 **Simulating Human Movement**

**Introduction**

* Robots are one of the most important types of machines;
* Can replace humans in many different situations;
* Ideal for jobs done in cold, hot, noisy, or dangerous places;
* Most robots copy the movements of the human arm.

**Robots: Sophisticated Machines**

* Robotic arms use an electronic system to direct their movement, a hydraulic system to lift and move heavy things, and a mechanical system to grasp objects;
* Robots are most efficient at doing repetitive tasks such as assembly-line work;
* The challenge is to build a robot with enough electronic sensors at its “fingertips” so that they will supply the “brain” with detailed information.

**Artificial Arms**

* In some ways an artificial arm is simpler than a robotic arm because the person operating the artificial arm “knows” what to do;
* Opening and closing an artificial hand still involves complicated computerization and mechanical design.

**Conclusion**

* The most sophisticated models detect the tiny electronic signals transmitted through the human nervous system;
* This is done by connecting electrodes in the mechanical arm to the nerve endings on the person’s arm;
* Wires carry signals from the brain to motors in the arm, enabling the person to control the artificial hand.