REVIEW ARTICLE

Technical principles of *atemi-waza* in the first technique of the *itsutsu-no-kata* in judo: from a viewpoint of jujutsu like *atemi-waza*. A broad perspective of application in honoured self-defence training

Authors' Contribution:
A Study Design
B Data Collection
C Statistical Analysis
D Manuscript Preparation
E Funds Collection

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Abstract

Background and Study Aim: Conventionally martial arts renaissance can be combined with the creation of jūdō by Jigoro Kano. A symbolic date may be the establishment of a Kōdōkan (1882). Further expansion not only of Japanese martial arts is the result of the intellectual effort and physical training of many generations of experts around the world. The purpose of this study is to verify the hypothesis that the true is the opinion of Kenji Tomiki that "*atemi-waza* (striking technique) is, in principle, an extension of *nage-waza* (throwing technique)".

Material and Methods: Verification of the hypothesis was based on three issues: (1) to make a technical analysis of Kotani & Otaki's study, chosen among the seven previous studies, which describe the teaching of the first technique of the *itsutsu-no-kata*, advocated by Jigoro Kano; (2) to demonstrate the first technique of the *itsutsu-no-kata*, based on the interpretation by Kenji Tomiki, who referred to the unique relationship between the first technique of the *itsutsu-no-kata* and the *atemi-waza*, and to analyze its video image in terms of technique and biomechanics; (3) to clarify the technical principles of the *atemi-waza* in *jujusu* by synthesizing both of the above mentioned.

Results: The previous study reports that the technical principles in which *tori* (a person who executes a technique), who touches *uke* (a person to whom a technique is executed) softly with his palm, and walks, defeats *uke*, who has turned into a solid matter, reveal the concept of "softness controls hardness," to which Kano attached great importance. The interpretation in terms of biomechanics suggested, in a scene where *tori* makes ceaseless pushing with his palm, followed by consecutive walking. This is the reason of *uke's* retreat becoming difficult gradually, and thus *uke* is made to walk with much shorter steps, is because *tori* has delicate controls over the powers on the thumb or little finger. By so doing, *uke's* rotation movement on the chest is hindered, and because *uke* is unable to reflect on inborn movement or walking. In a scene where *jizo-tashi* occurs, *uke* is forced to lose his balance backwards, to a great extent, and as the ground reaction force gradually shifts forward. The backward moment around the *uke's* centre of gravity applied by *tori* 's palm, *uke* is unable to cancel out the reverse moment from the ground reaction force, and thus we finally observed that *uke* fell off, his centre of gravity being rotated, and moving backwards. This movement is considered to be *jizo-taoshi*.

Conclusions: Kano argues that *uke* will surely fall down if *tori* pushes ceaselessly in an effective direction, whereas Tomiki analyses this movement precisely, focusing on the palm's force, changing its direction (angle), working on in one-point-one direction, just like the *atemi-waza*. The essence of Tomiki's discovery is in the fact that the unique character of *atemi-waza* in judo lies in the movement where *uke* is made to fall down by *tori*'s movement

of soft-touched palm and his manipulation and ceaseless movement of the body. This is interpreted as a sequence of "touch & push, push & fall down, and touch & fall down." This leads to the feasibility of realising *randori* (free practice) with *atemi-waza*, which has been an ideal task sought by Kano. *Atemi-waza fills the honoured self-defence algorithm when the soft means of counteracting are ineffective.*

Key words: biomechanics, Hideichi Nagaoka, innovative agonology, Jigoro Kano, Kenji Tomiki, Sumiyuki Kotani

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INTRODUCTION

The original version of this article has been published in Japanese (then in English), by the same authors, in the journal of Waseda University *Sport Science Research* [1, 2]. This is an article in the form of revision of our previous publication with the title changed from the original. The main presumptions to make this article available in global science space are inspiring discussions of a science of martial arts experts during two scientific events in Japan (September 2017).

The intellectual challenge for the first discussion was presentation the Editor and Chief of the *Archives of Budo* (as well as 2 branch titles: *Archives of Budo Science of Martial Arts and Extreme Sports*, *Archives of Budo Conference Proceedings*): „Trends in international journals dealing with judo research" within the framework of "Specialist Group Meeting – Judo" during 2nd International Budo Conference, Japanese Academy of Budo 50th Anniversary Conference, which held on September 6-8 , 2017, in Osaka (see part one of publication [3, p. 215-220]. Important in this discussion was an opinion of Mike Callan, judo expert from the United Kingdom. Callan emphasised the leading role of the *Archives of Budo* in promoting health aspects of martial arts (including, e.g. national concepts as Japanese *budo*; Chinese *wushu*, *tai chi*; Korean *taekwondo*; Indian *kalripayat*; Brazilian *capoeira*).

The second presentation of RM Kalina – „Heritage and the future of East Asian Martial Arts in the development of preventive and therapeutic agonology" – took place during Waseda University International Conference on East Asian Martial Arts 2017; Future of the East Asian Martial Arts or Budo: The quest for the actual utility and its applicability; which held September 10, 2017 in Tokyo (see second part of publication [3, p. 220-226]. Two seminars in Waseda University the next day: the first one concerning the methodology of science, the second – innovative agonology (prophylactic and therapeutic agonology) have shown the importance *of atemi-waza in the open concept of* honoured self-defence [4, 5], or even more extensive formula of the *innovative self-defence* [6].

As a result, since 2005, in the pages of the *Archives of Budo* dialogue of the science of martial arts experts (practitioners with scientific competencies [7]) is a unique in global scale a compromise between – as it turns out – only a seemingly competitive system hand-to-hand-fighting. In fact, the compromise between experts representing the distant in the motor sense the combat concepts: e.g. judo, kurash, sambo, wrestling (belonging to the throwing and grips of immobilisation of opponent's body group) and, e.g. boxing, karate, taekwondo (belonging to the hits group). On the ground of honoured self-defence or *innovative* self-defence, these systems complement each other. The vision of Jigoro Kano is fulfilled "judo in mind" [8] according to the main principle *jita-kyoei* (mutual prosperity for self and others). The conclusion is true: "Concept of *jūdō* by Jigoro Kano and *innovative agonology* do not exclude themselves. They are coherent (...)" [3, p. 223].

***Itsutsu-no-kata* –** An unfinished work of kata created by Jigoro Kano. Itsutsu means just the numeral "5" [36].

Koshiki-no-kata – "Antique forms". Jūjutsu techniques from Kitō-ryū were incorporated into the *koshiki-no-kata* by Kanō Jigorō to preserve the essence of classical schools [34].

Global science space – conventionally, the global science space is associated with the ability to provide the latest scientific knowledge through prestigious electronic scientific journals [7].

Innovative self-defence – involves using verbal and/or behavioural methods and means along with available items in counteracting each attack on any good of an individual (honour, dignity, life, health, property, etc.), whereas a defender submits his/her actions to the criteria of prophylactic *and therapeutic agonology*, considering the most general directive of efficient leading of any struggles and also universal assumption of self-defence training as absolutely paramount [6].

Biomechanics – *noun* the study of body movements and of the forces acting on the musculoskeletal system, used in sport for analysing complex movements to improve efficiency and help avoid injury [33].

