The most powerful motor known to human beings is the rocket. It is the only one that can people spacecraft to other planets and put Satellites into orbit around the earth. Yet it is one of the easiest to understand, for even the giant space shuttle works on the same principles as the rockets you see at firework displays.

The toy firework was probably invented in China over 700 years ago. It has changes little. Since then It is simply a tube fillod with gunpowder packed very tightly. When the flame from, the rockets burning fuse reaches the gunpowder, there is a violent chemical reaction. Different substances in the gunpowder combine and turn into hot gases at high pressure. They try to expand and if the tube wore closed at both ends, the gases would tear it apart, but there is an opening at the lower end of the tube, and the gases rush out, forming a bright glowing trail, called the exhaust.

It is the force generated by the chemical reaction that pushed out the exhaust gases. But wherever a force is exerted on Something, there is a ‘reactionan equally strong force the opposite direction. For example, when you fire a rifle, you feel it ‘kick’ against your shoulder. The gun is pushed back by the reaction to the force that drives the bullet forward. You were standing on roller skates.