

**THE ATTAINMENT OF
SUPERIOR PHYSICAL
ABILITIES**

THE ATTAINMENT OF SUPERIOR PHYSICAL ABILITIES

THE NEW SCIENCE OF BODY MOTION

**Covers sports, athletics, instrumental technique
and all skills**

NOEL HUNTLEY

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PREFACE

Readers and students of this new science of physical training will be surprised to find that the mechanism of physical mobility is far more sophisticated than their education has taught them. Current science assumes that physical movements of the body/limbs of humans and animals are entirely governed by the central nervous system (and autonomic nervous system), in which nerve impulses are sent to the muscles, causing contraction and subsequent motion of the body parts.

If this were the only mechanism present, the limbs would do little more than twitch; there would be no fine coordination, no control, and no ability to access the system (keep in control of the movements) while motion is occurring. The author, after 30 years of research discovered that physical mobility (voluntary) is due to a dual system: 1) the central nervous system (CNS), and 2) an energy-field system. These two systems are synchronised perfectly. This energy-field system is a type of computer mechanism and is in fact nature's quantum computer system, an understanding of which is much sought within most scientific disciplines. We are normally only aware of sensing muscular activity, but if we, say, *imagine* moving the arm (no muscular activity), we will feel kinaesthetically the motion. This is the sensation of information within nature's computer system. (The neurophysiologist will tell you it is the physiological kinaesthetic sense around the muscles and joints, but in fact the latter accounts for only a tiny fraction of the overall sense.)

What must be recognised then is that there are two entirely different systems of training for these mechanisms of body motion: (1) The brain/body mechanism, and (2) the quantum computer system. Everyone is familiar with physical training, which comes under (1). There is adequate knowledge and methods available for this activity and we shall not encroach on this field except to present a summary covered in the chapters on physiology and psychology and, in particular, as they relate to the overall training. The other mechanism, nature's computer system, consists of an immense complex of energy fields (quantum/scalar/electromagnetic fields) around and within the body and limbs, which are, of course, invisible to the naked eye, and not detectable by existing scientific instruments, which can't handle higher-frequency scalar waves. This system requires a very different kind of training for development as we shall come to understand later in the book.

Now the reader who does not wish to acquire any knowledge on this subject but merely wants to concentrate on training can go directly to the exercises and procedures given in Chapter 10. Nevertheless, it should be pointed out that any understanding at all will be beneficial to progress. These new processes are not like those of regular physical training. With ordinary physical exercises, improvement may occur after only a day or so, but which can also be lost as rapidly as gained with a lapse in training. With this new system, however, although gains will be much slower, or not readily noticeable, they nevertheless will be *permanent*. Just as one never forgets how to ride a bicycle once learned, these mechanisms do not deteriorate or lose their information.

If, however, the reader *does* wish to acquire some understanding, then elementary theory is given in the main text of this book, in particular, there is an introduction in the chapter on training in case the reader wishes to go immediately to the training. But for the serious science student the appendices give some of the fundamental (and difficult) theory of this vast subject, which generalises to all other phenomena; for example, we now have a new

basis with which to evaluate how insects fly or how for instance a humming bird beats its wings at such an enormous rate, creating a huge inertial problem for mainstream science explanations. Note that there is a chapter on instrumental technique and although this is written for music students it will be beneficial to anyone who is interested in reading the book, including athletes.

Who is this new training for? It is for anyone wishing to improve physical movements. Initially, perseverance will be necessary and not everyone will obtain equal gain. But as we have implied, the greater the understanding, that is, inward subjective understanding—not just objective and intellectual—the greater the benefit.

What kind of improvements are to be expected from the application of this new knowledge? The muscles will reduce their background tension; effort to make movements will decrease; coordination ability, that is, accuracy and speed of learning will increase; a sense of improved reflexes will occur; less attention will be required to maintain tensions in the muscles in appropriate activities; speeds of movement will increase; automaticity of complex coordination will increase (less attention required); endurance in repetitive motions will increase. These are some of the main benefits that can be derived from this training.

