The truth table corresponding to the above propositional function would look like this:

<table>
<thead>
<tr>
<th>Basic propositions</th>
<th>Propositional function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door open</td>
<td>Light on</td>
</tr>
<tr>
<td>false</td>
<td>false</td>
</tr>
<tr>
<td>false</td>
<td>true</td>
</tr>
<tr>
<td>true</td>
<td>false</td>
</tr>
<tr>
<td>true</td>
<td>true</td>
</tr>
</tbody>
</table>

The table begins with a list of all combinations of basic false and true values that can be assigned to the basic propositions. The table is completed by indicating the truth or falsity of the propositional function for each combination.

Trypanosome, TRHP uh moh sohn or trih PAN uh sohn, is a microscopic one-celled organism. Trypanosomes live as parasites in the blood, spinal fluid, and tissues of human beings and other vertebrates. Some are parasites in plants. Different species cause African sleeping sickness; South American trypanosomiasis, also called Chagas disease; and nagana, an African disease of animals. A trypanosome is long and thin, with a whip-like extension called a flagellum at one end. It also has a thin, wavy undulating membrane down the length of its body. Many trypanosomes spend part of their life cycle inside certain insects. See also Tsetse fly; Sleeping sickness.

Tschaikowsky, Peter Illich. See Tchaikovsky, Peter Illich.

Tserelaes, Johan. See Tilly, Count of.

Tsetse fly, TSEHT see, is a two-winged fly of Africa. It carries trypanosomes, the animal parasites that cause African sleeping sickness, a potentially fatal human disease, and nagana, a deadly disease of cattle and horses.

There are more than 20 kinds of tsetse flies. Several of them attack people. The flies resemble typical house flies, but they grow larger and fold their wings flat over their backs so that the wings do not stick out at an angle, as they do on house flies. The tsetse fly's long, proboscis (beak) pierces the body of its host. Most tsetse flies suck blood from mammals, but some kinds take blood from reptiles and birds. As they suck blood, they infect the host. A tsetse fly transmits both nagana and sleeping sickness by biting an infected animal or person, picking up the parasites, and infecting the next host it bites.

The flies usually cannot infect people until the parasites have lived in their bodies several days and have passed through the stomach to their salivary glands. Then the flies can transmit the parasites to anyone they bite. The parasites that infect animals develop in the fly's proboscis or in the stomach and proboscis.

Tsetse flies breed slowly. The female fly produces only one egg at a time. The larva hatches from the egg and is nourished during the growing period inside the body of the parent. When the larva is full-grown, it is deposited on the ground. It then burrows beneath the soil before transforming into a pupa.

All tsetse flies bite during the day. They often live by lakeshores and riverbanks, making parts of Africa uninhabitable. In some regions, insecticide sprays and removal of vegetation control tsetse fly populations. Other control programs use special traps. Drugs that protect cattle from nagana are also used. But political unrest has hampered control efforts in Africa.

Scientific classification. Tsetse flies belong to the house fly and blow fly family, Muscidae. The most dangerous tsetse flies are Glossina palpalis and G. morsitans.

See also Sleeping sickness; Trypanosome.

Tsimshian Indians, TSIHM shee uhn, once ranked among the wealthiest tribes in North America. Their homeland lies in British Columbia in Canada, chiefly along and between the Nass and Skeena rivers. The Tsimshian became known for their graceful oceangoing canoes and well-crafted totem poles, masks, and carved wooden boxes.

In their traditional way of life, the Tsimshian lived in groups of families related through the women. These groups lived in large plank houses built along rivers and beaches. Family groups placed totem poles in front of their homes and elsewhere to signify the group's social rank and ancestry. A vast supply of timber, plant life, and fish and other game in their homeland helped the Tsimshian become wealthy. Some families owned slaves. Most slaves were enemies captured during wartime or were the descendants of such enemies.

The Tsimshian still hold elaborate feasts called potlatches to mark marriages, deaths, or other notable occasions. Potlatches are also used to establish social rank and gain prestige. Hosts achieve these goals by displaying possessions, giving them away, or occasionally destroying them.