Conventionally martial arts renaissance can be combined with the creation of judo by Jigoro Kano. A symbolic date may be the establishment of a Kōdōkan [9]. Further expansion not only of Japanese martial arts is the result of the intellectual effort and physical training of many generations of experts around the world.

Problem identification (presumptions) and hypothesis

The three major categories of judo techniques are *nage-waza* (throwing techniques), *katame- waza* (ground techniques), and *atemi-waza* (striking techniques), respectively. The previous studies concerning the relationship between *atemi-waza* and *nage-waza* or between *atemi-waza* and *katame-waza* are difficult to find. One of the reasons is a few studies in which randori-practitioners had a hard time to find its necessity or importance of studying due to *atemi-waza* was excluded in *randori* (free practice) and in matches from the very beginning of jūdō, to begin with. Jigoro Kano (hereafter called Kano), the founder of jūdō, however, thought deeply of *atemi-waza* and its relationship with *nage-waza*. When he compiled *nage-no-kata* or *randori-no-kata*, he introduced four counter attack techniques against *atemi-waza* (namely *seoi-nage*, *uki-goshi*, *ura-nage*, and *yoko-guruma)*.

Why was it necessary for Kano to include *atemi-waza* that is prohibited in *randori*, in *nage-no-kata* as the basis of *randori*? As Shishida [10, p. 167-169] stated, it was clear that Kano wanted jūdō to keep its practical character of martial art as well as its nature of physical education.

We picked up the first technique of the *itsutsu-no-kata* (literally five forms), which has been studied and preserved in the Kodokan, because we focused on a practical study of Kenji Tomiki (hereafter called Tomiki) who considered that the *itsutsu-no-kata* has an art which bridges *atemi-waza* of jūdō and *nage-waza* and that characteristics of *atemi-waza* lie in the *itsutsu-no-kata*. Tomiki stated in *judo-taiso* [11, p. 109] when we execute *nage-waza* in *randori*, the dynamics operating on our limbs and/or lower back are in two directions. Meanwhile, in the *atemi- waza*, the dynamics are in one-point-one direction. He added that the above mentioned two, at first glance, seem to be different in nature, but, in fact, if closely examined, there is only one jūdō principle operating, in that the opponent is pushed in the direction of his loss of balance. Thus he summarised that *atemi-waza* is, in principle, an extension of *nage-waza*. He, however, did not refer to the *itsutsu-no-kata* in this simple statement, nor in his book mentioned above.

Historical context of this study

It was in 1889, seven years after the inauguration of the Kodokan when Kano's idea was made clear about introducing *atemi-waza* into *randori*. Kano stated: "Practicing pre-arranged forms only end with mimicking and shows a low level of performance, and I think it better to make up for the performance level by introducing a kind of *Randori* practice." [12, p. 468-469]. According to Kano, the purpose of *atemi-waza* is "to make the opponent's most susceptible part of the body either painful or faint temporarily or kill completely by thrusting or striking hard, using with any part of one's limbs or head" [12, p. 468]. He added, "There are many ways to execute it, and the most common ways are to thrust the part between both eyes of the opponent by one's fist, to thrust the chest, to thrust a bit lower part of the breastbone by one's fist, or to kick the testicles of the opponent by one's foot tip."

It was rather hard for Kano to introduce such a dangerous art of *atemi-waza* into *randori* practice. His ideas were finalized by introducing an art of technique similar to karate's strike or kick into solo and dual movement shown in the book *Seiryoku zenyo kokumin taiiku [13]* or the national physical education based on the spirit of "maximum efficiency with minimum effort", a sense of exercise designed to develop the physique for the Japanese.

According to Kotani and Otani [14, p. 169-170], this technique is derived from *atemi-waza* and is made up to practice defence techniques in physical education against striking or kicking offence or in unarmed free hand jūdō. It was a long cherished wish for Kano to introduce *atemi- waza* into jūdō.

Aim and hypothesis

The purpose of this study is to verify the hypothesis that the true is the opinion of Kenji Tomiki that "*atemi-waza* (striking technique) is, in principle, an extension of *nage-waza* (throwing technique)". Hypothesis by Tomiki (in broader interpretation) states that the first technique of the: *itsutsu-no-kata* holds a common art of technique between *atemi-waza* and *nage-waza* of jujutsu and jūdō.

Budo (Budō) – originally a term denoting the "Way of the warrior", it is now used as a collective appellation for modern martial arts of *kendō*, *jūdō*, *kyūdo* and so on. The primary objective of these "martial ways" is self-perfection (*ningen-keisei*) [34].

Dan (dan'i) – a term used to denote one's technical level or grade [34].

Jūdō (judo) – some researchers differentiate spelling: jūdō as not only modern martial art but also as before (according to Jigoro Kano's conception) it is a consistent system of physical and moral education; judo as modern martial art, sport [3].

Capoeira – *noun* a martial art and dance form, originally from Brazil that is used to promote physical fitness and grace of movement [33].

Kalripayat – "Although India may have been the cradle of the spiritual martial arts – he adds – contemporary Indian systems of self-defence are not wide-spread and much of the knowledge has died out or is taught only secretly" [35, p. 7].

Riai – the rational relationship of interactive movements between oneself and the opponent [34].

Shihan – a teacher of *budō* who has reached a high level of technical and spiritual maturity [34].

Technique – *noun* a way of performing an action [33].

Technique – specific procedures to move one's body to perform the task that needs to be accomplished [33].

Tsukuri-to-kake – in jūdō *tsukuri* refers to the action of setting up to technique, and *kake* is the execution [34].

MATERIAL AND METHODS

Verification of the hypothesis was based on tree issues:

(1) to make a technical analysis of Kotani & Otaki's study, chosen among the seven previous studies, which describe the teaching of the first technique of the *itsutsu-no-kata*, advocated by Jigoro Kano;

(2) to demonstrate the first technique of the *itsutsu-no-kata*, based on the interpretation by Kenji Tomiki, who referred to the unique relationship between the first technique of the *itsutsu-no-kata* and the *atemi-waza*, and to analyse its video image regarding technique and biomechanics;

(3) to clarify the technical principles of the *atemi-waza* in *jujusu* by synthesising both of the above mentioned.

Basic definitions and explanations

According to Kano's definition, *atemi* is to hit one's vital point with a fist or limb and to hurt/kill the opponent, and thus the opponent is suffered, faint or killed. The result of being faint or death is that the opponent collapses [12].

Nage-waza, defined by Kano, is to fall down, drop down, or beat the opponent's body onto the ground. The most popular technique is to fall down. There are many ways to realise this purpose; he said [12, p. 464]. According to this definition of *nage*, the purpose of *nage-waza* is to fall down *(taosu)*, drop down *(otosu)*, or to beat down (*uchitsukeru*). The most popular technique is to fall down. We now consult a most reliable dictionary, *Genkai [15]*, which was used at the same period when Kano described and had an established reputation, to seek the difference in meaning of the above three verbs in Japanese (*taosu*, *otosu*, *uchitsukeru).*

Taosu is a transitive verb, and it means: "(1) to lay (something that is standing) down, to turn down, to make someone sleep, etc., (2) to kick down, to trip someone up, etc. (3) to chop down and kill, to slay, etc." [15, p. 619]. When this word *taosu* is used as an intransitive verb, it means that "(1) something that is standing lies down, (2) to fall down, to tumble down, (3) to die." [15, p. 619].

