Prologue

Operating the body with bones not muscles

Operating the body makes the ‘movement’

The Chinese character for motion ‘動’ consists of two different characters ‘重’ (meaning ‘weight’) and ‘力’ (meaning ‘power’). This might suggest that the character for ‘motion’ ‘動’ is created by ‘重力’ which means gravity. When the body is moved by gravity, it recognises that fact, which means that the body is moving without tension. It is therefore identified that operating the body depends on the originality of each individual’s characteristics for movement using gravity such as moving from one place to another or moving objects.

In written Japanese, the Chinese character for movement ‘働’ consists of two characters ‘人’ (meaning ‘person’) and ‘動’ (meaning ‘motion’). A person in motion operating the body generates ‘movement’ in the sense of ‘managing things efficiently’.

Weight-training, which many people seem to participate in to establish a foundation for such body mechanics, involves training muscles by lifting weights such as barbells or dumbbells. This appears to be aimed at building a body that is able to overcome natural effect of gravity. However, the author believes that the body movement which is in harmony with nature should be generated artistically and efficiently.

It is believed that movement should be generated by correct management and operation of the inside of the body, not through forced or incorrect technique. In summary, the author feels that a person in motion is the external result of many internal factors occurring inside the body.

Which is the key issue, muscles or bones?

The ancient Chinese character for ‘body’ is written ‘體’, which can be interpreted as having a deep sense (豊) of bone mechanics (骨). It is recognised that bones, not muscles, are important for moving the body especially when the previously mentioned idea of ‘movement in harmony with gravity’ is considered.

What is the purpose of muscles? It can be thought that this is to operate bones to enable actions to be completed skilfully.

To put the idea of body mechanics in different words, it can also be considered that bones carry muscles. It can be said that the ideal conditions are that muscles which are carried by bones (bone muscles) make bones work to carry them efficiently.

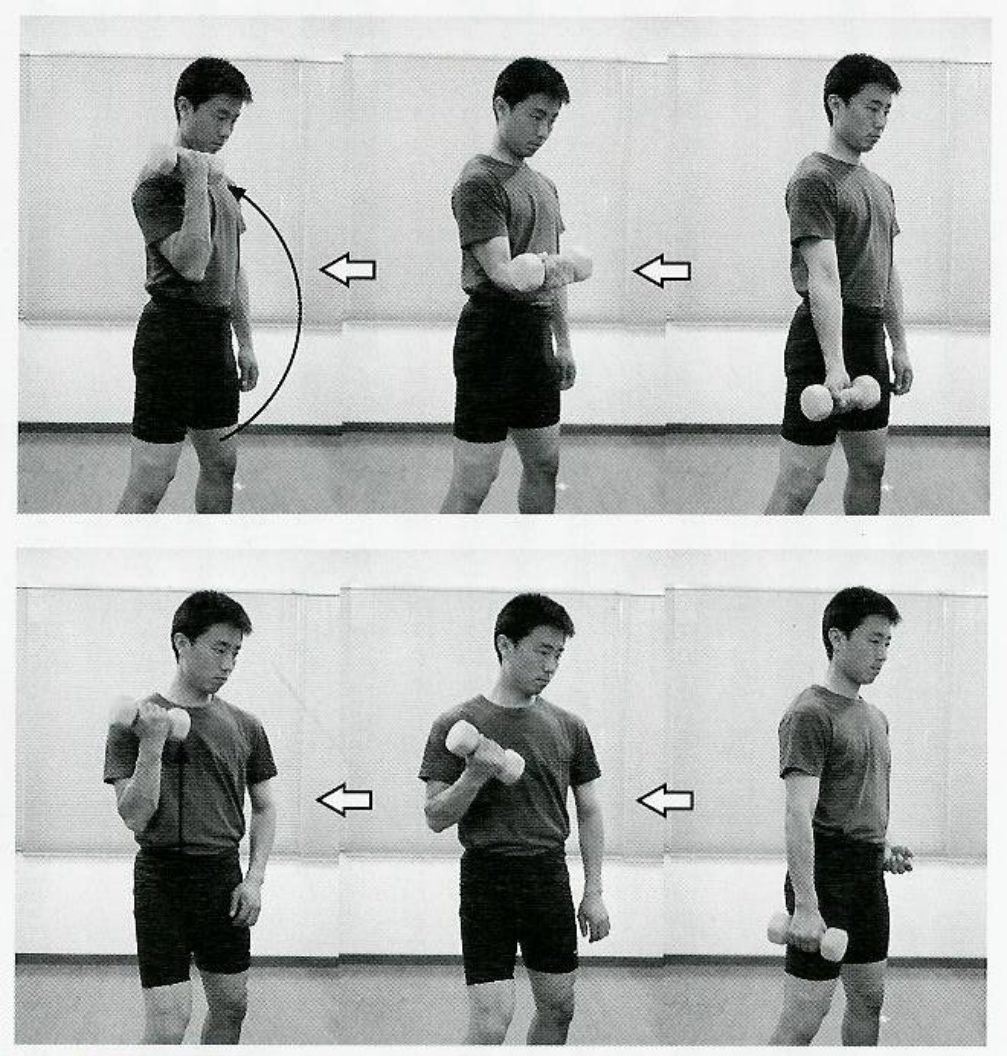
It is obvious that muscles have a power source which moves the body and that bones have no such power source. However, as previously mentioned, a sense of body mechanics can vary greatly depending on the awareness of it.

