

HISTORY OF RESISTANCE TRAINING

(Professional paper)

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Abstract

Resistance training is a term that implies the use of load, machinery, or own body weight while exercising the muscles. It's used to increase the ability to overcome load and increase muscle mass. The history of training with the load goes back to the earliest civilizations, such as Greek and Chinese. The mythical story of Milo of Croton and his training method is well known. His principle of training is considered as a beginning of training with progressive load. Precursors of the resistance training didn't have on their disposal the sophisticated equipment which is available today, but as proper equipment they used everything they could find. As time went on, they created the modern props and equipment for training with various loads.

Keywords: *physical abilities, weightlifting, halters, bodybuilding, muscle strength*

From its beginning until today the resistance training largely has been evolved. The development of resistance training for the most part are based on the method of trial and error and on the experience, and only in the last fifty years has attracted interest of prominent scientists in the field of sport science. The methodology was adequately perceived and explored too. In most cases, good training practice that would result in progress in strength, muscle endurance and muscle hypertrophy would quickly spread and is worldwide accepted. The training that did not give the desired results and progress was gradually lost. At the beginning it was not so easy to distinguish the successful from unsuccessful training practice, primarily because it was difficult to clearly define the parameters of training and what is it the path toward the desired final goal. Often, practiced intuitively and spontaneously, without a clear picture of what can result with greatest contribution to the final success. For these reasons it's important to understand the historical concept of strength training. Knowledge of prominent individuals, a period of development, events and training practice in the past contributes to a better understanding of today's stage of development. Knowing the historical development of the training methods, we could find some of the "new" methods that are offered today and which have already been applied in the past, but for some reason they have been lost their popularity,

and therefore their participation within the training in practice. It's a common opinion that the study of the past can predict the future and the future course of development within the area. This paper doesn't have such a tentatively set of goals for an interesting story about the beginning of the training load, the first dumbbells that were used and most distinguish persons from the history of this kind of training.

The cult of well-built and symmetrical body shape dates from the time of ancient civilizations of Greece and Egypt. The Greeks gave great importance of physical exercise, and it played an important role in their educational, economic, social and political life. Practicing in the gymnasiums (the institution where young Greeks have been practicing, and a place of gathering of all free citizens of Athens) and palaestras (rectangular space lined with buildings, and used for practice), young Athenians strengthens their bodies and spirits, and preparing for various events such as the Olympics, as well as for the military profession.

The broad back, muscular arms and shoulders, slim waist, were synonymous for masculinity and healthy body at the time of the ancient Greece, which can be testified by the numerous statues of theirs gods as well as the Olympic winners, and drawings on vases that have been saved from that era, and so they remains to this day all over the world.

Human's interest in their body development as well as in similar systems of exercise dates from much earlier periods, long before the modern bodybuilding competition and before the strength and power disciplines that become increasing and watched in recent years. People have realized from the earliest periods of time that lifting loads increase their physical fitness and muscular strength and endurance. Lifting loads for the first time appears in the ancient Greeks and Egyptians by means of basic physical activity, they used to gain strength, endurance and the "power". They used rocks of different shape and weight as the load, and practiced with them. The ancient Greeks used to practice the so-called halteres (Halteres (Dumbbells) made of stone (1.5kg - 2.0kg), by which the Greeks were increasing the length of the jump, by rejecting the halteres in the air (photo from the National Archaeological Museum, Athens, Greece), forerunner of today's dumbbells. These halteres were also used as an aid for the long jump, an attractive discipline with which the ancient Greeks were developed their skills and physical explosiveness. One of these halteres (4.629kg) that was found is currently in the National Archaeological Museum in Athens.