Otosu, when used as a transitive verb, means: "to drop (something which is in a high place) down, fall off" [15, p. 145], when this word is used as an intransitive verb, it means that "something on a high place comes down, to fall off, to fall downward" [15, p. 144].

Uchitsukeru is not found as an entry word in the *Genkai*, but a related word *utsu* can be found. It is a transitive verb, meaning: "(1) to beat, hit hard, strike, knock" and "(14) *uchitsuku*, *nagu*, meaning to beat down, to throw, "to throw a stone." for example. Thus we can guess that *uchitsukeru* is identical to *nageru*, meaning "to throw," which is derived from *nagu*, according to the *Genkai*, which is a transitive verb, meaning "to throw away, to fling away, to hurl away" [15, p. 742].

To fall down *(taosu)* is to get something standing to lie down, while the other two Japanese words are referring to drop and beat also suggest that a person on a high place is fallen or beaten to lie on the ground. Thus the latter two Japanese verbs also end up with falling down, meaning that *atemi-waza* and *nage-waza* end up with making someone fall down.

If atemi-waza aims to fall someone down, how should we interpret the first technique of *itsutsu-no-kata?*

We assumed that a common art of technique exists between *atemi-waza* and *nage-waza* in the first technique in particular of the *itsutsu-no-kata*, because this first technique is to break balance by touching softly and by adding power continuously in the direction of one's dynamically weakest point, thus moving one's body as quickly as possible, and finally to make someone fall down. From this point of view, we presumed a common art of technique between *atemi-waza* and *nage-waza* exists in the first technique of the *itsutsu-no-kata*. Thus our hypothesis is that the first technique of the *itsutsu-no-kata* has a common principle art of touching and balance breaking, simply because we see, in a scene of duel of jujutsu, striking and falling down (striking first and then falling down) and/or throwing and falling down (throwing first and then falling down).

The biomechanics experiment

Participants

Subject A (acts as *tori*): height 166 cm, weight 74 kg, has experience of traditional judo training since primary school days, an active member of Judo Club in high school, enrolled in Waseda University and its Aikido Club, where he learned under the late Tomiki, who was studying judo techniques performed from a distance. He continued his studies on jujutsu, judo and aikido,

and he taught high ranked judoka and kendoka in Japan and abroad. He currently holds 7th dan of the Japan Aikido Association. Subject B (acts as *uke):* height 162.5 cm, he learned aikido at Waseda University under subject A and holds 2nd dan of Japan Aikido Association.

We selected subject A simply because we judged him to be an excellent performer of the *itsutsu-no-kata*.

Instruments and experiment environment
Devices used: a combination of one infrared ray motion capture system (Motion Analysis, USA) and three Ground Reaction Meters (AMTI, USA & Kistler, Switzerland). Both subjects *(tori and uke)* execute the technique within the area of Capture Volume or movement analysis area and move on the Ground Reaction Meters, and *uke* falls down on the point where buffer or cushions like blankets are placed; date of the experiment: February 15, 2011.

Demonstration methods
Actions analysis is based mainly on the work of Sumiyuki Kotani et al. [14, 16] and Kenji Tomiki [11 and other], which will discuss in the section "Results".

RESULTS

Previous studies
Kotani & Otaki's method
According to authors of book *Saishin Judo-no-kata, Zen*, published in 1971 [14], the *itsutsu-no-kata* is an expression of principles of jūdō's offending and defending techniques in a manner of running water in five different forms (Table 1). This *kata* was added in 1887 to a series of the Kodokan's techniques. Kotani & Otaki clarified that this *kata* has no references and that senior members of the Kodokan make a different explanation of it in some details, and said this book was based on "the explanation by their teacher, Master Hideichi Nagaoka" [14].

Hideichi Nagaoa was admitted to the Kodokan in 1893. Zansei Koga [17, p. 70] reports that at five o'clock in the afternoon of the first day when Kano met Nagaoka at the Kodokan, Kano was making a research practice, together with Yoshiaki Yamashita and other fellow students of jūdō, of the *itsutsu-no-kata*. Nagaoka received an informal training for ten years under Kano until he was dispatched to Kansai area in 1902. He was summoned to the Kodokan in 1913 and became an instructor, and then appointed as a professor at Higher Formal School of Tokyo, and later was promoted to the 10th *dan* before Kano's passing away.

Sanzo Maruyama [18, p. 922] states that the *itsutsu-no-kata* performed by Nagaoka & Kaichiro Samura was in supreme excellence like a god, while the performance by Kano was very profound and made a comment that Nagaoka's superb performance remains vividly in his memory together with the memory of Kano's refined performance. Nagaoka's personality and his high-performance level of techniques made a significant influence on the jūdō world, saying that "Among all the men, Nagaoka is the best, among all the techniques, *sutemi-waza* is the best." Thus, by reading his profile, we see that one of the best students of Kano was Nagaoka.

Kotani & Otaki, both of whom were directly taught by Nagaoka, studied *kata* for a long time, and published a book in 1954, entitled *Judo-no-kata*, *Ju*, *Koshiki and Itsutsu [16]*. The explanation of the *itsutsu-no-kata* of 1954 version and that of 1971 (Table 2) are virtually the same, with some minor alterations [14 p. 134-140].

Kyuzo Mifune, et al. published in 1956 *Judo Course* where simply states an ideal interpretation, saying that "Nothing can object the Right" [19, p.66] and explanation in a simple manner of procedure of the *itsutsu-no-kata* (Table 3).

Shashin Kaisetsu Kodokan Judo a photo-illustrated manual of *Kodokan Judo*, published in 1956, which

Table 1. General explanations in the previous studies of the first technique of the itsutsu-no-kata.

Phase	Explanation of movements and procedures
1	Explanation of *riai* or appropriate logic assumed of *tori* and *uke's* movements.
2	Movements up until the first contact with each other [manners and movements before *tori* & *uke* stand in basic natural standing posture are omitted].
3	Up until *uke's* first step or the moving backwards.
4	*Uke's* first step and the following move until *jizo-taore*.

Table 2. Explanations in the studies of the technique of the itsutsu-no-kata by Kotani & Otaki, 1954 [16] and 1971 [14].