The muscle mechanics requires a fulcrum for contracting a specific muscle and, if a compound movement is made under such a condition, this results in a movement which hides internal factors. If the body becomes accustomed to moving muscles partially through muscle-building training, the movement would result in a tense movement.

Action is thought to consist of three factors; reflection, circulation and balance. Firstly, the muscles are awakened to organise co-ordinated systems in response to a certain situation (reflection) whilst attaining fluidity using gravity under the unbalanced condition (circulation), then eventually a well-balanced movement (balance) using unbalance would be created. Accordingly, you can create a smooth movement by operating your bones and this smoothness can be described as the condition where bones are moved like a flow of water. The key point for operating bones lies where bones are to be moved as though a circle (sphere) was being described and this method is called the internal body trunk operating system.

Top athletes operate the muscles of their entire body so skilfully and naturally. Importantly, such skilfulness comes from the internal part of muscles. However, it is difficult to operate them, unlike the external part. The author then, has reached the idea of operating the body using bones which are even more internally located.

The main theme of this book, 'the internal body trunk operating system' is the method of operating the body using bones and it enables to rewrite the programme of (both internal/external) muscle mechanics by enhancing bone mechanics. Eventually this will lead to a similar sense of body mechanics as top athletes share. 'The internal body trunk operating system' involves operating 'bones of the inside of body trunk' especially amongst other bones.



■The difference between operating muscles or bones

Difference between operating muscles and operating bones in the arm curl movement. The upper three photographs show the dumbbells being raised by the method used in muscle training. The lower three show that the dumbbells being raised by operating bones. Operating bones allows easier lifting.

By operating your bones, you could develop awareness of muscles' contraction as well as their extension. Your stagnated movement will gradually become more fluid because of a constant interaction between joints on both sides of the bones without locking joints in one side of the bones. Once you solve this congestion, your muscles would become able to switch themselves on and off in an ideal way.

Movement being created by bones

Training using weights (including your own weight) by method of operating bones will encourage you to awaken your muscles for re-organisation to synthetically and efficiently interact with the bones as well as to avoid a movement using only part of the body. In this case, the extremities of the body end up taking all the weight. This kind of training is aimed at mobilising your muscles whilst feeling gravity and the centre of gravity.

You will be able to notice the advantage of operating bones, which enables you to move your body more easily and efficiently, once you get a sense of such an interaction between bones and muscles in any movement. This is indeed 'a tip for movement'.

In summary, strain is generated when you are training the internal body trunk operating system because your movement loses fluidity as a result of trying to force your muscles in a certain direction that bones are not intending to go.

This unconformity of directions causes 'strain'. Once you understand your bone mechanics and learn to support your muscles move in a direction that your bones are trying to go, your body should find it much easier to move.

