A Synoptic analysis of scientific principles in the development of performance

What are the differences between an untrained individual and a trained athlete?

In this synoptic analysis I will be talking about the differences in which training effects the body. It will involve all aspects of training that have an effect on the body.

Training has a profound effect on the hypertrophy of the heart this happens because when training occurs the heart rate increases to about 180 beats per minute, which for the heart is quite high, so it improves the strength and size of it.

The stroke volume is also increased due to the size of the heart increasing so this equals that the amount of blood volume will be higher that actually gets pumped through the heart.

Increased cappillarisation occurs around the skeletal muscles when the muscles have been toned. This means that their is more blood flow to the muscles so this means more energy can be taken to the muscles and waste can be taken away from the muscles more efficiency.

The risk of coronary heart disease is lowered because fat deposits are used in training as energy and they will be constantly be used so the fat will not be present after a while. The fatty deposits also get into the veins and arteries which will in time clog up and create higher blood pressure.

The delay of the thresholds on the ATP/PC system and lactic acid system will rise due to the body being more efficient at disposing of poisons that build up in muscles after exercise. They won't rise considerably but there will be a noticeable difference after a while of training.

ATP re-synthesis will be more efficient too because the body has done it many times before in training that it has got it near perfect when it comes to use it again the untrained athlete will be slower to re generate and use the ATP thus being less effective.

Training also increases the stores o ATP and glycogen in the muscles ready to used instantly because people who train often use these substances so the body will put a bigger reserve into the parts of the body where it needs it most which is the muscles.

The trained athlete will be will have a higher cognitive domain, this mean that the more vital aspects of the sport such as the rules of a game are used this comes with experience of playing the game. Due to the time the trained athlete has done the games skills it becomes autonomous and also more successful. Often high trained athletes bodies are suited somatotypes to the sport which they have adapted through intense training.