Phase	Explanation of movements and procedures
1	The movements are compared to running water. The characteristic of a drop of water is very weak, and yet if the water keeps running and if a solid wall is soaked in such water, the wall will be eventually collapsed. This logic applies to about, in that you can beat an opponent, however strong he/she may be, by logically using your power, and by making a constant attack [16, p. 134-135; 14, p. 311].
2	*Tori*, first, with his right arm bending slowly, opens his right palm, extending all his right-hand fingers upright, raises his palm up to his right shoulder, the palm being faced toward *uke*. *Tori*, with his right hand, raised forward enough, steps forward with his left foot first, and walks quietly to the very front of *Uke*. Both *tori* & *uke* come close enough, nearly touching their right shoulders, and here *tori*, with his basic natural standing posture, touches *uke's* central part of chest with his right palm [16, p. 138-139; 14, p. 313-314].
3	*Tori*, then, with his right foot gradually moving forward, touches *uke's* chest with his right-hand palm, (and particularly with his little finger), and keeps pushing without rest. *Uke*, being pushed, to maintain his balance, retreats his left foot accordingly [16, p.139; 14, p. 314].
4	*Tori*, then, with his left foot advancing, keeps pushing *uke*, with his right hand centring around the thumb. *Uke*, being pushed by tori, tries to keep his balance by retreating his right foot. *Tori*, without lessening his power, still advances and keeps pushing *uke's* chest stronger and quickly, with his right-hand palm, centring around his thumb and little finger alternately. *Tori*, by so doing, deprives of *uke's* chance to recover his balance and keeps pushing without rest. *Uke*, being pushed continuously, retreats his left foot, and right foot alternately, with short steps. *Tori*, then, re-balances his posture, and advances his right foot, with a long step, and touches *uke's* chest to make a final push. *Uke*, being unable to recover his balance, falls down supinely in a manner of *jizo-taosi* [16, p. 139-140; 14, p. 314].

Table 3. Explanations in the studies of the technique of the *itsutsu-no-kata* by Kyuzo Mifune et al. 1956 [19].

Phase	Explanation of movements and procedures
1	Nothing can object the right [p. 66].
2	*Uke* steps forward quietly and stands before *tori* with a proper distance [p. 66].
3	*Tori*, at once, proceed and attacks *uke* [p. 66].
4	*Tori* keeps pushing *uke*, who resists & withstands until *uke* falls down like a *jizo*, (a guardian deity of children) which refers to an abrupt fall without any action of safety. *Tori* resumes initial stance of basic natural standing posture. *Uke* keeps the posture of "Munen-muso," or the mental condition of selflessness, free from worldly thoughts [p. 66].

Table 4. Explanations in the studies of the technique of the *itsutsu-no-kata* by Kodokan, 1966 [20].

Phase	Explanation of movements and procedures
1	None. Nothing is mentioned in this book.
2	*Tori* advances quietly and raises his right hand. *Tori* advances, bending his right arm gradually, for his right-hand palm to touch *uke's* chest centre when he comes close enough. *Tori* advances and comes close enough for his right toes to nearly touch *uke's* right toes, and opens his right hand, with all the fingers extending upright, and touches *uke's* chest gently [p. 220].
3	*Tori*, pushes *uke*, with his right hand, centring around the thumb, by stepping left foot. *Uke* hardly keeps his balance while retreating his right foot lightly [p. 220].
4	*Tori*, then, pushes *uke* with his right-hand palm, centring around his little finger, and advances with his right foot forward to make *uke* fall down. *Uke*, however, recovers his balance by retreating his left foot. *Tori* advances again, walking a few more right and left steps alternately continuously to make *uke* fall down. *Uke* retreats gradually and quickly with short steps, losing his balance and then falls over backwards. *Tori*, then makes a right step, a longer step, and strongly pushes *uke* with his right-hand palm. *Uke*, then, falls down backwards, which is so-called *jizo-taoshi* and stands up again in a natural manner.

Table 5. Explanations in the studies of the technique of the *itsutsu-no-kata* by Sanzo Maruyama, 1967 [21].

Phase	Explanation of movements and procedures
1	This kata, expressing the natural phenomena, was compiled after the Kodokan Judo started. In this kata, we do not see any technique for offence and defence of judo, and yet we do observe the essence of judo, namely its principles or philosophy of judo.
2	*Uke* stands calmly in a stance of basic natural standing posture. *Tori*, starting with this stance, advances his left foot, bending his right arm naturally, pulls it backward, and then pushes his right hand forward with the palm opened. The quiet move coupled with the right-hand palm and the first left step touches *uke's* chest naturally and softly [p. 914-915].
3	*Tori* walks and attacks, with his right-hand palm, touched on *uke's* chest, putting strength on and around his thumb and four fingers alternately. *Uke*, being attacked, loses his balance and retreats, staring with his left heel, with quick and short steps.
4	*Tori*, maintaining his balance, still pushes forward. *Uke*, at last, being unable to keep his balance, falls down supinely, with break fall. *Uke* must not raise his legs, must keep his chin down, must keep his hands & legs touched on the floor mat. In other words, *uke* must keep his heels touched on the floor.

Table 6. Explanations in the studies of the technique of the *itsutsu-no-kata* by Kodokan 1992 [21] and 2008 [22].

Phase	Explanation of movements and procedures
1	The logic is that even a man of weak power, attacking logically and continuously, will beat a strong one [p. 1].
2	*Tori*, after seeing *uke* taking a stance of basic natural standing posture, advances quietly with his left foot first and approaches *uke*, and keeps his right hand on his right side, and opens his right-hand palm, showing the palm to *uke*, and raises his right hand gradually as he approaches *uke*. At the time when their right shoulders nearly touch each other, *tori* extends his right-hand fingers and thumb upright, as he touches *uke's* chest centre tightly. At this moment, *tori's* right foot should be placed on outside of *uke's* right toes [21, p. 2; in 22, p. 4: Figure 4, action 1, 2].
3	*Tori*, then, pushes *uke*, by putting strength on and around his right-hand thumb and little fingers alternately, and make *uke* lose his balance [p. 2].
4	*Uke*, being pushed, retreats and tries to recover his balance, by moving his left foot and right foot alternately [in 22: Figure 5]. *Tori*, as *uke* retreats, keep pushing, walking with his right foot first and left foot alternately, with his right-hand palm touched on *uke's* chest, without rest [in 22: Figure 6]. As *uke* loses his balance and leans backwards, *Tori* makes a final step with his right foot [in 22: Figure 7], thus making *uke* fall down [in 22: Figure 8]. *Uke*, being unable to recover, falls down supinely without raising his legs, striking the floor mat with both hands, namely *uke* makes a break fall in a *jizo-taore* manner [21, p. 2, 3; in 22, p. 4: Figure 9].

was about the same time as the book by Mifune et al. [19] and revised in 1966 [20] (Table 4), describes how to use palms, saying that *tori* with the part near his right thumb, push *uke* forward, with his left foot forward, and *uke*, who is pushed, softly retreats his right foot [20, p. 220]. This is a different explanation to that of Kotani & Otaki [14, 16].

The book by Maruyama, published in 1967 [18], says that *tori* tries to lose the balance of *uke* by using his thumb and four fingers alternately (Table 5). *Uke*, who is attacked, is unable to keep his balance, because of *tori*'s fulfilled spirit and action, and finally retreats with his left heel first, with short, quick steps [18, p. 915]. This explanation is the same with that in the books by Kotani et al. [14, 16] in that *uke* retreats with his left foot first, but this book does not say anything in detail about *tori* 's movement (Table 2).

Itsutsu-no-kata, *Koshiki-no-kata*, published in 1992 by the Kodokan [21] and published in 2008 [22] (Table 6), follow the same explanation as that of Kotani & Otaki [14, 16].