In most cases, people have already noticed their strain, but not the cause of it. They seem to misunderstand that they can improve the quality of movement by increasing the resistance against the centre of gravity. Training which they adapt would enable them to feel 'I have achieved something' however, they might not necessarily get this feeling when they actually led to a good result in competitions. Training allowing you to feel 'I have achieved something' is not leading to an improvement in quality.

Please review the time when you ought to get the feeling 'I have achieved something', getting support from a sense of bone movement of the internal body trunk operating system.

Your motor nerve will improve when you introduce a more precise ordering system for operating bones.

It is important to improve a sense of bone movement using the internal body trunk operating system. This would enable you to feel 'body mechanics' through coordinating the bones whilst recognising the location of each bone amongst the others.

Here is a simple explanation of the kind of image that this body mechanics evokes. If the question 'how many right arms do you have?' were asked, most people would answer 'one'. This indicates a superficial understanding of your body. Your right arm consists of five bones, the collar bone, scapula, humerus, radius and ulna, and a set of the hand bones (that contains twenty-six bones in total). The arm starts at the sternoclavicular joint not the shoulder joint. Therefore when you move your arm, you are actually operating five bones and a set of twenty-six bones.

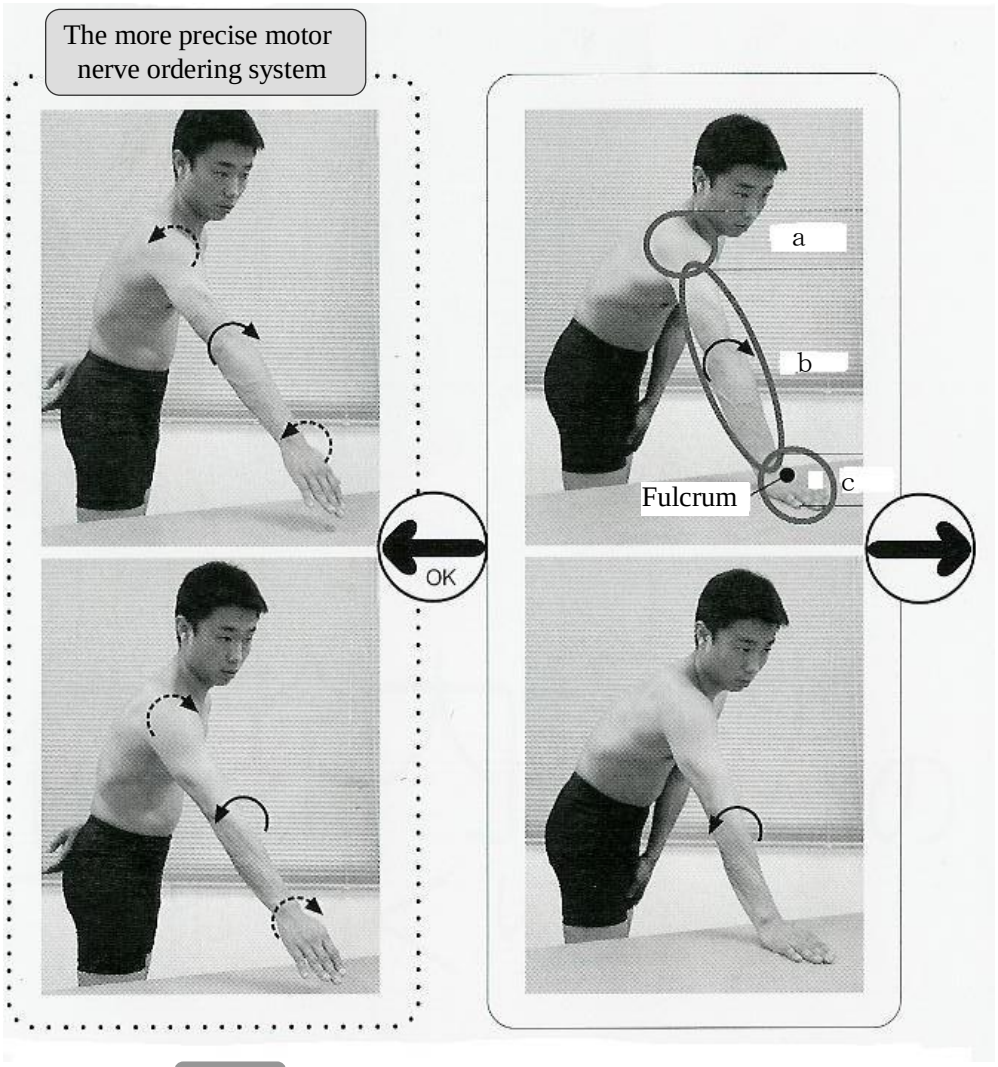
If you move each part of your body with a superficial understanding, your movement would become awkward and is likely to result in causing you injuries because it demands the movement of the extremities of the body and these ends would have to be responsible for taking a whole load. Your ordering system for operating bones would become more detailed as you learn to recognise your bones as in small units at the structural level.