The highly educated reader, knowledgeable in related fields, should be prepared for a few startling concepts, even 'impossible' ones, as he or she studies this material. Current science is notorious for 'closing' a system of knowledge and labelling it sacrosanct, then blatantly violating, at a later time, its own premises as new theories finally gain recognition. Patience is strongly advised as the author experienced similar scepticism prior to establishing the material over a period of many years during observations and evaluations.

We shall refer to the physical mechanism, the central nervous system, as CNS, and the energy-field mechanism as the quantum computer system, or QCS.

CHAPTER 1

INTRODUCTION

The attainment of greater physical abilities is governed and influenced by many factors. We can roughly divide these factors into four groups: 1) the physiological, 2) the quantum-field system, which also embraces the communication system between mind and movements, 3) the psychological, and 4) the spiritual.

The first one, the physiological condition, is given the greatest emphasis in our society at the present time. This is to be expected since it is the physical body which is moving and clearly has appropriate mechanics involving physiology and physics, including chemistry and biology. This is well taken care of by training methods today. We do not need to elaborate too much on or reiterate the findings of physical education that are well documented, except as it relates to our main topic, which is the second one, the quantum-field system. This field system controls the nerve impulses in voluntary muscular actions, and can be visualised as existing around the joints. But also it is an additional system that further acts to create physical movement, particularly in high speeds and complex coordination.

The third factor, the psychological, has finally been recognised as being significantly influential in aiding athletic abilities. Positive thinking and visualisation, etc. have been shown to benefit, for example, athletic performance. As with the physiological, we do not need to dwell too much on this field, except to give a brief mention of its relative value in physical abilities and to the degree it overlaps with our principal subject.

The fourth category, the spiritual, is comparatively rarely emphasised but is gaining popularity. Eastern philosophy is

becoming more acceptable in the West and the benefits to training and health using, for instance, yoga exercises and related knowledge is fairly well known. This factor deals with the harmony of mind and body. It can be responsible for that 'high' experienced during athletic activities by many people. Some would fit this into the third category but its role would be expected to be significant as we discuss parts of the book dealing with abnormally high theoretical developments as we consider the limits to athletic performance.

Our principal subject then is number two above, the quantum-field system, which is a separate mechanism from the muscular and physiological ones. It could nevertheless be regarded as purely physical since it involves the precise recordings of movements. However, these recordings (storage of information) do not primarily occur in cells, but what we can call the electromagnetic oscillations of quantum stationary states. Thus the information for skills, general movements, etc. is stored in these countless superimposed quantum fields around and within the body. We are not talking about anything metaphysical. The system is purely mechanistic; it is robotic and programmable—within it are structured all learning patterns, habit patterns and programming. Note that the term 'habit pattern' can be used interchangeably with 'learning pattern' but strictly we should use the term 'learning pattern' for movements which are entirely within one's control and are voluntary. The term 'habit pattern' can be used for learning patterns which have become stored somewhat outside the margin of consciousness, that is, a little unconsciousness has crept in, and this latter condition must be addressed to cure the habit. The meaning of programming in physical movements is merely connecting together already learned movements, that is, forming new multiple movements and coordination.

We shall come to understand though that there are two different types of learning processes in physical activity. One of them is merely programming, that is, connecting together

movements (specific learning), and the other, a more general type of learning, not recognised in current science; simply the ability to make the movements themselves, which is governed by the information capacity of the quantum field within the space of the movements. This will all be explained later.

Recognise then that this quantum computer system has nothing directly to do with the psychological or the spiritual—it is not of general psychology or parapsychology, but it does connect with the physiological mechanism, the central nervous system and musculature.

