**2c. Scientific Determinism (a.k.a. Biological Determinism)**

**Historical**

* Charles Darwin (1809-1882) evolution theory had a profound effect upon the concept of scientific determinism
* Part of his evolution theory was that every living organism must have a unique genetic formula. As humanity developed from the evolutionary process, therefore humanity must also have a unique genetic formula.

**DNA**

* The above theory was considerably developed by the scientific discovery of deoxyribonucleic acid (DNA).
* DNA is the building blocks of all living creatures i.e. it is DNA that instructions a living organism on how to grow in to that particular organism.

**Implication of DNA**

* One of the implications of the above is that humanity is not free but is instead determined by their DNA (genetic formula). The deterministic effect of DNA can be seen in 3 ways:

1. **Physical Appearance**: DNA controls a person’s physical features e.g. the size of their nose, eye colour etc. Therefore, a person has no control of their physical appearance.
2. **Physical and Mental Capacity**: There is a clear link between faults in a person’s DNA and various physical and mental deficiencies in humans i.e. a person born with Down’s syndrome.
3. **Behaviour:** some scientists believe that human behaviour is determined by DNA i.e. behavioural traits like friendliness, confidence etc are controlled by our genetic make-up (DNA).

* Therefore, a person is no more than a product of their genetic make-up. The implication of this is that a person is fully determined by their DNA. This is sometimes referred to as ‘biological determinism’.
* This could be seen to have a profound implication for moral behaviour. This is because any effort to change one’s behavioural patterns is useless because it is out of our conscious control.

**Genetic Fixity**

* Biological determinist, Daniel Dennett, called the above idea ‘genetic fixity’.
* Genetic fixity is the scientific idea that the DNA of our parents inevitably determines our characteristics. Therefore, a child’s characteristics, and thus lifelong behaviour, is determined at the moment they are conceived.
* The idea of genetic fixity received a boost from the Human Genome Project (1990-2003). The Genome Project attempted to map the genes of human DNA. Some of the findings of the project support genetic fixity.

**Example:**

* Obesity: a recent study suggested the existence of ‘an obese gene’. This particular gene limits the production of the protein Leptin. Leptin is an important protein because it regulates appetite and energy use. Therefore, if our DNA limits the production of leptin, it is inevitable that our bodies will become obese.

**Overall:**

* Therefore, if the above is correct it could be argued that people can be reduced to no more than genetic robots; programmed and determined by their DNA.
* This is sometimes referred to as ‘puppet determinism’ because metaphorically speaking moral agents just act on the strings of their DNA.