Tomiki's method and its significance

Kano passed away without introducing *atemi-waza* into *randori* practice. Tomiki researched this respect. Tomiki [11, p. 108-109] states that there are two aspects in *atemi-waza*. He continues his study in the 1960s of *koshiki-no-kata* (traditional

Table 7. Kotani & Otaki's method 1971 [14, p. 314] and our remarks.

Phase	Explanation of movements and procedures	Shishida et al. remarks
1	*Tori*, raising his right hand high enough, advances quietly toward *uke*, starting with his left foot and then right foot alternately. When both *tori* & *uke* come close enough to touch their shoulders, *tori*, with his stance of basic natural standing posture, touches *uke's* chest centre with his right-hand palm.	1. Tori touches *uke* softly with his palm.
2	*Tori*, then, advances slowly with his right foot first, keeps pushing *uke's* chest continuously with his right-hand palm, putting strength on and around his little finger. *Uke*, being pushed, retreats slowly with his left foot, resisting to fall down, trying to keep his balance.	2-1: Why does *uke* try to keep his balance against *tori's* push? 2-2: Why does *uke* retreat with his left foot first, not with his right foot?
3	*Tori*, this time, advances with his left foot first, keeps pushing *uke*, with his right-hand palm, putting strength on and around his thumb. *Uke* retreats with his right foot first, as he is pushed, and tries to keep his balance.	
4	*Tori* still advances, without lessening his power, gains his power to push, walks faster, and keeps pushing *uke's* chest, with his right-hand palm, putting strength on and around his thumb and little finger alternately. *Tori*, by so doing, deprives *uke* of his recovering chance and keeps pushing continuously. *Uke*, being pushed and pushed, retreats with his left foot first and then right foot alternately, with shorter steps, losing his balance, and finally becomes unable to recover his balance.	
5	*Tori*, at this moment, keeping his balance, makes a long step with his right foot to give *uke's* chest the last push. *Uke*, being unable to recover his balance, falls down supinely in a manner of *jizo-taoshi*.	5-1: Why does *tori* need to give the very last push? 5-2: Isn't the Figure of *jizo- taoshi* shown in this book different from a genuine *jizo-taoshi*?

forms of kito-ryu jujutsu) and *itsutsu-no-kata [23]*. Tomiki finds in some of those principle techniques a prototype of *atemi-waza* of jujutsu and judo: "A soft force against one point, if it continues, will become strong enough to make someone fall down" [24, p. 125]. In this sense, a*temi-waza* functions as *nage-waza* rather than a striking type of technique. Thus we can find in *koshiki-no-kata* and *itsutsu-no-kata*, a prototype of *atemi-waza* of jujutsu and its character [25, p. 195]. This means that *atemi-waza* of jujutsu functions not only as a striking power to make someone fall down but also as a soft touch upon someone, moving in the most effective direction, making him lose his balance, and eventually make him fall down.

We understand that Tomiki found a technical aspect in the characteristic of jujutsu's *atemi-waza*, namely to strike and fall down (fall down without killing) besides to strike or thrust with a firm fist. This study tries to clarify, from Tomik's viewpoint, the principal art of technique in the "push", or "give weight downward from the upper of the movement, or press".

Action analysis of the first technique of the *itsutsu-no-kata*

Kotani & Otaki's method 1971 and our remarks on it

We chose and examined the 1971 version of Kotani & Otaki (see Table 2), which is based on the explanation by Nagaoka and has the most detailed explanation. The authors, at the beginning of the book, describe the procedures leading to the technique as follows; "*Uke* enters the *dojo* or training hall and quietly proceeds to the centre and takes a stance of basic natural standing posture. *Tori*, bending his right arm, extending the thumb and four fingers upright, the palm being faced toward *uke*, raises the right hand up near his right shoulder." [14, p. 313-314].

All the movements and procedures described in the left column of Table 7 are numbered 1 through 5 phases in order for us to analyze: phase 1 describes the movements up to the first contact of *tori & uke*; phase 2 describes the movements up to *uke*'s retreat with his left foot; phase 3 describes the movements up to *uke's* retreat with his right foot; phase 4 describes the movements of *uke*, being pushed, and his weight being on his both heels, nearly falling down; phase 5 describes the movements of *tori* 's final push, and shows the posture of *zanshin*. The underlined parts are what we regard important.

The comments worthwhile, which correspond to the underlined parts in the left-hand column (see the right-hand column of Table 7). The movements phase 1 through phase 4 correspond to *tsukuri* or the act of turning in and fitting into the throw, while phase 5 corresponds to *kake* or the execution and completion of the throw. In other words, the procedures 1 through phase 4 teach us that

Figure 1. The first technique of *itsutsu-no-kata [14, p. 139]: tori* pushes *uke* with his right hand, and advances.

even a soft and little power, if used effectively and continuously, can beat a sturdy matter. The very end of phase 4 shows the ultimate level of *tori*'s *tsukuri* or the act of turning in and fitting into the throw. That is to say that *tori* urges *uke* to fall down by himself. Phase 5 shows that *tori*, being in a situation where least counteraction is expected, extends his arm and makes a final push to make *uke* fall down. Here lies an excellent example of utilising one's power of both soul and body.

Technical analysis of Kotani & Otaki 1971

The reason *tori* touches softly is that *tori* intends to keep pushing, though Kotani & Otaki do not mention anything in phase 1. By touching softly, *tori* can evade counteraction, which would be expected when *tori* touched otherwise. In phase 2 the reason *uke*, being pushed by *tori*, tries to keep his balance (our remarks 2-1) is that *uke*, now materialised, makes efforts to keep his centre of gravity in balance, by moving his legs. A man in a fighting situation will resist falling, but in case it is something solid, the story would be entirely different. *Uke*, standing straight without bending his knees, is virtually something solid. *Tori*, being weak at first glance and relaxed, can beat *uke* by moving his body. This is exactly what the principle of Judo means, namely "Softness controls hardness."

As Kotani & Otaki [14, 16] states, *uke* appears to be standing in a stance of *shizen-hontai*, but is, in fact, a solid matter. We understand that Kano tried to show us the principle that *uke*, being pushed, tries to resist to fall, and by so doing, *uke*'s body becomes harder, making him more difficult to walk, and falls down at last. In other words, the first technique of the *itsutsu-no-kata* shows the importance of basic natural standing posture in *tachi-waza*, and at the same time, this technique proves to be a refined form, expressing a *jujutsu*- like principle of *atemi-waza*. *Uke* retreats with his left foot (remarks 2-2) because *uke* is pushed continuously by *tori*, who puts strength on and around his little finger.

Both Kotani & Otaki [16] and [14] do not have any explanation of the procedures of technique between first and second interpretations.

Table 8. A demonstration of Tomiki's method and our remarks.

