

Passage 1

There are several kinds of crossword puzzles. The first is the prize competition type in which the person who finds the correct answers gets a big prize. But the answers are very hard to find, since several words appear equally appropriate: 'bad', 'mad' or 'sad', for example, in the clue sentence, '... people are seldom popular'. Such competitions attract people who are fond of gambling, because by paying a small entry fee, they can win big prizes. The second type of crossword puzzle is one in which there is only one possible answer to every clue. But this answer is elusive and calls for some detective work on our part. The clue gives only hints about the word. A clue like 'mate changes to flesh for food' will elude you till you realize that by changing the spelling of 'mate' you get 'meat'. Your comprehension and your general knowledge are put to the test. The effort to solve such crosswords is an intellectual exercise. The third type of crossword is a straight forward exercise in which words matching the definitions given in the clues have to be found and written in the appropriate place in the crossword square. There are no catches or tricks. This type is useful in the study of vocabulary. As simple exercises in problem-solving, they provide some entertainment too.

Note Making

Title: Three Types of Crosswords

1. Prize competitions
 - 1.1 many answers possible
 - 1.2 element of gambling
2. Intellectual crosswords
 - 2.1 only one answer to the clue
 - 2.2 detective work
 - 2.3 intellectual exercise : tests
 - 2.3.1 comprehensions
 - 2.3.2 general knowledge
3. Educational crosswords
 - 3.1 improve vocabulary
 - 3.2 provide entertainment

Passage 2

There is an enemy beneath our feet – an enemy the more deadly for its complete impartiality. It recognizes no national boundaries, no political parties. Everyone in the world is threatened by it. The enemy is the earth itself. When an earthquake strikes, the world trembles. The power of a quake is greater than anything human beings themselves can produce. But today scientists are directing a great deal of their effort into finding some way of combating earthquakes, and it is possible that sometime in the near future people will have discovered a means of protecting themselves.

An earthquake strikes without warning. When it does, its power is immense. If it strikes a modern city, the damage it causes is as great as if it has struck a primitive village. Gas mains burst, explosions are caused and fires are started. Underground railways are wrecked.

Whole buildings collapse, bridges fall, dams burst. Gaping crevices appear in busy streets. If the quake strikes at sea, huge tidal waves sweep inland. If it strikes in mountain regions, avalanches roar down into the valley.

Consider the terrifying statistics from the past. Lisbon, the capital of Portugal, was destroyed entirely and 450 people were killed in 1755. In Peru, fifty thousand people died in an earthquake in 1970. In 1968, an earthquake struck Alaska. As this is a relatively unpopulated part, only a few people were killed. But it is likely that this was one of the most powerful quakes ever to have hit the world. Geologists estimate that during the tremors, the whole of the state moved over eighty feet farther west into the Pacific Ocean. Imagine the Power of something that can move an entire subcontinent! This is the problem that faces scientists. They are dealing with forces so immense that human beings cannot hope to resist them. All that can be done is to try to pinpoint just where the earthquake will strike and work from there. At least some precautionary measures can then be taken to save lives and some of the property.

Passage 3

What is the nature of the scientific attitude, the attitude of the man or woman who studies and applies physics, biology, chemistry, geology, engineering, medicine or any other science?

We all know that science plays an important role in the societies in which we live. Many people believe, however, that our progress depends on two different aspects of science. The first of these is the application of the machines, products and systems of applied knowledge that scientists and technologists develop. Through technology, science improves the structure of society and helps man to gain increasing control over his environment. New fibers and drugs, faster and safer means of transport, new systems of applied knowledge (psychiatry, operational research, etc.) are some examples of this aspect of science. The second aspect is the application by all members of society, from the government official to the ordinary citizen, of the special methods of thought and action that scientists use in their work.

What are these special methods of thinking and acting? First of all, it seems that a successful scientist is full of curiosity - he wants to find out how and why the universe works. He usually directs his attention towards problems which he notices have no satisfactory explanation, and his curiosity makes him look for underlying relationships even if the data available seem to be unconnected. Moreover, he thinks he can improve the existing conditions, whether of pure or applied knowledge, and enjoys trying to solve the problems which this involves.

He is a good observer, accurate, patient and objective and applies persistent and logical thought to the observations he makes. He utilizes the facts he observes to the fullest extent. For example, trained observers obtain a very large amount of information about a star (*e.g.* distance, mass, velocity, size, etc.) mainly from the accurate analysis of the simple lines that appear in a spectrum.

He is sceptical-he does not accept statements which are not based on the most complete evidence available - and therefore rejects authority as the sole basis for truth. Scientists always check statements and make experiments carefully and objectively to verify them.

Furthermore, he is not only critical of the work of others, but also of his own, since he knows that man is the least reliable of scientific instruments and that a number of factors tend to disturb impartial and objective investigation.

Lastly, he is highly imaginative since he often has to look for relationships in data which are not only complex but also frequently incomplete. Furthermore, he needs imagination if he wants to make hypotheses of how processes work and how events take place. These seem to be some of the ways in which a successful scientist or technologist thinks and acts.