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## ***Kata* understanding is possible only with interdisciplinary approach.**

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**Key words:** *Kata*, History, Cultural history, *Jixiao Xinshu*, *Bubishi*, Vector analyze.

### **Introduction.**

Author started training sport martial art named Karate 55 years ago and for many years believed everything what he was told. At the beginning of this millennium he visited seminar on *Kiai jitsu* (art of using voices) and with this knowledge came awareness that designations - names and actions somehow do not fit together. His first break through to *Kata* understanding started with realization that *uke* 受け literary does not mean block but receiving. First awareness and findings based on proper translation of word *uke* author already expressed in 2009 in his book: *Kata is everything you need*<sup>1</sup>. This was long before anyone else made a video or written document expressing that *uke* doesn't mean to block, but to receive or as author thought at the beginning the catch which actually follow receiving. This discovery opened the author's eyes and he began to look at *Kata* differently, seeing that he had been wrongly taught for many years. Accepting that *uke* means to receive allowed the author to decode first the individual movements of *Kata* and then the entire content of *Kata*. Ability to decode *Kata* was the basis for him to start his doctoral studies and *Kata* research in 2016, which he successfully accomplished in 2022 under the mentorship of prof. dr. W. Cynarski.

### **Background**

*Kata* are self-defense training form and self-defense is according to W. Cynarski and J. Skowron technical and tactical skills to avoid or fend off an attack and neutralize the attacker<sup>2</sup>. Problem is that *Kata* forms are nowadays performed at tournaments where judges are evaluation perfection of execution of stances, techniques, transitional movements, timing, correct breathing, focus and conformance – and the athletic points - strength, speed and balance according to set rules that are very similar as for figure skating. Unfortunately there is no evaluation on usability of these movements for self-defense. *Kata* has completely transformed to ballet and old knowledges are completely lost. It is very sad truth that nobody anymore know the real self-defense value of *Kata*.

### **Problem**

The biggest problem in *Kata* meaning research is that every *Kata* nowadays exists in a huge number of versions, and from this arises the problem and the question of which version is actually correct or the original one and if any at all. The masters who teach *Kata* each know how to perform *Kata* in their own way, but no one can scientifically justify why to perform *Kata* in his specific way.

Additionally, all interpretations are based on a sports approach, where *Ludus* and *Agon*<sup>3</sup> are applied and not on real life situation where bigger and stronger attack weaker. *Ludus* are rules

that protect fighters against serious injuries and Agon is the equality of fighters rule expressed through weight and skill categories.

Another problem is that people tend to exaggerate with everything. At the beginning this exaggerations normally lead to progress but history show that exaggerations always go out of the line and end with spoiling of good ideas. Like antient Spartans who started to compete who is better sportsman but on the end Spartan civilization has fallen when they start to compete who is able to eat more or drink more wine. Another problem with the humans is that the clever people are not majority of the population and there is no pill to get smarter but there is whole industry that promote and sell stuff to make the people stronger. If the person is weak it always have possibility to get stronger but there is no way to get smarter therefore strength is so popular because people with will for improvement can get at least stronger if they cannot get smarter and if somebody is explaining how strong he is, he shows with that immediately how „smart“ he is. This fact has led to *Kata* being interpreted today from the point of view of strength rather than the art of self-defense.

## Methods

Author's aim is and was to find the answers on the purpose of *Kata* and how to use in *Kata* hidden knowledge for real life self-defense.

Author decide to do research as proposed by Descartes by doubting everything and to consider true only that which is unquestionable and author followed philosopher M. Certeau<sup>4</sup> who pointed out importance for researcher not staying in close community therefore author was like Japanese *rōnin* who listened at all Rashomon<sup>5</sup> truths that depend on observer's standing position.

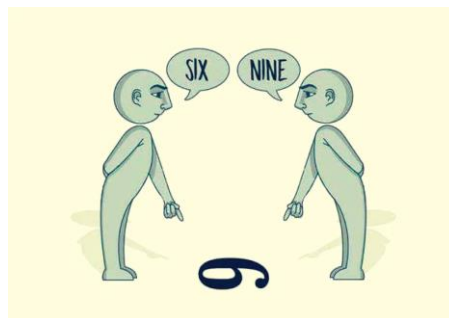


Fig. 1 standing point (Dictionary.com)

Author followed the footsteps of British historian K. Jenkins, as a “disrespectful researcher” of the past, by being like a kid from Andersen fairy tale: Emperor's New Clothes yelling: Emperor is naked.

