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Reflexions on AIKI-DO, Roger Seguin CN3D/13-05-1990

Table of Contents

1 - History

- 1.1 Origin
- 1.2 Etymology
- 1.3 Effects of the Japanese Defeat in 1945

2 - Vital Energy

3 - Practice

- 3.1 Aim
- 3.2 Sport
- 3.3 Student Age and Build
- 3.4 Problem Generated by the Lack of Competition
- 3.5 Working in the Gymnasium

4 - Man Physiologic Advantage on Most Animals

- 5 Phylosophy Teaching
- 6 Kinetic Energy
- 7 Position of Aikido Among Other Fighting Sports

1 - History

1.1 - Origin

Aikido is a martial art (warrior art) created by Morihei Ueshiba at the beginning of the 20^{th} century in Japan.

However, should we accept the principle "Since Life is, fighting for survival is necessary", Aikido would rather be dating back to the dawn of time, its birthplace being the Universe.

1.2 - Etymology

The term AIKIDO is the concatenation of the words AI, KI and DO, which could be respectively translated into English as harmony, vital energy and search. Let us point out an apparent ambiguity on the interpretation of these three words put together. Should AIKIDO mean "search for the harmony of the energies" or "search for the energy resulting from the harmony"? A means to cover these two interpretations would be to translate AIKIDO as "search for the universal energy".

Also let us notice that the term KIAI (energetic cry) is itself made of the words AI and KI.

1.3 - Effects of the Japanese Defeat in 1945

Victors of Japan in World War II, The USA took its affairs under control. Therefore, Japan lost its internal politic autonomy and, because of the warrior aspect of the martial arts, they were seriously criticised.

However, Aikido succeeded in being accepted prevailing on it was a defence art, it fought all kinds of aggressiveness. Thus, in the after war, more precisely during the Cold War, Aikido exported from Japan, principally to Europe.

2 - Vital Energy

A philosophical approach would be to define the universal energy as the set of the energies of everyone (unitary energy). An analogy could be found in the divine belief. Thus, the universal energy would be God, the unitary energy the soul. Let us notice that, from a physics point of view, a parallel might be made. Albert Einstein, in his second half-life, tried to define the universal law describing in terms of a single mathematical formalism every entity of the universe (unified field theory). Though the Relativity already showed that the notions of gravity, space and time were strongly bound together, Einstein did not succeed in reaching his goal. However, numerous physicists specialising in elementary particles are still investigating this way (Grand unification of the 4 fundamental interactions).

3 - Practice

3.1 - Aim

The practice of Aikido aims to be able to respond to any physical aggression. However, an intellectual dimension can be brought into it, increasing its usefulness in nowadays world (economic warfare, stress,...).

3.2 - Sport

For many people, Aikido is not a sport. The argument then often advanced is that a sport has competitions, not Aikido. But can we truly affirm that fighting for survival is not a form of competition? Moreover, are we not in competition with ourselves when always trying to do better, to go further in the Way?

On the other hand, considering that a sport is a means to obtain a sound mind in a healthy body, cannot we say that Aikido is one of them; especially if we add that the Olympics Games, as they were originally designed by the Greeks, grouped physical tests as wells as intellectual ones (literature).

3.3 - Student Age and Build

Aikido possesses a huge variety of movements. Some of them seem to be accessible only by strong people, others being for older or weaker ones. In fact, in spite of appearances, many movements can be worked out by everyone, the student just having to adapt them to his body and spirit.

3.4 - Problem Generated by the Lack of Competition

Many clubs forbid all form of competitions, the managers prevailing that Aikido has no fighting rule. The problem resulting from this lack of competition is that the student may come to lie to himself, persuaded that he is invincible.

3.5 - Working in the Gymnasium

Aikido is based on the amelioration, by conditioning, of instinctive reflexes. Therefore, the student must not be opposed but corrected in the search of his own goal, divers orientations being proposed to him:

Thus, playing varied partners, of different ages, heights and weights, increases his faculty of adaptation to the environment.

Working with beginners, whose reactions are not codified and therefore unexpected, allows to sharpen his reflexes.

Regularly doing soft fights, each participant doing as he thinks fit, teaches him the simultaneity of an attack-defence.

At last, let us notice that the *randori* (defence fight) against several adversaries, whether armed or not, emphases the main characteristic of Aikido, the fluidity.

4 - Man Physiologic Advantage on Most Animals

Apart from intelligence, the human being has an incontestable advantage on the majority of the animal kingdom: the hand. The latter allows us the realisation and the use of tools, and thus influences our way of thinking. Besides, the definition of the decimal numbering corroborates very well the hand-mind interaction. As a matter of fact, do we not have ten digits?

Aikido has very well understood the importance of the hand. Unlike other fighting sports using it only as a fist, Aikido uses the hand for many actions such as grabbing, twisting, pressing or handling

5 - Phylosophy Teaching

Some teachers, during their course, affirm principles of the philosophical domain without caring of the student cognitive skill of the abstract. Rather engaging into the dangerous field of the affirmation, would it not be better to proceed using heuristic? The student then thinks at the question, makes his mind and keeps the possibility to come back to his position, his experience of Aikido having been increased.

6 - Kinetic Energy

Many martial arts related books mention the kinetic energy, but rare are those that attempt to explain what it expresses.

When a hammer is laid on a nail, the latter do not penetrate. It is thus required to throw the hammer in order to perform the wanted work. In a general way, all moving body is susceptible of performing some work: it possesses kinetic energy.

Let us thus introduce the concept of work of a force. Its differential definition is dW=F.dX, where F is the force vector and dX the elementary caused motion. The work is thus a physics measure that evokes a force with a notion of dynamics.

Accumulated in a moving body (translation or rotation), the kinetic energy is partly or totally convertible into work (dE=dW). The kinetic energy may thus be described as a potential work.

Mathematics shows that the kinetic energy of a rectilinear moving body is $E=\frac{1}{2}mv^2$, "m" being the mass and "v" the velocity of the centre of gravity. Thus, the velocity, raised to the square, prevails on the mass. Consequently, a 50-kg body in a 20-km/h motion is as energetic as a mass of 100 kg driven at 14 km/h.

In a rotation of a material point around an axis, the kinetic energy is expressed by $E=\frac{1}{2}mr^2a^2$, "m" being the mass, "r" the radius of curvature and "a" the angular velocity. As for a rectilinear motion, the velocity prevails on the mass. But the radius of curvature (distance from the mass to the axis of rotation) also prevails on the mass. Therefore, driving a 100-kg body in a 35-cm-radius rotation does not require more work than for another one of 50 kg but at a distance of 50 cm.

These mechanics preliminary notions might allow a better understanding of certain aspects of Aikido. Thus, a fast *atemi* performed by a light person might be as efficient as a slower blow, of a heavier one. Besides, unbalancing an adversary through a rotation is easier when the distance separating both fighters is reduced.

7 - Position of Aikido Among Other Fighting

Sports

Aikido, in its practice, is generally smoother than any boxing. But in spite of an approach maybe different, the pursued goals have nevertheless similarities.

Aikido is said to be based on dodge and judicious use of energy. In that case, cannot we say that a high level boxer is also an Aikido expert.

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