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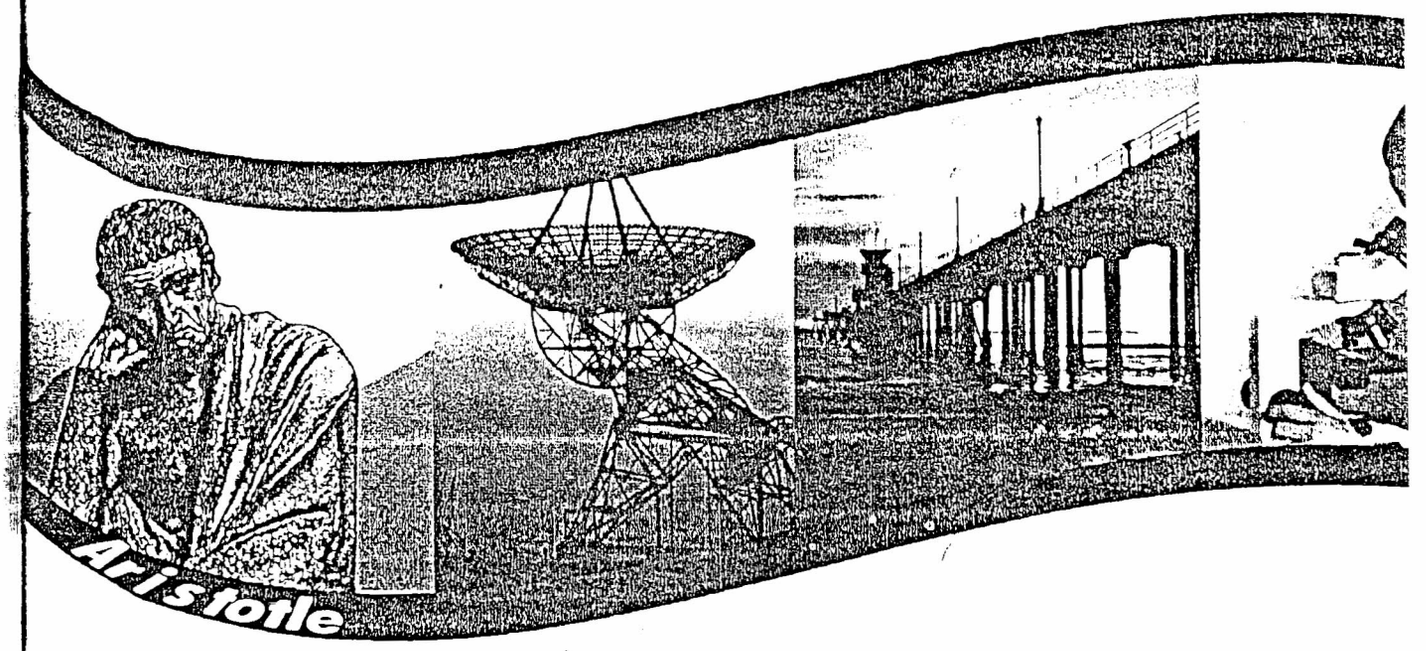

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CHAPTER Twenty-Seven

IMPACT OF PHYSICS ON HUMANITY

SOMOYE, E.O.

Physics is known as natural philosophy. Philosophy is defined as the study of nature and meaning of the universe and of human life. Thus physics is the philosophy of all the inanimate or physical part of the universe which are quite vast.

True to its definition, physics has impacted so much on human lives such that it is not just thinkable what life on earth would be without the knowledge of physics. Basically, every gadget, equipment and machinery in the home, the hospital in the bank, in the school, in the office, in the church, in the mosque, in the stadium etc has been invented by the principles, laws and theories of the different aspects of physics.

The motor-vehicle is invented on the principle of the laws of motion, force and transformation of energy. When the motor-vehicle is ignited, the spark plug produces a spark or flash of electricity. This makes the fuel to burn and starts the engine. The forward or backward motion of the vehicle is brought about when the revolution of the propeller is transferred to that of the tyres.

The rocket is acted on by a continuous force derived from the chamber. The thrust of the rocket is equal to the force with which the exhaust escape. This is clearly based on the law of action and reaction being equal and opposite i.e. the third law of Sir Isaac Newton.

The study of the motion of the natural satellite of the earth i.e. the moor led to the invention of artificial satellites of the earth which are called geosynchronous satellites. They are geosynchronous because they are set to have the same period of revolution as that of the daily rotation of the earth. As such, they appear to remain above the same place on the Earth's surface from where they relay information (for information satellites) or radio signals after amplifying them (for communication satellites) by radio techniques.

Radio signals (which are part of the electromagnetic radiators) travel either on ground or are reflected through the part of the atmosphere (from 50 kilometres upward). They are picked by the aerials of radio receiver sets whose circuit frequency is tuned to that of the radio signal in the air resonates or responds to the signals.

propagation. They travel at about 300 million metres or 300,000 kilometres in one second. Thus, information and facts converted to EMR can be transferred with ease from one computer to another across the globe.

In the refrigerator, heat energy is transferred from the substances in it to the surrounding which then becomes hot as the inside of the refrigerator becomes cold. The same process guide the operation of the air conditioner which then makes the room where the air conditioner is located become cold while giving heat to the surroundings. In temperature clime, this process is reversed in order to have the rooms heated.

The telephone mouth piece converts audible sound to electrical signals while the ear piece converts the electrical signals back to audible sound. Microphone and loudspeakers operated like the mouth piece and ear piece of a telephone respectively.

The telescope that produces the magnified image of distant objects is based on the principles and laws of optics. The microscope magnifies very tiny objects. Lenses correct short sight and long sight.

By the principles of conservation of energy (i.e. energy remains though it can be transformed from one form to another) the electric generating plant converts mechanical energy to electric energy. In dams (like Kanji Dam) hydro energy (a form of mechanical energy) is converted to electrical energy. In Egbin Thermal Station, heat energy is transformed to electrical energy.

The tungsten filament bulb converts electrical energy to light energy. The electric guitar convert electrical energy to sound energy. The pressing iron and electric cooker convert electrical energy to heat energy. The cell battery converts chemical energy to electrical energy.

There are uncountable number of machines, gadgets and equipments designed and constructed by the knowledge of different aspects of physics. The stethoscope,

Nigeria as a nation seeking technological breakthrough needs not pay lip service to the required encouragement of the study of physics and engineering which is the application of the latter if this dream must be realized.

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