For the research, author used a qualitative method and opted for probabilistic sampling in the population practicing karate. Author learned more than 20 *Kata* forms and spent more than 20 years for visiting different master's seminars round the globe to find out what is common knowledge. Author wanted to find out what is right and what is wrong and he followed Confucius instruction: If I am walking with two other men, each of them will serve as my

teacher. I will find out the good points of the one and imitate them and the bad points of the other and correct them in myself.

To evaluate collected knowledge and understand *Kata* author had to collect several other knowledges as:

Chinese and Japanese history, culture and philosophy to understand basic approach to *Kata* creation and understand soul of nation and especially to be able to understand symbolic words.

Acupressure point fighting method to understand where kick or punch should take the place.

Kinesiology to understand human body moving abilities.

Anatomy to be aware of muscles, bones, nerves and blood vessels.

Psychology to understand natural human responses.

Undisputed laws of mathematics and physics, especially Newton's laws, classical mechanics, vector analysis and the fulcrum with leverage, which make it possible to understand which technique is suitable for the defense of the weaker against the stronger.

For final confirmation and to support of theses author used relatively new but undisputable mathematical method named vector analyses first described by Edwin Bidwell Wilson<sup>6</sup> in 1901. Vector is defined as an object that have magnitude and a direction. In geometry Vector is drawn as a line whose magnitude is presented with line length and where direction is represented with arrow. Author used vector addition and Triangle Law for vector addition that have definition as follows: If two vectors are presented by two sides of triangle their resultant is represented in magnitude and direction by third side of the triangle.



Fig. 2 Vector represented with small and big fighter (author and Freepik)

In his research author kept all the time in his mind that already Chinese general Qi Jiguang in his *Jixiao Xinchu*<sup>7</sup> five hundred years ago wrote that techniques shown on his thirty-two posters which are even today performed-trained in China in the form of *Kata* are for those who cannot be strong what well observer immediately detect from drawings on general's posters where the “fighters” are drawn with bellies and titties and no muscles on their hands and even some of them as seniors.

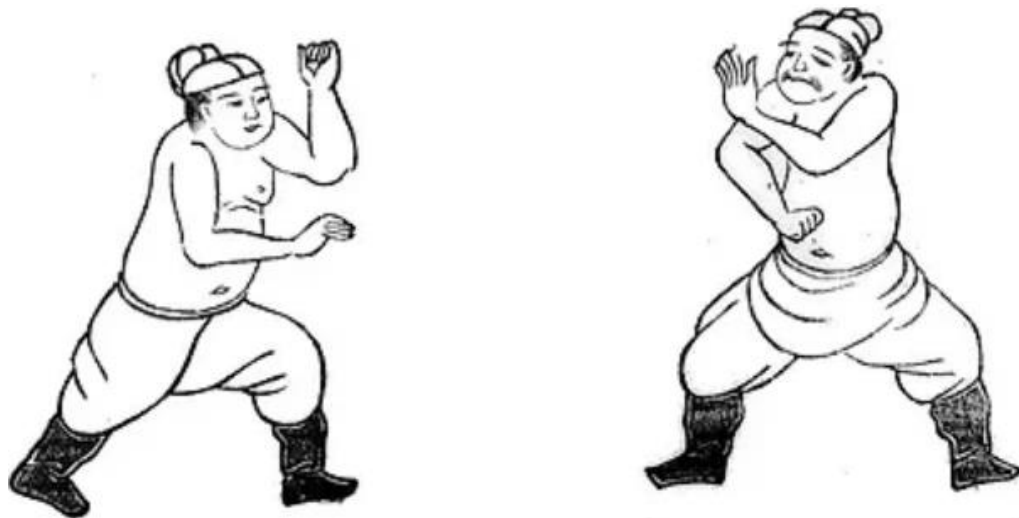


Fig. 3 “Fighters” ( *Jixiao Xinshu* )

Even the legend on Fan Qiniang sixteen years old girl which defeated strong Chinese boxer and who is recognized as creator of white crane style confirms what is the *Kata* purpose.