UNDERSTANDING AND ITS EFFECTS ON RESULTS

It may be beneficial at this point to digress into the subject of 'understanding' and what we mean by it. There is basically objective understanding and subjective understanding. What does this mean? Firstly, let us say that in carrying out the exercises and training, given later in the book, results will be greater the better the understanding. However, the subjective state of the mind is much more effective in our training than the objective. Objective understanding means it is intellectual; the region of consideration is not truly duplicated by consciousness. The understanding takes place in a separate part of the mind by using symbols and representations. For example, when a psychologist's patient has a mental problem—which always means there are unconscious elements—and the therapist explains the problem to the patient, that is, gives an intellectual description, the attention of the patient will generally focus on this description. If anything, it will take the attention of the patient away from the actual area of the mind where the problematic experience is stored, thus generally reducing the chances of recovery. If, however, the patient has a self-realisation about the problem, this means the experience, is subjective and consciousness has duplicated the elements of the stored experience—it is in the same area (of consciousness and problem). Thus 'objective' here means separate, a copy, a representation of the

problem, whereas *subjective* means connected, a re-experiencing and duplication of the incidents and its subsequent realignment of the energies. This is also a failing in our religion, to teach a person that the source of life, God, is external rather than *within* will create a major obstacle to a proper relationship with this Source. Also, present education demands objective understanding and discourages true subjective perception and understanding, and relegates the latter to imagination and intuition.

Let us give another example. Suppose we have never driven a car. If another person, a driver, describes the driving experience of a particular car it will be objective to us. We will create a picture or generate a feeling *representing* the activity. Objective understanding is putting one's attention on a representation of the material being communicated. However, if the person has driving experience, the understanding of the other person's description will be much more subjective. We will put our attention onto the memories, including, in particular, the kinaesthetic sense (sense of movement, skill). We can think of the objective state as being 'dead', like a recording, whereas we would think of the subjective state as 'live' — it is more than an intellectual copy. Progress will be far more influenced by subjective understanding, which is intuition, feeling, sensation, and this will be within the kinaesthetic sense—see chapter on kinaesthetic sense.

With regard to aiding training results, all we need to realise is that if we can generate some subjective understanding, or feeling or perception, regarding what is going on in the learning processes of the energy-field system, benefits will be greater.

If the reader wishes to go into a little more depth on the above information, we can point out that basically there are two means of acquiring knowledge.

1) There is the objective knowledge, as described above, which is information observed by the ego, coming from the external physical world around one—the 3D environment. The individual receives incoming energies from the environment, for example, light comes

into the eyes, which is reflected light, or light from other sources. Other types of information such as from other people are received by means of words, verbalised or written, etc. That is, the energy comes in externally and is not experiential.

2) The other source of acquiring knowledge, the subjective, is through inner consciousness. This is quite different. Our consciousness, which is also attention energy when focussed, appears to reach out into the external world—the exact opposite of the objective condition. It is experiential and much more real to the individual. In the subjective mode one is connected up through a series or hierarchy of quantum states (all basically mind). It is thus possible to receive instantaneous information about anything through this mechanism which manifests as intuition, that is, a feeling about something. Intuition is always correct, otherwise it isn't intuition but when we have information coming from the subconscious mind, which is like a computer feeding us information, this information may at times be wrong (where wrong information only means information not pertaining to the given circumstances).

Thus there are two means of acquiring knowledge: 1) via the external physical world—this is the only method acceptable to current science—and the other, 2) through inner-consciousness, in which consciousness is contacting the information/experience directly. These two processes of observation and experience, however, work together naturally, we are simply extremely blocked on the second, inner-consciousness, which requires perception of phenomena involving higher vibrations, more integrated and holistic conditions that the ego-intellect instantly breaks down into parts (quantum reduces) when observing them or considering them.

To finalise this chapter let us comment on the role of the method of communication in conveying understanding of, say, the material in this book, to the reader.

The universe will be found to be holographic; everything interrelates. This causes, for example, countless synchronicities to occur. Unfortunately education and science denies such 'paranormal'

(impossible to understand) phenomena and consequently moulds the human mind to perceive and understand quantitatively. This means the unity aspects of the phenomenon of synchronicity will remain unobserved. As Einstein stated, 'What one can't imagine one can't discover'.