Many Tsimshian increased their wealth during the late 1700's and early 1800's, after sea merchants from Europe and the United States began to sail to the northwest coast of North America. The Indians traded furs for metal tools, textiles, and other manufactured goods.

Today, there are about 12,000 Tsimshian. Most live in or near their traditional homelands and work in fishing, mining, and timber industries.

Tsunami, too NAH mee, is a series of powerful ocean waves produced by an earthquake, landslide, volcanic eruption, or asteroid impact. Tsunami waves can travel great distances and still retain much of their strength. They differ from common ocean waves, which are caused by wind. The word tsunami is a combination of Japanese words meaning harbor and wave.

Tsunami waves are much longer than common ocean waves. In the open ocean, the water may take from 5 minutes to over 1 hour to reach its highest level and fall back again as a tsunami wave passes. By contrast, a common ocean wave causes the water level to rise and fall in 3 to 20 seconds. Tsunami waves in the open ocean usually raise and lower the water level by 3 feet (1 meter) or less. Because the change happens gradually, tsunami is frequently go undetected by ships.

The deeper the water is, the faster a tsunami wave travels. In the Pacific Ocean basin, where depths average about 13,000 feet (4,000 meters), tsunami waves can travel up to 600 miles (970 kilometers) per hour, as fast as a jet aircraft. As a tsunami wave approaches land, its speed drops to about 20 to 30 miles (30 to 50 kilometers) per hour. As the wave's speed decreases, its height usually grows by at least three times. The resulting flood of
A tsunami wave on the open ocean is long and low, top. As the wave enters shallow water, it slows, causing its height to grow dramatically, middle. The wave then surges onto land, bottom.

Water can surge more than \( \frac{1}{2} \) mile (1 kilometer) inland and pile up in certain places to reach elevations higher than 100 feet (30 meters) above sea level. Scientists strive to predict tsunamis so that endangered coastal areas can be evacuated. One method uses devices called seismographs to measure seismic waves (waves of vibration generated by earthquakes). By analyzing seismic waves, scientists can determine when and where an underwater earthquake has occurred and calculate its strength. As a result, they can then estimate the size of a possible tsunami and the time it will reach land. Seismic waves travel through the ground much faster than tsunami waves travel through the water. For this reason, scientists can sometimes warn people several hours before tsunami waves strike.

Other forecasting methods use pressure sensors placed on the ocean floor. When a sensor detects pressure from a large tsunami, it relays the information to a buoy. The buoy then transmits the data to a warning center. Scientists are also developing methods to detect tsunamis using radar signals from satellites.

In December 2004, an enormous underwater earthquake west of the Indonesian island of Sumatra created a tsunami that pounded low-lying coastlines throughout the Indian Ocean, killing more than 175,000 people and causing billions of dollars in property damage. The greatest number of deaths occurred in Indonesia, Sri Lanka, India, and Thailand. Deaths were reported as far as away as Somalia, about 3,000 miles (4,800 kilometers) from the tsunami’s origin.

Tuatara, too AH TAH ruh, is the name for two kinds of lizardlike reptiles that live only on a few small islands off the coast of New Zealand. Tuatara are the only living members of an ancient group of reptiles that appeared on Earth more than 200 million years ago.

Tuatara have scaly, gray or greenish skin. They have spiny, enlarged scales down the back and tail. Males can grow more than 2 feet (60 centimeters) long. Females are shorter. Tuatara sleep during the day, often in burrows dug by sea birds. They emerge at night to hunt insects, amphibians, snails, birds, and small lizards. They have sharp teeth with which they tear up prey. A tuatara’s tail breaks off easily. If an enemy seizes the tail, the tuatara sheds the tail. It then grows a new tail.

The female tuatara lays from 8 to 15 eggs nearly a year after mating. She deposits the eggs in a burrow, where they develop for more than a year before hatching. The eggs of no other reptile take as long to develop.

Tuataras grow slowly and do not mate until they reach about 13 years of age. These animals live a long