In what way does echolocation in bats play a utilitarian role?

Not all sounds made by animals serve as language, and we have only to turn to that extraordinary discovery of echolocation in bats to see a case in which the voice plays a strictly utilitarian role.

To get a full appreciation of what this means, we must turn first to some recent human inventions.

Everyone knows that if he shouts in the vicinity of a wall or a mountainside, an echo will come back.

The further off this solid obstruction, the longer the time will elapse for the return of the echo.

A sound made by tapping on the hull of a ship will be reflected from the sea bottom, and by measuring the time interval between the taps and the receipt of the echoes, the depth of the sea at that point can be calculated.

So was born the echo-sounding apparatus, now in general use in ships.

Every solid object will reflect a sound, varying according to the size and nature of the object.

A shoal of fish will do this.

So it is a comparatively simple step from locating the sea bottom to locating a shoal of fish.

With experience, and with improved apparatus, it is now possible not only to locate a shoal but to tell if it is herring, cod, or other well-known fish, by the pattern of its echo.

It has been found that certain bats emit squeaks and by receiving the echoes, they can locate and steer clear of obstacles—or locate flying insects on which they feed. This echo-location in bats is often compared with radar, the principle of which is similar.

The echo-location principle is applied to measure the depth of the sea by measuring the time interval between sounds on the surface and their echoes from the sea bottom.

The sounds reflected by solid objects vary according to the size and nature of the object.

Bats make use of the principle of echo-location to locate and steer clear of obstacles and to locate flying insects for food.

A lot of furniture made during the last war was strictly utilitarian; chairs were made to be sat on and tables to be sat at, but there was not much design in them, and they weren’t attractive.

There aren’t many shops in this vicinity, so most people go shopping in the city.

John promised to contact us when he reached home, but three hours have elapsed and he still hasn’t rung.

I know there is a woodpecker in the woods near us because I often hear one tapping on the trunk of one of the big trees.

Many archaeologists today employ special pieces of apparatus (rather like sophisticated metal detectors) to help them find objects under the ground.

In our local aquarium there is one large tank which has a shoal of fish consisting of hundreds of beautiful blue fish.

Although we have a lot of bats in Britain, some kinds are still comparatively rare.

His car has an alarm so that if anyone breaks into it, it will emit a terrible whistling sound.

If I were you, I would steer clear of that man; he is always in trouble with the police.

Perhaps the first use of the principle of echolocation is in instruments designed to calculate the depth of the sea.

Another use that the principle is applied to is locating shoals of fish, and it is even possible now to tell what kind of fish a shoal consists of.

Radar is also similar to echolocation since it helps aircraft and ships locate objects in the dark by bouncing sound off them.

To understand the play thoroughly, you should read it first.

To enjoy a good film, you need to sit back in comfort in a big armchair.

To succeed in business, many people think you have to be utterly ruthless.

The old man was deaf, so I managed to make him understand by shouting.

By saving a small amount of money every week for two years, I was able to buy my first computer.

In the small village where I was born, they still tell people when there’s a fire by ringing the church bell.

I have been corresponding with him for many years.

He was arrested and charged with murder.

How much do you charge for this service?

I can’t provide you with all the things you need.

We have provided for every emergency.

Did you apply for that job?

If you want a loan, you should apply to the bank.

He’s much too quick for me. I just can’t compete with him.

Don’t make a sound, any of you!

The echo of the gunfire died away, and the valley was quiet again.

The discovery of oil in Alaska was a boon to the economy.

The invention of personal computers was a very important event in the second half of the twentieth century.

He lacks a realistic appreciation of the situation.

In my estimation, you’ll need twelve rolls of wallpaper.

There’s an obstruction in the fuel pipe.

Fear of change is the greatest single obstacle to progress.

The captain steered his ship into the harbor.

It’s quite possible to drive from Geneva to London in a day.

This camera was made in Japan.

Glass is made from sand and lime.

This watch is made of gold.

She is a very good singer, but it is too early to tell if she will be a great singer.

From behind, it was impossible to tell if the person was a man or a woman because he/she had long, shoulder-length hair.