	Explanation of the procedures of the technique	Shishida et al. remarks
1	Omitted	
2	A touch B's chest centre put weight on the right-hand palm, and pushes with the right-hand palm, putting strength on and around his little finger. B keeps weight on his right leg and tries to keep his balance by retreating his left foot.	We see that A starts to walk in a stance roughly of right natural standing posture as he touches B with his right-hand palm. This is contrary to the teaching of Nagaoka in that A starts in a stance of right natural standing posture.
3	A, then, pushes B, as he walks with the left foot first, left shoulder forward, and touches B's chest centre, putting some strength on and around his thumb. B, as his weight goes on to his left leg, tries to keep his balance by retreating his right foot.	
4	A pushes, putting strength on and around his little finger and then his thumb, and repeats this process for [three or] four times, and does it quicker as he repeats it. Meanwhile, B begins to lean backward, and his steps become shorter and shorter. [The words underlined are quoted by the current authors].	
5	At the very moment when B becomes unable to keep his balance, A extends his arm forward. Thus B falls down, pressing his left heel hard on the floor.	The reason B did not fall in a posture of *jizo*-taoshi is that B took break fall action, with risk-avoiding behaviour, for the demonstration was conducted on force plates.

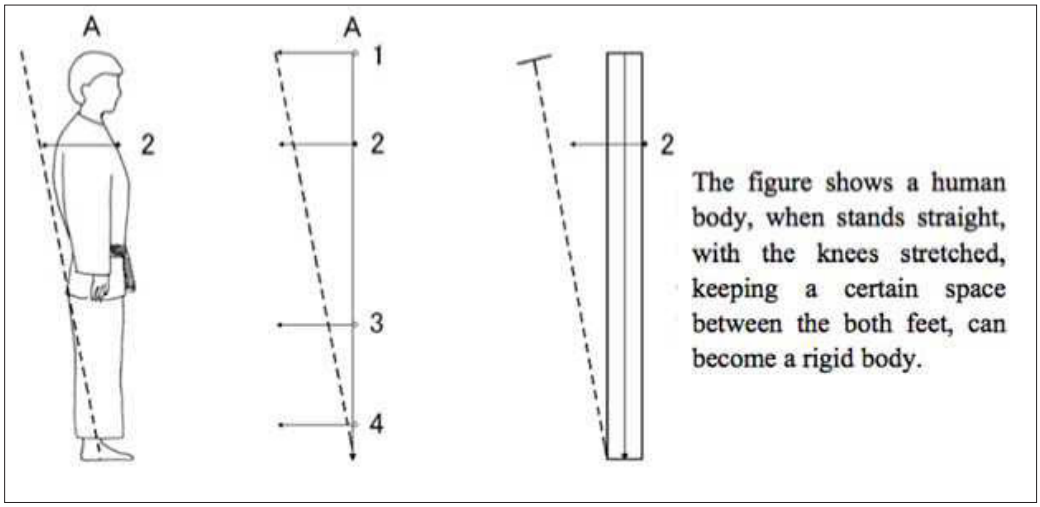

Figure 2. Side view of *uke's* balance break.

However the 1971 version carries a Figure, showing that *tori* is slightly leaning forward, placing weight on his right-hand palm [14, p. 139]. *Uke* retreats with his left foot, and *tori* advances with his left foot (Figure 1). As described in phase 2 (Table 7), *tori* should advance with his right foot, but we see in Figure 1 a different stance.

Tomiki's method and biomechanical study

The left column of Table 8 describes the procedures and movements of the technique executed by A *(tori) and* B *(uke).* Tomiki makes a further explanation of the meaning attributed to each section. Kotani & Otaki's explanation is that *tori* keeps pushing continuously *uke*, who is standing in a stance of *shizen-hontai*, while Tomiki tells us uniquely that *tori* makes a tactful manoeuvre with his palm and makes weight move by smooth walking, and by so doing, *tori* keeps pushing exponentially as if *uke sucked tori.* In the demonstration, *tori*'s legs moved faster than his palm. Unexpectedly this demonstration coincided with the movement shown in Figure 1. The right column of Table 8 explains the movements seen in the demonstration, which is different from the one mentioned by Kotani et al. in Table 7.

DISCUSSION

Analysis of articles devoted to *itsutsu-no-kata* shows that different authors – in spite of many similar interpretations – underline the elements that are important from their point of view. To the group of universal items belongs biomechanical details (indicators). Biomechanical is admittedly applied science, however, based on science. There is no room for any interpretations. To the greater freedom (although limited by biomechanical criteria) can afford not only *itsutsu-no-kata* researchers regarding technical self-defence. In self-defence, there is also a psychological factor in combination with the agonology criteria (e.g. *atemi waza* as counterattack or defence by attack ahead of escalation of verbal aggression [4-6]). Such multidimensional analyses are possible thanks to the dynamic development of the science of martial arts [7, 26] and innovative agonology (at the methodological foundations of this doctrine are mixed assessment basic on ethical and efficiency criteria [27]). Precisely because of this innovative perspective of multidimensional analysis technical and biomechanical aspect of *itsutsu-no-kata* (as an example *atemi waza*) we excluded from the section "Results" in this article. We found the right place in the "Discussion" section.

Technical and biomechanical discussion

The first technique starts with a pre-arranged situation, where *tori* (A) keeps pushing *uke* (B) with A's palm, while B is expected to become a rigid body, and repeats walking backward to get a new supporting surface, for his center of gravity shifts out of his supporting surface, so B tries to keep his balance by getting a new supporting surface by means of moving his legs. B's repetition of such movements leads to the execution of this technique. Precisely speaking, the base, on which B's soles are, goes on towards the heels, as B repeats this move, and finally, the base becomes a narrow shaped rectangle, made up with both heels. As stated in (2), this situation is caused by B's will, which intentionally resists to fall down.

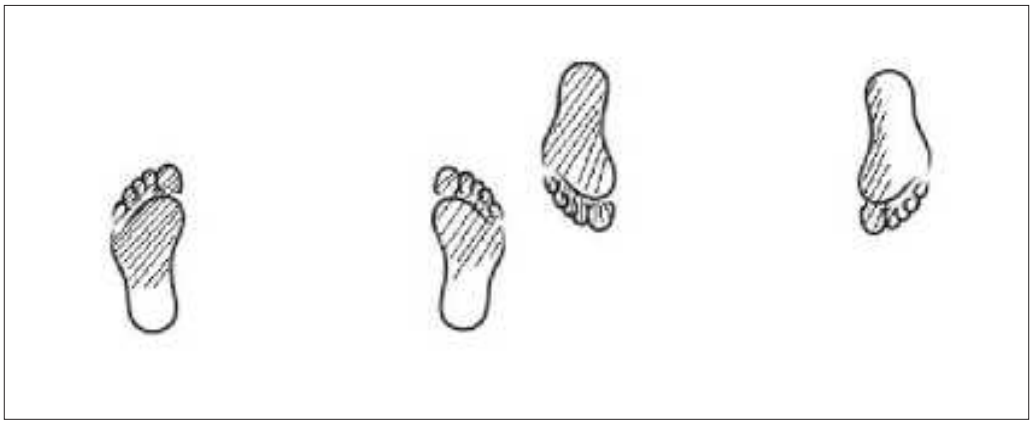

Figure 3. Soles of *uke*, balance being broken, and areas of soles on which being how much pressed.

Our discussions are subdivided into the following three phases.