What we are leading up to is that because of the nature of this new material in this book, the more order we put into its presentation, that is, separating areas into definitions and categories, the less integrated understanding will occur. Information itself is also holographic at the most basic level. When understanding of some particular principle is sufficiently basic, it will also apply to other areas. It is sometimes preferable to jump around the overall subject, which will show more the relationship between the parts, rather than grasping the parts independently and not understanding the relationships or the whole. Thus any neglect of order is deliberate. Finally, some chapters that may be read independently or selected in isolation by the reader may contain repetition of data.

CHAPTER 2

CURRENT PHYSIOLOGICAL RESEARCH IN PHYSICAL TRAINING

Most creatures on Earth achieve locomotion by means of skeletal muscles; certainly the more complex types do, such as humans and animals. These muscles are attached to the skeletal frame. When strands of muscle contract, they pull on the bones and bring about angular motion at the joints of the bones. The muscles are arranged in antagonistic pairs that operate together, such as biceps-triceps, which means as one muscle tenses the other relaxes but acts as a check on the other, in particular, preventing sudden contractions that would injure the contracting muscle.

The muscle fibre is surrounded by connective tissue. Another layer of connective tissue surrounds bundles of fibres up to 150 in number. Muscle constitutes about half the body weight and consists of 20 percent protein, 75 percent water, and the remaining 5 percent are salts and other chemicals. The muscle fibre is about one tenth of a millimetre in diameter and consists of smaller fibres called fibrils which are about one hundredth of a millimetre in diameter. Within these fibrils are still smaller ones called filaments. The filaments are of two thicknesses, referred to as fast-twitch (thick) and slow-twitch (thin) and are considered to slide relative to one another to shorten or lengthen the muscle to create movement of the skeletal frame. A weight-lifter will have more fast-twitch filaments—for short bursts of great exertion—than a distance runner, who will have more slow-twitch filaments, for endurance. With strenuous exercise, muscles may enlarge considerably. There

is no apparent increase in the number of *fibres* in humans, though splitting of fibres is known to occur in animals but with smaller muscle enlargement than in humans. In humans, the enlargement is due to an increase in *both* size and number of fibrils constituting the fibre, in particular, achieved by resistance training. Nevertheless, it has been observed that strength and power can be increased without increase in cross-section of muscles, or that strength can be significantly greater in one person than another with larger muscles.

The question of fitness, in general, involves many more functions of the body. All these are mobilised to supply sufficient oxygen to the ravenous muscles. The muscular work and its demands must be coordinated with lung ventilation and absorption of oxygen into the blood stream and the amount of blood the heart pumps per minute to carry the oxygen to the muscles. In addition to these factors, which determine the rate at which oxygen is supplied to the muscles, there is the factor of oxygen capacity of the blood and the unloading of oxygen at the muscle tissue. The efficiency of all these processes should ideally be increased (as is the case, through training) along with the efficiency of their integration. Muscles demand oxygen, required for their function, and rapid contraction in athletic activity demands a supply of oxygen by increasing breathing rate, heart rate and transportation of oxygen in the blood stream. Excessive muscle activity gives rise to muscle fatigue and pain due to the deposit of lactic acid. Muscular activity is inhibited by this incomplete breakdown of sugar. Fatigue, however, is apparently reduced by sustained contractions by which motor neuron activity is kept out of step, sharing the energy to the muscle. Note that the precise cause of muscle fatigue is unknown. Nevertheless, it has been found that with continued repetitive contractions of muscles against a resisting load there is an increase in total electrical activity due to the fact that as motor units fire repetitively some of the muscle fibres fail to respond, causing more motor units to be activated. This is the opposite to what we want (in this book). We require that with considerable training time in repetitive light

movements that the number of active motor units in any particular movement decreases. A corresponding development in the QCS (quantum computer system) will have taken place and 'replaced' the missing requirement or force of the muscle contribution. We shall show that the quantum-field system, with training, plays a significant role in reducing fatigue.

