WHAT IS TRAINING?

(THE MANIPULATION OF MANKINDS INBUILT SURVIVAL SKILLS)

By Leith Darkin (SEP 2002)

When looking back at earths history, the firsts signs of life appeared around 1,500,000,000 years ago. The first mammals appeared around 200,000,000 years ago, the first primates appeared around 40,000,000 years ago and around 2,000,000 years ago the first humans appeared. Over the past 1, 500,000,000 years, millions of species have come and gone, the survival of a species largely depends on its ability to adapt to changes in its environment. Nearly all species have the ability to adapt to minor changes in their environment, those that can't die, while others that are better equipped to deal with the change go onto produce offspring that are equally equipped or even more equipped to adapt to the environmental changes that have occurred (natural selection).

Humans have evolved to populate nearly every corner of the planet. They have adapted to live in the coldest regions of North Alaska to some of the hottest deserts in Central Australia to the highest altitudes of the Himalayas.

Currently 17% of the worlds population live in the developed world, this means that allot of us have had to adapt to the technological revolution. This particular adaptive phase in the evolution of humans is responsible for the higher rate of inactivity, obesity and poor health in many people.

Below are examples of two different working environments and the adaptation processes involved.

EXAMPLE 1

If we look at a typical office worker that spends on average 8 hours a day sitting at a computer, 5-6 days a week, their adaptation to their environment is as follows.

1) Shortening of their hipflexors and hamstrings from sitting all day (these muscles are important for maintaining correct pelvic alignment).
2) Deterioration of other postural muscles
3) Atrophy of the heart muscle.
4) Loss of elasticity in blood vessels.
5) Loss of lung function.
6) Often overweight or obese from inactivity.

EXAMPLE 2

If we look at laborer (eg. a brickies laborer) who spends 8 hours a day, 5-6 days a week moving bricks and morter around their adaptation to their environment would be as follows.

1) Some increase in over all muscle mass.
2) Increase in overall strength, including core strength.
3) Increased lung function
4) Hypertrophy of the heart muscle, which will result in a greater stroke volume.
5) Increased elasticity of blood vessels
6) Less likely to be overweight or obese due to the calories expended over the working day.

Our evolutionary process and our ability to adapt allows us to adapt to these types of conditions in a relatively short amount of time. Some of the adaptations in the above two examples take effect in the matter of weeks while others will take effect over months.

Training to improve sporting performance is no different, one could say that example 1 is de-training while example 2 is training, even though the thought of de-training or training was probably the last thing on the minds of individuals when they applying for these types of jobs.

The main difference between the individuals in the above two working environments and individuals specifically training to improve sporting performance, is that the individuals in example 1 and 2 put up with their working environment in the pursuit of financial gains, where the individuals in pursuit of improving athletic performance are in control of their environment and are able to manipulate their environment to achieve their desired training goals.

TWO IMPORTANT CONSIDERATIONS WHEN MANIPULATING YOUR ENVIORNMENT TO IMOROVE ATHLETIC PERFORMANCE.

1) When looking at training to improve athletic performance it is important to first identify the requirements of your sport, this is where a very important training principle comes into play "specificity". As you can't get a better training stimulus than the actual sporting movement it self, it is of most importance that you first identify the requirements of your sport, then look individual components (eg. strength, speed & endurance etc) of your sport and mimic them as closely as possible when designing your training program. A good example of inappropriate training to improve performance, which I see time and time again in martial arts and other sports, is running to improve endurance. If you are a runner and the distance you cover is specific to your current training phase, then this isn't a problem, however if your sport is martial arts, then running to improve endurance is only appropriate if you plan on running away from your opponent. "Running" will only improve your fitness specific to running, there are however some instances where cross training in other disciplines may have some benefits in helping you achieve your training goals.
Let's say for argument sake that you are a grappler (submission fighter). Training in the environment of an Olympic wrestler will have some obvious benefits, in particular their strength and power training programs, their endurance training will have some benefits depending on the duration of the bouts that they train for and the duration of the bouts that you have to fight, however their technical and tactical training will have little if no benefits at all. Another example is kickboxers training at a boxing gyms, boxing is obviously an important component in kickboxing and for this reason kickboxers often seek extra tuition in boxing and often go onto fight in both disciplines. However the kickboxer should be aware that coming up to a fight, appropriate attention should be paid to leg conditioning as well. Your legs are made up of some of the largest muscles in the body, this means that they consume allot more energy than the arms and shoulders and also produce allot more lactic acid than the arms and shoulders. The benefits of leg conditioning in the form of specific bag/pad work, kicking drills and sparing will help achieve the following.

A) An increase the production of high energy phosphates in the leg muscles. (Better Coaching pg. 126.)
B) An increase in the production of enzymes that break down and rebuild the high energy phosphates, this means the high energy phosphates are broken down faster and energy is released at a faster rate. (Better Coaching pg. 126)
C) An improvement of motor unit recruitment and muscle coordination. (Better Coaching pg. 126)
D) Toleration to higher levels of lactic acid in the legs and body. (Better Coaching pg. 126)
E) To encourage a greater metabolism of lactic acid by the legs. (Better coaching pg. 126)

The bottom line is don't waist your valuable time training inappropriately when you can channel your time and effort on specific training that can actually improve your sporting performance.

2) The second consideration when looking at improving athletic performance is that an individual must be prepared to get out of their comfort zone. Although genetics, nutrition and rest are all important considerations, if an individual isn't prepared to regularly get out of their comfort zone, then their environment wont be stressful enough to bring about adaptations specific to their needs such as increased levels of endurance, strength and lean body mass etc.

Further reading "Periodization, the theory and methodology of training" by Tudor A Bompa. Go to the links page and click on "Human kinetics".

References Pyke F.S, 2000, Endurance training, Better Coaching (advanced coaches manual), Published by the Australian Coaching Council, pages 126.
For more information on "Better Coaching" go to the "Links" page and click on "Human Kinetics".