## Results

To understand any knowledge, someone must know the knowledge history. Thus, Confucius wrote, “Study the past, if you would divine the future,” and Johan Wolfgang von Goethe wrote: “History of a science is that science itself.” This mean that any research should start with the history of the object of research. Most important information on history can be found in old books and on old drawings. About martial art there are no much of these information. Author has found in more than a 20 years of research only four pre twentieth century books with text and drawings. There are many books and other modern type information sources dating from beginning of twentieth century and further but at that time original art of weaker person self-defense against stronger attacker was already lost and supplemented with sport where two fighters are fighting considering *Ludus* and *Agon*. Why art transformed to sport author published several articles that can be found on [www.bunkai-monkstyle.com](http://www.bunkai-monkstyle.com).

The first and most important book is the *Jixiao Xinshu*, written in the middle of the sixteenth century by a trusted and, according to recorded facts, undisputed author, the Chinese general Qi Jiguang. This book have 32 posters with drawing of a defender in the self-defense most important position and text written in symbolic way understandable only to knowers which author succeed to explain.

The second book is *Wubei Zhi*<sup>7</sup> by written by editor Mao Yuanyi written in 1621AD. This book includes the General's posters and text on empty hand defense.

The third book is *Bubishi* written by several editors based on notes of unknown Okinawan students with Chinese roots who studied in Fujian around 1850AD. Author determined approximative date of appearance based on hair style of the “fighters. *Bubishi* books editions have mostly 48 drawings of attacker and defender in most important moment of fight. To

understand drawings it is most important awareness that position of the fighters is not shown always in same moment but in most important moment for each alone. Drawings are accomplished with text written in symbolic way.

Many authors mix *Wubei Zhi* with *Bubishi* thinking that these books are same by explaining that *Wubei Zhi* in Chinese have same meaning as *Bubishi* in Japanese. What that they are confirming their ignorance and fact that they never had a look in the very rare book *Wubei Zhi*. The only truth here is that *Bubishi* have roots in *Wubei Zhi*.

The fourth book have European origin explaining similar art developed by Nicolaes Petter and saved for us in book *Klare Onderrichtinge der Voortreffelijke Worstel-Konst*<sup>8</sup> from 1674AD.

Before starting to do research of any *Kata* most important awareness is that nothing is as it seems at first glance and nothing will happen as a common observer expect. *Kata* were made in such a hidden way that masters could perform them in open space like dancing in rice fields keeping all secret techniques hidden from non-invited observers. Therefore what common observer see at first glance is mostly not correct answer. Same is with all rare ancient books about self-defense. How to understand ancient Chinese drawing author explained in his article: Decoding methods for understanding ancient drawings depicting martial arts.

Author will give here below example how to do research that always start with history and ends with vector analyses that helped him to finally understand what does uke mean and how to apply it in self-defense.

On the *Jixiao Xinshu* No. 6 poster titled „Mount the dragon backwards“ there is only one fighter who, at first glance, punches with his right hand, which is completely misleading. Understanding begins with a knowledge of cultural history that correctly explains the associated text. When reading it the author first remembered one of the best movies with martial arts content "Crouching Tiger, Hidden Dragon". Movie name is Chinese idiom "臥虎藏龍" that describes a place or situation that is full of unnoticed (hidden from the view) masters (talents). The easiest way to get hidden from the attacker view is to step behind the attacker what would master do in case of being attacked from a stronger attacker where he cannot accept fight face to face.



Attacker and the dragon

Fig. 4 Mount the dragon backwards (author and *Jixiao Xinshu*)

According to the author's definition of five animals style the dragon is mystically creature and mystical creatures do not exist. Things that do not exist cannot be seen. In Kyoto there is famous Ryoany Temple rock garden named "Dragon in peace". In garden there are fifteen rocks but whatever position observer takes he never see all fifteen rocks. The name of the garden is one more proof that dragon is symbolic word for something hidden. Therefore dragon style means that defender must defend so that attacker cannot see him and if attacker cannot see defender attacker cannot harm defender. This idea expressed already 2.500 years ago Sun Tzu in one of his wisdoms: A skilled warrior attacks so that the enemy cannot defend himself and defends himself so that the enemy cannot attack. Instruction how to become hidden author has found on *Bubishi*<sup>9,10</sup> book poster No. 41 that describe sun and the moon hand.