A description of this quantum field will be the main theme of this book. However, at this point the reader needs to remember that the following terms are referring to the same mechanism: quantum field, energy-field system, quantum computer system. The latter expresses the function the best and thus we shall generally use the abbreviation QCS in addition to the currently recognised sole mechanism, the central nervous system, CNS.

The human skeleton has about 430 muscles affixed to 206 bones. The total number of muscle fibres in the human body is about 250 million. However, these muscle fibres do not operate individually. We shall deal with this subject of information capacity of the muscular system in Chapter 5. In fact, independent control within the muscle is governed by motor units or motor neurons. One motor unit may be attached to more than one thousand fibres, which act together as a unit and the total number of motor units is around 420,000 for the human. This represents a very low information capacity for the muscular system—an informational bottleneck—and clearly needs questioning since it is totally inadequate to explain even simple skills, as any artificial-intelligence expert knows. Learning a skill is referred to as motor learning since no matter what neural pathways are set up in the brain, the final funnelling of information takes place by the information capacity of the muscles, which is the number of motor units. Skills are divided into 1) cognitive (mental activity), 2) perceptual (sense activity), and 3) motor (physical and sense of movement). They usually combine and are referred to as cognitive-perceptual-motor skills or psychomotor skills.

Throughout the text we shall be using the term learning pattern. This, we are defining as an energy structure for storage of information in forming programmes for skill activities. We shall see that motor activity, or motor programmes as they are called, although occur at merely the gross physical level, are in fact connected to the QCS (energy or quantum field) we shall be discussing.

The athletic ability of some people is found to improve without measurable detection of improvements in terms of laboratory tests of physiological variables. These body mechanisms are clearly more complex than current theory indicates. It has also been shown in laboratory tests that the nutritional energy intake is insufficient to support the training loads of the athlete. It is known that only a small proportion of nutritional energy is converted into useful work. The efficiency factor in food conversion to energy has been proposed as a possible answer, but we shall see later that development of the information density within learning patterns greatly increases efficiency. Efficiency also increases in the initial stages of strength training of the same muscle groups, which over a period of weeks 'plateaus out'. The question arises as to how much of the gain is real (stronger muscles) and how much is due to a learned response (coordination linkage). Could the initial rapid gain, in a few weeks, be mainly due to the gradual activation of *all* motor units? This is called neural adaptation in which more and more fibres are used before increase in fibre size occurs.

It may be relevant to mention here that the QCS development allows more overload training (deliberately exceeding comfortable limits in training) with safety. Overload in training, in general, promotes increased strength and learning until a limit is reached, which can result in injury. This greater overload tolerance by the QCS development must occur even on the basis that the degree of the effectiveness of the QCS achieves the same performance for *less* effort and overall tension in the muscles (Figure 15, Chapter 10). Let us make it clear to the reader that current training, in fact any

repetitive movement, will develop the QCS to some degree but if this knowledge of the QCS was used, gains would be more rapid and higher standards would be attained.

Although skills may very much involve the environment and therefore the application of perceptual faculties, including mental computations, the QCS either, 1) in influencing the motor learning is very dominant (over perceptual and cognitive), or 2) it enhances these other skill attributes (perceptual/cognitive). That is, for example the perceptual skill readily coordinates with an advanced motor system, which gives a high level of skill. In other words, we are stating that the skill in physical mobility is dominant and such accompanying skills as the 'trained eye' will follow naturally.

Investigators find that the more a muscle is used, the less inhibition there is caused by the antagonistic muscle with practice of any movement sequence. The stretch reflex is repressed more and the antagonists relax more. We shall see that the learning pattern and QCS development plays a significant role in promoting this beneficial change.

Evaluations have been made by sports psychologists, though inconclusive, which indicate that strength or resistance training does not affect endurance, and vice versa, endurance training does not affect strength. It is unanimous that development through training for strength and endurance is highly specific. In fact, in general learning activities of a physical nature, experimental psychologists have established the specificity law, which states that only those muscular activities engaged in are learned. However, the current opinion is that this is inconclusive where activities are involved that do not emphasise strength and the need for permanent structural physical changes in the body. Where skills are concerned, involving high levels of coordination and speed, a more general approach can be made. See schema theory later in this chapter.

