each of these musical biography talks by playing on the phonograph a composition by that composer.

Everybody was very much pleased with our music demonstration, and said that it showed that our school does good music work. It was so successful that our music teacher says we may have another next year. Now we all will work hard at our music in school, so we will have nice things to give in our next music demonstration.

pictures. On the side walls we had mounted groups of smaller pictures—many of which were colored. In all we have more than a hundred different pictures in our room.

## FEATHERS

*(Continued from page 208)*

## QUESTIONS

1. How is a feather produced by a bird?
2. Name the parts of a feather.
3. Why is a feather "one of the most beautiful things in nature"?
4. How are feathers used?
5. Why are birds above reptiles in intelligence?
6. What is a "soft" feather?
7. What birds have "soft" feathers?
8. What is a "hard" feather?
9. What birds have "hard" feathers?
10. If you live in or near Manila, go to the Aquarium if possible, and look at the feathers of different birds there.

Each week we study one of these pictures. Our teacher has a book which tells about many great paintings, so she tells us about some picture which is described in her book. We learn something about the painters of the pictures.

Many parents come to see our "schoolroom beautiful" as we call it. So it is having an influence in the community toward creating a love for beautiful pictures.