Picture 1. Halteres

Historical development of the training load is not complete without the famous story of the ancient hero Milo of Croton. His extraordinary strength and power ranked him in order of mythical heroes. His training with newborn bull established the foundations of one of the leading principles of strength training, the principle of progressive loading. Milo's daily practicing routine consisted from raising a newborn bull that is constantly growing and adding weight which made this type of training very challenging. By gradually increasing the load, Milo has developed his strength to such an extent that he was able to raise an adult bull, which weighed several hundred kilograms. His way of training is described in a number of ancient Greek anecdotes. The writers of these anecdotes also tell us the story of the Milo's diet. One anecdote says that Milo's daily diet consisted of 9 kilograms of meat, 9 kilograms of bread and 8 liters of wine. Pliny the Elder and Solinus attributed Milo's exceptional strength and invincibility in the

discipline of wrestling to a particular type of mushroom (Beagon, 2005). Legend says that Milo brought in the hands his bronze statue to Olympia where he participated in the games (Harris, 1964). It is likely that the stories of the famous Milo from Croton were largely exaggerated and that in some cases could be treated as inadequate interpretation of material remains and historical facts from the antiquity, but there is no doubt that this is a personality that was full of extraordinary strength and physical condition that exceeded the strength of its rival competitors (Todd, 1995).

Reading the classics of ancient Greece we will find the text in which Hippocrates describes the training load, pointing out that "those body parts and organs that are used will be developed and those that are not used will be weak and start deteriorating".

Originators of the discipline had no sophisticated equipment as such available today, but are used all what that could be found in the nature and would be appropriate for this type of training. As the time went on, they created the modern props and equipment for training with different types of resistance. Dumbbells that are now mandatory requisite in every gym were, as already mentioned for the first time appeared in ancient Greeks as a prop for a performance jump, and to exercise power (Spivey, 2004). However, the modern dumbbells occur much later, in the 18th century. The first weights were made of two rings connected rod. As the bells and clattering noise created during the exercise, the inventor of the dumbbell removed it to stop the noise so the bell became a "dumb" which explains the current term "dumbbell" (Schwarzenegger, 1999).

Near the Olympia it was found a roughly engraved rectangular block reddish stone, sized 69 x 38 x 33 centimeters and weighing 143 kilograms. There was engraved text: "Bibon transferred me over the head with one hand." In the valley Kladeus three kilometers from the Olympia, it was found a stone with thickness of 20 centimeters, width 33 centimeters and 41 centimeters in length. The stone weight was of approximately 45 kilograms. On the similar stone the following text was engraved: "I am Xenareus throwing the stone" (Harris, 1972). Similar stones were found in several different locations in Asia and in the area of modern Greece, Palestine and Egypt. Based on these findings we can conclude that the extraordinary expression of strength was very popular discipline in ancient times.

The text of St. Jerome describes the discipline of lifting stones. The translation of this text can be read: "In the cities of Palestine is an ancient custom which has preserved to these days throughout the Judaic land, that the young people should use the round stones for practicing. Those stones were lifted in accordance with their individual abilities, some to the knees, the other to the hip, and some individuals lifted it to the shoulder or within the head height. Several overhead lifting strengthens their hands so that they may show their extraordinary strength". There is no doubt that the resis-

tance training has been practiced in the ancient Roman Empire. The famous ancient physician Galen, who spent the most of his career in working with the gladiators, wrote about the exercise of weight training and basic principles of power development. In his "Preservation of Health" he emphasized the importance of this type of training (Brain, 1986; Brain, 1979).

In several texts originating from the ancient China it is said that some Chinese rulers insisted on the practice of strength training for its soldiers. During the reign of the Chou dynasty (1122 - 259th BC) the soldiers even had to perform a test for assessment of the power before they are recruited.

The ancient Greeks were practicing in the gymnasium and palaestra, and today this system of exercise is performed in gyms. The first gym dating from the XI century is related to the Indian culture. These training facilities was not differ greatly from the gym today, even the loads that were used during the exercise is very similar to nowadays modern weight training. Weights that they used were made of stone of various shapes and sizes. These weights are called "Nal", and they do not differ greatly from the weights that we can see today in the modern gyms. They lifted loads in order to increase their strength, endurance and the muscle mass. Nal weight was made of shaped stone and had a handle in the middle. Nal is the forerunner of today's one-handed weights (dumbbell) that are seen in gyms. Nal exercisers have strengthened the hand and shoulder muscles. Even today in some parts of India this type of exercise with dumbbells stone is often used. Since they had different weights, shapes, dimensions and weight, each had its purpose. Looking through the centuries in India, there were many forms of exercises with various types of loads. Many of the techniques they used are still using in the modern bodybuilding. Also, the types of exercises they performed we can see today too on the "Strongman competitions".