As shown in diagram P028/029, there is a big difference in conditions between one, where an action order A has been dispatched to a motor nerve of the arm as a mass, and the other, where separate orders have been sent to each segmented part of the arm; a, b and c. Whilst you would end up rolling both your arm and hand simultaneously by method of the former ordering system (photograph to the right), you should be able to move your hand and arm separately by method of the latter system (photograph to the left). If you are able to make these separate movements, you prove to have already overcome one of the difficulties in training the internal body trunk operating system which allows to detail your ordering system.

Once you master this, it will enable you to attain fluidity in any movement you make using hands and arms.

A throwing movement with this previously mentioned detailed ordering system would produce a better line of the ball and reduce the possibility of injuries. It is therefore essential that athletes (players) who are more prone to injury should not only focus on the improvement of the injury, but also review the cause of it in relation to their body mechanics.

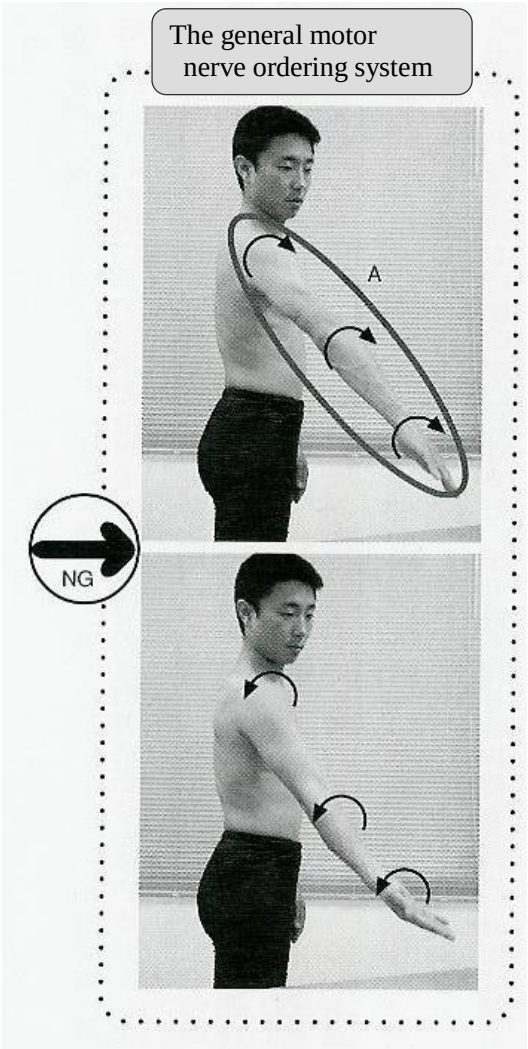
As the motor nerve ordering system of your whole body becomes more precise at bone level, a variety of bone movement would increase immensely. The two actions that seem to be identical could be either an effective movement not relying so much on the body or a unnatural motion heavily counting on the body. This depends on how detailed the ordering system of the bones is and whether or not this system has been switched on.



P029

■Checking the ordering system of your motor nerve

Can you rotate your elbow whilst your hand is stationary, as shown in the left of photograph（P029)? Some people might end up rotating their hand as well as their arm as shown in the right of photograph (P028). In this case, start with your hand positioned on a desk and try to get the feel of rotating your elbow. Then, whilst maintaining this feeling, raise your hand a little and try to continue the movement as shown in the left of photograph（P029).



P028