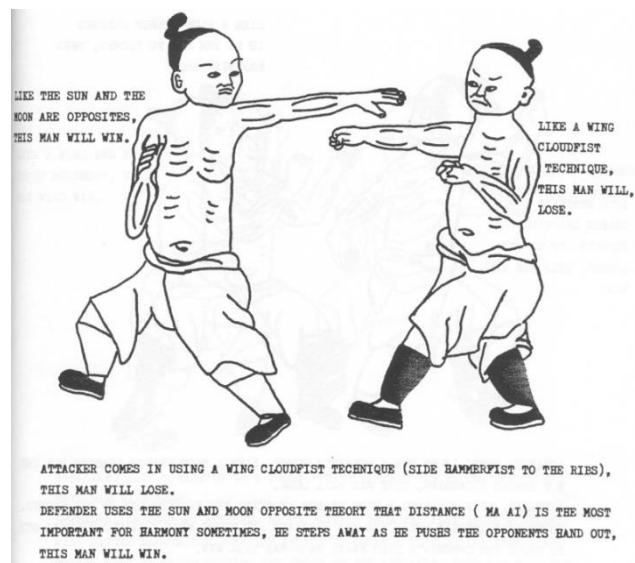


Fig. 5 Fu Roku *Bubishi*

With his research methods author succeed to explain al *Bubishi* posters that's why he strongly disagree with the explanation on Fig.3 written by the editor except with the statement that defender on left side (who uses sun and the moon hand) will win.



Fig. 6 General Tien *Bubishi*  
There is no translation or comment

There are differences in the drawings from *Bubishi* books because different students and later editors perceived differently actions taught by Chinese masters. Most difference are occurring out the fact that they show the same action in a different moment.

To understand the action shown on *Bubishi* No. 41 poster, we must imagine that one hand is the sun and the other is the moon, and then recall how we see them traveling in a circle across the sky.



Fig.7 Sun and the moon hand (author)

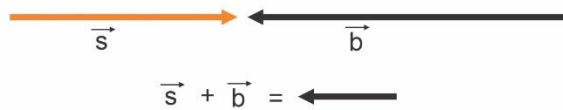
Sun and the moon action executed in fast and flexible way presented on fig.5 is in principle combination of actions that are in sport Karate performed in its strong and hard version named *Soto ude uke* and *Uchi ude uke*. This action is present in all kata forms. Dividing between Sun and the moon hand on one side and *Soto ude uke* with *Uchi ude uke* on the other side is most important for the beginning of perceptions and separations between a sport intended for equal fighters and a martial art intended to defend the weaker against the stronger.

How even smaller person can easily do this action help us understand Triangle law for vector adding.

## Vector analysis



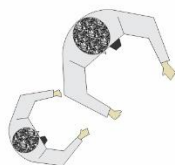
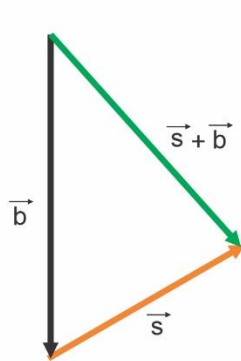
## Linear addition



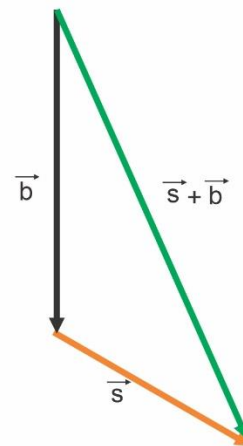
Small fighter can not push back big fighter with his weight-strength but she can redirect his attack. How this can be done can be explained with

## Triangle Law of vector addition

If two vectors are presented by two sides of triangle then their resultant is presented by third side of the triangle in magnitude and direction.