Initial move (phases 1 and 2)

The initial stance is in basic natural standing posture, where both A and B stand still. A starts, raising his right palm up to his shoulder and bends his arm. Here lies an important aspect from the biomechanical point of view. Suppose B is a rigid body, standing on a rectangular supporting surface, made up with his heels, A can easily make B lose his balance by pushing softly on the part of B's body distant enough from his supporting surface (Figure 2).

The essence of the technique is to push and fall down something stable regarding the centre of gravity. Here in the demonstration, A, his elbow is bent at the beginning, extends the arm at the right moment and pushes B. Then A receives counterforce, making him difficult to move his weight forward. This phenomenon applies seriously when A weighs less than B. In the case, however, A stands on B's side (not in front), bends his arm, touches B's chest center with his palm, leans forward, putting strength on his toes, (namely putting weight on the front), B will lose his balance, however, weak A's power may be, in that *B* is pushed backward on the breastbone in the direction of sagittal plane, and in parallel to the floor, and the pressure on B's legs go on to his heels. When A puts more strength on and around his little finger and makes B turn around counter-clockwise, B's weight goes on to his right leg (Figure 3). We understand that a kind of initial balance break by means of *ohsotgari* or significant outer reap occurs here. B, then, moves his left leg backward, on which less weight is put, and tries to maintain his balance.

Scene of continuous move (phase 3 and 4)

Subject A, then, pushes, putting strength on and around his thumb, and then the centre of B's pressure on his left foot goes on to his heel. Likewise, B must step back with his right foot. Thus we see that B has no choice but to step back again. After the initial balance break on B, A still needs to give a continuous move. The point is that *uke's* walking back steps become shorter and shorter. It is because A keeps making B put his weight on the foot which is about to retreat, for A makes an effort in manoeuvring his palm, weight move, and gentle walk.

The fact that *tori* (Kotani), leans forward, on his second step or the left step ahead, proves that he is quick in moving his hands and legs (see Figure 1). Also, this proves that A's movement is continuous and without rest. This series of A's movement is achieved because A keeps giving a soft power, making *B* unable to retreat his foot which B intends to do, rather than that A pushes B, who retreats his foot (the essence of this technique, according to Tomiki, lies in its driving force due to *tori's* shifting his weight, and he named this driving force in his later year, *ido-ryoku*, or prompt moving force by means of legs).

Subject A, by adjusting to put strength delicately on his thumb or his little finger, disturbs B in B's rotation around his chest, and consequently, B finds it difficult to step backwards. We assume that B is unable to make a long step backwards simply because B is shut in the reflection of innate movement or walking. Thus B loses his balance.

Scene of *jizo-taoshi* (phase 5)

This *kata*, in the last scene, ends in a stance with his elbow stretched, which was previously

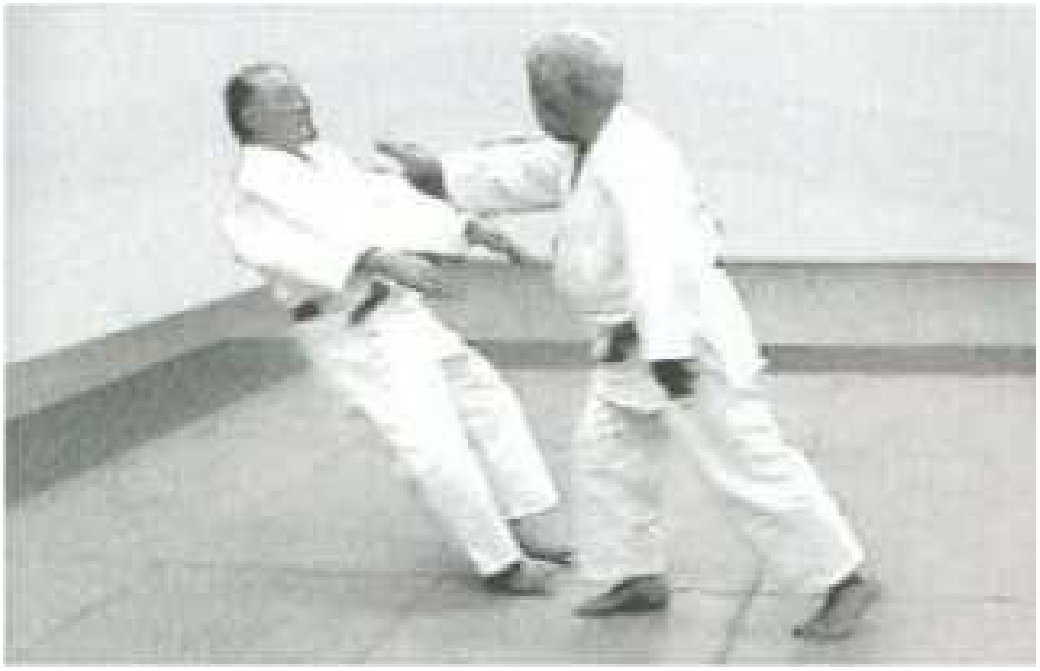

Figure 4. *Jizo-taoshi [22, p. 5]*: *tori* pushes *uke* with his right hand, and advances.

bent. In this final scene, as Kotani & Otaki [14, p. 315] demonstrate, A does not make a right long step, nor makes "a final push." Kotani & Otaki [16] and [14] state that *"Tori* makes a rather long step with his right foot and gives a final push on *Uke*'s chest". They do not precisely state "to make a strong push, " but simply say "to make a long step," so that we can assume that it implies to push strongly (Table 2).

According to Kodokan [20]: *"Tori* makes a rather long right step, and pushes *Uke* down strongly, with his right hand." A strong push is mentioned. However, according to Mifune et al. [19] and Kodokan [21] as well, it is shown that *"Tori* makes a right foot step (Figure 7), and pushes *Uke* down (Figure 8)". This is specifically referred to in Kodokan [22] in particular. In other words, they do not make any emphasis on making a long step.

As we interpret the video image 1 and 2, which is based on Tomiki's teaching (https://www.youtube.com/watch?v=uPhG6XA2fL8), according to of biomechanics criteria, B is gradually deprived of his balance, leaning backwards considerably, and as the ground reaction force changes its direction forward. B can no longer cancel the moment. Moreover, at last B's centre of gravity rolls back, and he falls down backwards. This process leads to *jizo-taoshi*.

Video image 1 (http://waseda-sport.jp/paper/1514/m1.html) is the image of demonstrating the first technique of the *itsutsu-no-kata*, in the scene where B steps backwards with his left foot, and then right foot. Due to risk-avoiding behaviour, at the time when his left heel touched the ground, strong ground reaction force emerged. In an ideal performance, B becomes unable to make his left foot retreat, which he intended to do after the step back with left and then right foot. Moreover, the threshold of B's rolling backwards is caused by the ground reaction force, at the time when he stomps the floor, and this makes an element of a couple of forces which will make B's centre of gravity roll backwards. After the experiment, when we made some trial performances, at the *dojo*, including *jizo-taoshi*, we found and confirmed, as seen in a scene of consecutive moves (phase *3* and 4), the movement which could be expected by the mechanism explained above.