The QCS development will influence all forms of skill—with emphasis on skill rather than strength. Its computer principles underlie all aspects of life, mind and the universe. The sport

psychologist will ask the question as to whether there is any correlation between this QCS development and natural ability. There are many factors which determine innate ability but increasing the information capacity within the QCS will increase basic ability. A person who begins life endowed with extra ability in athletics or coordination, generally will most certainly have extra information capacity within the learning patterns—not necessarily for all movements of course.

Nerve impulses are transmitted by electrochemical conduction, and the physiological means by which we know how our body is oriented in space is known as proprioception. The three components of this are touch, equilibrium, and kinaesthesia. Kinaesthetic ability is what we are particularly interested in as it is by far the dominant sense in skills. It provides sense of limb and body orientation and also movement. In turn, it gives balance and equilibrium. It determines position so precisely that sense of touch—such as in touching the keys of a piano being played—hardly appears necessary. This kinaesthetic ability senses resistance to motion, such as during that split-second impact when striking a note on a keyboard, or hitting a golf ball, and by feedback compensates to prevent collapse at the joints—this is unconscious, automatic feedback. This will be ridiculed of course by academics, since any educated, smart person knows that the physiology of the body cannot respond during that moment of impact, which may be an interval of only about one-thousandths of a second. There are some shocks in store regarding this data.

Current theories of learning refer to open and closed loops. A closed-loop programme or skill means the individual can make adjustments to the activity by sensing the correctness of the feedback. It is a 'closed loop', meaning there is feedback that can be consciously responded to. Some gymnastic performances would be an example. 'Open loops' means the movements have become very specific and automatic and there is no control over feedback; for example, tennis or golf. However, not all sport psychologists agree

with this, that in fact *both* loop processes occur at different points in any action. We shall see that this feedback system is inherent and continuous within the kinaesthetic sense, which manifests in holistic and holographic sensory bursts, in which the performer constantly senses the existing posture frame and compares it with the 'standard', which is known to work. The standard is the actual programme in the learning pattern (which is most validated or 'rewarded').

This now relates much more to schema theory. Schema theory attempts to handle the impossible idea of every sequence of movements, some only slightly different from others, being stored separately; that is, countless subroutines for all aspects of movements. Scientists have clearly and correctly considered that the mind-computer does not store countless linear paths. Schemas have been postulated to cover the more general situation. The schema idea is that what are stored in memory are not fixed patterns but a set of relationships or rules that determine the performance of the skill—more like a general programme. It is thus called a *generalised model* and advocates a type of training referred to as *variability of practise*, meaning many movements can, to advantage, be practised similar to those specific ones required. Schema theory allows for transfer of one skill to another.

We shall show that the key to this is nonlinearity, which is inherent within the learning-pattern configuration. For example, part of the learning pattern tells one (kinaesthetically sensed) the end result of a short sequence but not the specific path to get there. Another part of the learning pattern gives the specific details. All other parts of the learning pattern handle the gradient between these two extremes and interrelate to aid one another. See later chapters.

Thus the schema idea is a rule, a concept, or a relationship that can relate to movement and which is formed on the basis of experience. It is like using an algorithm to condense vast data into compact formulae. However, this is the way man thinks and seeks

solutions as evidenced in computer systems today. But these mental manipulations are purely intellectual. We shall see that nature works on geometrical intelligence, which gives us an absolute encoding system. Nevertheless, the schema concept was a theoretical breakthrough, an important one, but we shall see that the term 'template', for schema, would be a better one.

It is recognised that a skill, ideally, should be taught as a whole so that the learner can develop a feeling of the flow of the movement (referred to as Gestalt learning). We shall see that the reason is that the whole and the parts become holographically related. Nevertheless, it is not always practicable to train this way.

Let us move on now to the importance of psychology in physical training and skills in general.