Blocking bigger attacker is not safe



Let the bigger attacker to slide by is safe

Fig 8. Vector adding (author)



Defender same as water wheel pedal cannot resist the water flow but must follow the water stream to achieve max. efficiency where velocity of water (attacker's hand) is equal to velocity of water wheel (defender's hand) mathematically expressed as  $v_{wp}=v_{wf}$ .



Fig. 9 Jakčev mlin (zavod za kulturo Slovenska Bistrica)

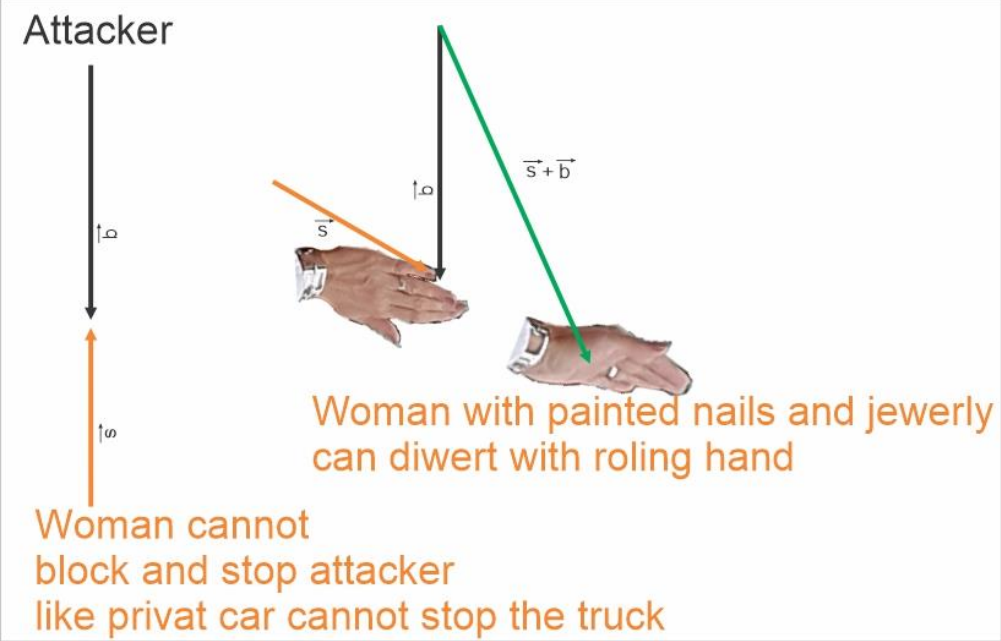


Fig. 10 Diverting the energy (author)

If defender want to block attacker than she needs at least little bigger energy than attacker. Expressed wit vectors this mean that vector s (small girl) must be bigger than vector b (big guy). This is impossible. What weaker-smaller can do is to redirect attacker's energy. How to do it is shown on Fig. 7 and 10. Explanation with vector triangle adding on Fig. 8 show that a defender (vector s) use hers smaller energy under correct angle to speed up attacker and to achieve complete bypassing of attacker (vector b). In such way defender transfer herself to invisible dragoon following Sun Tzu instructions: Experienced warrior defend himself so that attacker cannot attack and defend so that attacker cannot attack.

This mean that correct defend-redirection will not stop attacker's hand but accelerate attacker's hand and whole body. In this way, the defender avoids blocking and pain caused by blocking and possible hand injury from direct hit. Most important is that in same time defender redirects the attacker's hand in the most effective way. This confirm that word *uke* 受け is in sport Karate completely misunderstood and wrongly translated to block. For uke except in martial art world official translation is receiving and that is what defender is actually doing when she like a water wheel receive water stream and redirect it. Therefore we may say that there is no block in martial art but only receiving and redirecting of the attacker and his energy and that blocking is possible only in sport fights where *Agon* and *Ludus* are applied.

Same principles can be applied for explanation of *Age uke* 上げ受け (rising block or pick up) and *Gedan barai* 下段払い (Down block, lower sweep or down push a side)

## Conclusion

Understanding *Kata* forms is only possible with an interdisciplinary approach using various sciences and knowledge, where it is essential that the explanations are supported by exact and undisputed sciences such as mathematics and physics whit which we can prove that there was never block in martial art like it is in sport but only receiving and redirecting of attacker's energy. This is biggest forgotten secret and first door to martial art and *Kata* understanding.

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