Video image 2 (http://waseda-sport.jp/paper/1514/m2.html) is the movie of the first technique of the *itsutsu-no-kata*. As seen in this video image, we were obliged to limit our scope of the experiment due to secure safety, and yet we confirmed a strong ground reaction force emerged at the time when *uke* stomped his left heel. [see the arrow indicating upward] Therefore we can expect a phenomenon leading B to his fall if performed in an ideal setting.

Subject A learned how to fall down in *jizo-taoshi* from his father Sato Gohachiro (1909-1970), who says that *uke* must not bend his knees, the body should be kept straight like a log until he touches the floor, and must do his best not to raise his feet above the floor. According to subject A, his father says that he was deeply touched by Nagaoka, who performed excellent skills at the Kodokan, and that his masters were Ikkan Miyakawa (shihan or master, Judo Club Waseda University), Sanbo Toku, and Hideichi Nagaoka (Kodokan).

As seen in the movie shot for the experiment and the one shot at the *dojo*, *uke's* performances are not satisfactory in falling down in *jizo-taore*. As seen in other Figures attached to the six previous studies in Table 1, *uke's* posture shows, hips are low, and the knees bent, except for the one Kodokan [22, p. 5] and Mifune et al. [19, p. 66]. This proves that falling down in *jizo-taoshi* is difficult to perform. In case of back break fall, bending hip joints may result in further rotation of *uke's* centre of gravity. The *uke*, in Figure 4 keeps his body straight, trying to be a perfect image of *jizo*.

Tomiki's theory and feasibility of teaching *Atemi-waza in randori*

Kano compiled the first technique of *itsutsu-no-kata*, modelling after the state of water in nature, like the other four techniques. He says you can make your opponent fall down by constantly keeping your push in the direction which you can make the best use of your power. Tomiki analysed this form in detail and paid attention to the process of the move and its meaning. Tomiki paid attention to the fact that the power applied on the palm is working in one-point-one direction, while changing its angle, just like *atemi-waza* is, though Kano did not specifically state that the first technique of the *itsutsu-no-kata* is based on the principle of *atemi- waza*. The reason hidden is in the process of execution of the technique that Kano left behind.

According to Kotani & Otaki [14, 16], who were diligent students of Nagaoka, who was directly taught by Kano. Kano's teachings tell us that execute the technique it is possible if we meet three conditions: 1) to skillfully use the radial and the ulnar of your palm; 2) to move your legs, shifting your weight; 3) to complete the technique by making your opponent fall down in a posture of *jizo-taoshi*. The details of how to fall down in a posture of *jizo-taoshi*, according to Maruyama [18] include the following procedures. First, you need to draw your chin, to fall down, by making your heels as an axis, and try your best to stick your limbs on the floor, without raising your legs. Roughly speaking, conditions 1 and 2 show that Kano was rational in making the opponent fall down. Kotani & Otaki [14] emphasise that based on Kano's thoughts, the break-fall in condition (phase) 3 is not a normal one, but *jizo-taoshi*. He must have understood the physical mechanism of *jizo-taoshi*, in which a man is standing with a rigid body, by being pushed, tries to retreat naturally with his feet to maintain his balance but falls down at the very moment when he can no longer keep his balance.

The books by Kotani & Otaki [14, 16] that include the thoughts of Nagaoka do not carry detailed explanation made by Kano. Therefore we can say that it was Tomiki who found that the characteristic of *atemi-waza* in jujutsu is to make your opponent fall down by using your palm softly touched on *uke*, and by manipulating the palm and by continuing your body move. This move is interpreted as "Touch & Push, Push & Balance break, and Push & Fall down" [28]. If the current free practice of judo should allow blow- like *atemi-waza*, judo would certainly change into something MMA (*mixed martial arts*). Problems may arise in how to avoid injuries or how to secure safety, about which Kano was always anxious. What if *jujutsu-like atemi-waza*, which Tomiki clarified, were adopted?

What would be expected then? By comprehensive application of Kano's transmitted teaching, which is expressed in a phrase, "The techniques are modeled after the state of water," [14, p. 311], and Tomiki's detailed studies, we may be able to create a new type of *randori*, that Kano dreamed of, including not blow-like *atemi-waza* but *jujutsu-like atemi-waza. It is Kano's dream that takes on particular significance in the days when brutal fighting for commercial purposes [29] suppresses the tendency to promote martial arts as methods to* strengthening all dimensions of health [6]. Jigoro Kano's close vision are publications Carl's De Crée [30-32] dedicated to the unknown judo kata.

CONCLUSIONS

Kano argues that *uke* will surely fall down if *tori* pushes ceaselessly in an effective direction, whereas Tomiki analyses this movement

precisely, focusing on the palm's force, changing its direction (angle), working on in one-point-one direction, just like the *atemi-waza*. The essence of Tomiki's discovery is in the fact that the unique character of *atemi-waza* in judo lies in the movement where *uke* is made to fall down by *tori*'s movement of soft-touched palm and his manipulation and ceaseless movement of the body. This is interpreted as a sequence of "touch & push, push & fall down, and touch & fall down." This leads to the feasibility of realising *randori* (free practice) with *atemi-waza*, which has been an ideal task sought by Kano. *Atemi-waza fills the honoured self-defence and innovative self-defence algorithm when the soft means of counteracting are ineffective.*

CONTRIBUTORSHIP

Roman Maciej Kalina developed the structure and arguments of the paper. Expanded the original version and had primary responsibility for the discussion of concerns associated with innovative agonology. His contribution gave an original insight, unique theory and inspiring context of preventive and therapeutic agonology. Fumiaki Shishida made critical revisions and approved the final version.

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EDITORIAL NOTE

The authors are already emphasising in the introduction *the timeless modernity and openness of the principle rule* jūdō *jita-kyoei*. Understanding this principle releases the experts of the new subdiscipline the science of martial arts from prejudice, animosity or the desire to demonstrate the supremacy of one martial art over another. This confrontational approach is the property of a commercial formula of *mix martial arts* (MMA) and similar practices of modern gladiatorship [29]. Science precisely determines the place of the *atemi-waza* in health-related training as well as – which is rightly emphasised by the authors of the dedicated publication *atemi-waza* – honoured self-defence [4, 5] and *innovative self-defence* [6].

Fumiaki Shishida, as a scientist and expert in the science of martial arts, has already distanced himself from his confrontational narrative when analysing the values of jūdō and aikido [10, 37, 38]. With elegance and attractive appeal we encourage everyone to explore only the seemingly secret art of *atemi-waza* in the article *Why can a little lady throw down a strong man using only a finger? The mechanism of soft atemi-waza* [39]. This art, in contrast to the gladiator MMA [29], is not directed against man. *Atemi-waza* is a very important element of health education and survival education at the same time. It is entering (however historically *atemi-waza* is ahead of birth *agonology)* in *innovative self-defence* [6] open to any proposal of combat technique to adhere to the principle of rweaching for acute measures of defence as a last resort. Shishida belongs to the leaders of the science of martial arts, which applications of martial arts from different cultures perceive in the broad perspective of honoured self-defence practice and health related-training [40, 41].

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