CHAPTER 1

LIFE AND SCIENCE

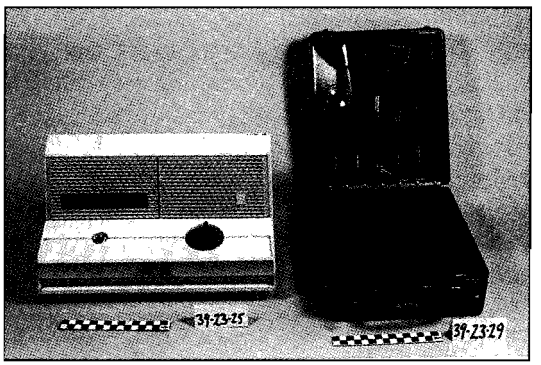
FACETS

Have you ever read or heard something and wondered if it were really true? You know that stories about a flying boy who never grows up or about a genie who lives in a lamp are make-believe. Sometimes such stories of fantasy teach lessons, and if they are good lessons, these stories can be helpful. Other make-believe stories are written just for fun, and nothing is wrong with that. Most people learn the difference between make-believe and real stories during their early childhood.

Some things that you read and hear are not clearly real or make-believe. Sometimes an author makes up a story and tries to make it sound true even though he does not expect you to believe it. Stories about Sherlock Holmes and most other detectives, for example, are imaginary but do not contain magical elements like genies or flying people to tell you that they are fantasies. Such stories are often told to entertain you, to make you think, or to teach you a lesson. It often does not matter whether such stories are true or not; the important part of these stories is their message or purpose.

Other authors want their readers to believe what they have written even though it is false. Rabies is a deadly disease that is frequently passed to people when they are bitten by an animal that has the disease. About one hundred years before Christ was born, Celsus described a cure for rabies. He said one should burn the wound with a hot iron and then give the patient a medicine made of turpentine, Illyrian iris, Gallic nard, frankincense, white pepper, poppy tears (the source of opium), and twenty-four herbal ingredients mixed with honey and taken with a glass of wine.

1-1 *Three seventeenth-century French doctors seek to treat a sick woman. One recommends bleeding her, another recommends a drug, and the third recommends an enema. The doctors say these remedies will cure her of coms, toothaches, constipation, and any other physical ailments.*



1-2 *Technology can be used to deceive. These devices were "cures" for double chins, arthritis, and paralysis.*

When a person has rabies, it is difficult for him to swallow water. People in ancient times thought that this was caused by a fear of water. Celsus wrote that to overcome this "fear," the patient should be thrown into a tank of water and forced to sink (pushed under if he could swim) and to swallow water before being lifted out. Next the patient should be plunged into a bath of hot oil to prevent his death from chills in a weakened condition.

To us, such a prescription sounds like nonsense. We know now that rabies is caused by a virus. Poppy tears, turpentine, and near-drowning are of little help in curing someone of rabies. Yet, in the time of Christ, such practices were considered normal.

Some things written today are like these prescriptions. The author believes them to be true, but they are really false. Just as people who were given this supposed cure for rabies were given false information as truth, you may be given false information as truth. How can you tell the difference between that which is true and that which is false?

Clear Thinking About Ostriches

The following essay on ostriches contains many different kinds of statements. Try to find an example of each of the following kinds of statements:

- ❑ historical fact based on physical evidence
- ❑ historical fact based on recorded evidence
- ❑ value judgment
- ❑ scientific observation
- ❑ universal statement
- ❑ biblical truth
- ❑ giving animals human characteristics

Your teacher will discuss these with you.

Ostriches are weird birds. Standing about 3 m (about 10 ft.) tall and weighing about 156 kg (344 lb.), the ostrich is the largest living bird. Ostriches, like all birds, have feathers, wings, and a beak. But there the similarity with other birds seems to end.

Although ostriches have wings, they cannot fly. Their wings are too short, and their fluffy feathers do not produce enough lift to raise their heavy bodies. And, unlike most birds, ostriches have very long, muscular legs. They are capable of taking strides over 3 m (9.8 ft.) long.

Ostriches live in open areas along with lions, jackals, and other predators (animals that can kill and eat them). Since they cannot rely on flight as a means of survival, they use their strong legs to escape their predators. Ostriches can run at speeds of 50 km per hour (31 mph) for more than fifteen minutes without tiring. Ostriches running at a rate of 70 km per hour (43 mph) for short distances have been reported.

Speaking of the speed of a female ostrich, Job 39:18 says, "What time she lifteth up herself on high, she scorneth the horse and his rider." When you consider that good racehorses reach speeds of about 64 km per hour (40 mph), you can understand why the ostrich can usually outrun most predators. The predator that catches an ostrich usually does so by making a successful surprise attack.

Sneaking up on an ostrich is not easy. Ostriches are alert birds with keen sight. They often serve as "watchbirds" for the gazelles, zebras, and other animals they graze with. As they feed, ostriches often raise their heads and look around. When they sight danger, they hiss or squawk and trot to safety. The other animals, even though they may not have seen the danger, usually follow. Good sight and speed make it difficult for predators to capture an ostrich.

Usually, the adult ostrich needs to fear only man. Ostrich meat is edible and was once considered a meat fit for Roman emperors. However, other birds are easier to catch or raise for the dinner table. The ostrich's fluffy feathers, called plumes, have been man's primary reason for hunting ostriches.

Physical evidence is normally a good method of determining that something existed. However, deciding what the physical evidence means is more difficult. The mere finding of a skeleton of an unfamiliar animal does not justify stating that it lived 500,000 years ago and became extinct because of an ice age. Other evidence is needed to support such a statement.

To assume that the Assyrians used ostrich eggs as food for their dead because ostrich eggs were found in an Assyrian tomb is merely to guess. The eggs could have been placed there for many reasons. Perhaps the people felt that ostrich eggs brought good luck in the afterlife, or perhaps they were used as a medicine. The eggs may have been used as some sort of tool. Other evidence is needed to support any statement that gives a reason for the burial of ostrich eggs in Assyrian tombs.

Another source of historical facts is **recorded evidence.** Recorded evidence is evidence which men have written or recorded in some other way, such as paintings, carvings, photographs, tapes, or books. Sometimes people record things that they believe to be true but are actually false. People also intentionally record things incorrectly to deceive others. To please the queen, the artist may paint her nose a little smaller and make her look a little thinner. To make money, a dishonest businessman may report false accounts. Recorded evidence is not always accurate.

Another problem with recorded evidence is that we have to interpret it before we can use it. For example, to assume that Egyptian pharaohs hunted ostriches for sport because of the design on a fan in an Egyptian tomb is an interpretation of recorded evidence. It may or may not be true. The pharaoh's crown on the head of the man in the chariot may mean that the man was hunting ostrich feathers for the pharaoh. Or the man could have been a young pharaoh who had to catch an ostrich to prove that he was worthy to be a ruler. People often interpret recorded evidence in ways that suit them best.

1A-4 *Humans have been known to distort the facts while recording certain types of evidence.*