Lifting a stone circle was a specific exercise practiced by the Indians to increase their strength and endurance. The exercise consisted of running and lifting the stone, whose weight gradually increased, thereby strengthening the legs, neck and spine muscles. This unique exercise system is a part of physical education in India.

Sumtola rising is another form of exercise that is specific to physical education of Indian people. Sumtola is a synonym made of two words, sum - which means equally, and tola as means a weight. It is a "exercise equipment" that has equal weight on the both ends. The weight was a log that is made of Indian wood Babul (lat. *Acacia Arabica*). There were carved holes at equal distances from the ends of logs. In these holes there were placed handles that were used for stable grip of the exercisers. Sumtolas are lifted in order to increase the strength and endurance, and are often practiced by Indian wrestlers to increase their strength. This kind of weight can now be seen on the world strongman com-

petitions all over the world as one of the most important disciplines.

In addition to these forms of exercise, there are many others that may be linked to the Indian physical culture and its people. Lifting the stone balls was popular as much as the sumtola was, the nal and the stone circle as well. This discipline is also applied to all kind of strongman competitions. Also very often could be seen, the exercise with heavy sticks, which were circulated around the head and body with a special technique, to develop the body muscles within the arms, shoulders, chest, and the spine areas.

The interest of the Indian people for bodybuilding is dating from the XI century, roughly the time when the first gym has been appeared, to the XVI century, when bodybuilding has become their main form of entertainment.

Looking through history, the bodybuilding was not known by the system as a form of exercise such is the situation today. In the begging, people are starting to realize the importance and the benefits of lifting weights so they have started participating in these types of activities in order to increasing their physical abilities. Institutionalization and development of bodybuilding began in the XVI century in India where the bodybuilding became a national sport in that time.

During the middle ages, this is often attributed by a term of the dark ages, physical exercise within the European countries to a large extent been neglected, and even banned. The reason for this attitude towards physical exercise in middle age is the fact that in ancient Rome, the physical exercise associated mostly with battles of gladiators that were very inhumane and often resulting in death. The ancient Olympic Games after the decadence and the numerous scandals are being abolished and prohibited. All this did not work in favor of physical exercise during the early middle ages. However, in rural areas people still retain certain types of physical competition and with them some discipline in which they expressed muscle power of participants (Zivanović, 2000).

At the beginning of the new century, in the 1531, Sir Thomas Elyot published a book in which he introduced exercises toward strength developing. This is the first book in which the power and strength exercises were presented in such a way. Sometime later, in 1544, within the some universities in Germany and France, regular resistance training was introduced toward their curricula. They also recommended that resistance training should be an integral part of the school curriculum.

In the late XIX century a new system of training rises in Europe. Following the example of the ancient Greeks, many people were involved in this new system of exercise known as "lifting". Until then, an unprecedented system of training in Europe, lifting, represented a new form of entertainment for the masses. At this time period the first professional strongmen appears, and they were showing their strength at various events or they

were playing various roles as circus performers, as different kinds of heavy weights lifting. The former professionals and pioneers of this type of exercise were setting new records in weights and their goal was to break the record held by other participants. They traveled from town to town and also showed their strength capabilities. Besides lifting weights, it is often practiced pulling carts with load, lifting animals, tearing chain rolled around the chest and so on. Symmetry of the body and the muscles at the time was an unknown concept; the majority had protruding bellies and large thick limbs with no muscle definition. The tendency for symmetrical and aesthetically built body occurs only in the late XIX and early XX century. Then there is the appearance of the gap between the former strongmen, asymmetric and too heavy and modern bodybuilder who seeks to perfect symmetry and aesthetics of the body.

Presentation of the historical concept of strength training has shown that today's guiding principles of strength training was based long before, in the ancient times. Through its long history up to today they did not significantly change. What we have experienced is a revolutionary development of the machinery and equip-

ment used. From stone and rocks, through the molded dumbbells and weights, we came to very sophisticated training equipment that uses compressed air for training resistance.

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