



The Kano Society Bulletin



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Contents

- *Kuzushi, Tsukuri and Kake in Kodokan Judo* by Liÿr Jones;
- Richard Bowen Collection.

Editor's comment

We hope you enjoy the contents of this issue of The Bulletin which has been produced by guest editor, Liÿr Jones.

In this edition

We present a technical article by Liÿr Jones explaining the three conceptual phases of *nage-waza* [throwing techniques] in *Kodokan Judo* – explicitly *kuzushi* [balance breaking], *tsukuri* [preparation] and *kake* [execution].

The article does not attempt to cover the totality of what is written in the literature on these concepts – rather, it explains the *Kodokan's* traditional perspective, and introduces a selection of other approaches that have been suggested/developed by either prominent *judoka*, or by academics.

A list of references where further information may be found is also presented and the author consulted during the preparation of his article.

Contributions

The backbone of the Kano Society's activities is this on-line publication. We welcome contributions articles or photographs etc. to The Bulletin.

Regards Diana Birch

Kuzushi, Tsukuri and Kake in Kodokan Judo Liÿr Jones

Introduction

In the *Kodokan New Japanese-English Dictionary of Judo* [1], Kawamura & Daigo define *judo* as follows:

“Judo: a martial art formulated by Jigoro Kano based on his reformulation and adaptation of several classical jujutsu systems as well as his own philosophical ideals.” (...)

One of *judo's* core concepts is the turning of an opponent's strength and overcoming him by means of skill rather than sheer strength. Mastering *judo* requires understanding its core principles – namely *seiryoku zen'yo* [good use of mind and body], *jita kyo ei* [mutual welfare and benefit] and *ju yoku go o seisu* [softness overcomes hardness, flexibility overcomes stiffness, or win by yielding] [2].

The Traditional Kodokan Pedagogical/Didactic Approach

Consistent with the above core principles, the *Kodokan* considers that there are three essential phases to successfully executing a *judo* throw – specifically 1) *kuzushi*, 2) *tsukuri*, and 3) *kake* [3]. They are the focus of technical attention by *judo* teachers and *judo* books, and are defined as follows [1]:

- ***Kuzushi* [balance breaking]:** An action to unbalance your opponent in preparation for throwing him;
- ***Tsukuri* [positioning; set-up]:** An action to set up a throw after breaking your opponent's balance;
- ***Kake* [application; execution]:** An action used to execute a technique such as a throw after breaking your opponent's balance [*kuzushi*] and setting him in a disadvantageous position [*tsukuri*].

In the seminal book *Best Judo*, the two-celebrated *judoka*, Isao Inokuma and Nobuyuki Sato explain how *kuzushi*, *tsukuri* and *kake* are not independent of one another, but rather, are all associated with each other, and work together as a sequential and collective whole [4]:

“Judo techniques work splendidly when these three elements work together almost instantaneously to become a single entity. If any one of them is inadequate or late coming, your attempt to throw the opponent or bring him down to the mat will likely end in failure.” (...)

Kuzushi

The throwing methods of *Kodokan judo* were inspired mainly by classical *Kito-ryu* [School of the Rise and Fall] *jujutsu* and it was during *Kito-ryu* practice that Kano-shihan developed an appreciation of *kuzushi* [2], [5].

For the teaching of basic *kuzushi* skills, Kano expanded the concept of *Roppo-no-Kuzushi* [Six directions of Unbalancing], which existed in classical *Tenjin Shin'oryu* [Divine True Willow School] *jujutsu*, to become *Happo-no-Kuzushi* [Eight directions of Unbalancing] by adding *kuzushi* to the direct right and left sides.

Figure 1 shows the eight directions of *Happo-no-Kuzushi* viz. 1) to the front [*mae-kuzushi*], 2) to the rear [*ushiro-kuzushi*], 3) to the right side [*migi-kuzushi*], 4) to the left side [*hidari-kuzushi*], 5) diagonally to the right front [*migi-mae-sumi-kuzushi*], 6) diagonally to the left front [*hidari-mae-sumi-kuzushi*], 7) diagonally to the right rear [*migi-ushiro-sumi-kuzushi*] and 8) diagonally to the left rear [*hidari-ushiro-sumi-kuzushi*].



Figure 1: The Eight Directions of Unbalancing, or *Happo-no-Kuzushi*

De Cree [5] explains that, even to this day, the *Kodokan* does not elaborate much on *kuzushi* beyond *Happo-no-Kuzushi*'s two-dimensional vectorial plane. He goes on to describe how, for practical purposes, *kuzushi* involves more than just horizontal directions – with there being an additional third direction, or vertical component, for which the classical *Kodokan* model makes no contribution.

Generating *Kuzushi*

Recall that in controlled *judo* practice *Tori* and *Uke* are the individuals who apply and receive a technique respectively.

The means of generating *kuzushi* in *judo* vary depending on the circumstances, including *maai* [combative distance] and *debana* [opportunity]. They include:

- **Indirect action by *Tori*:** For example, *Tai-sabaki* [Body management] involving strategic whole body movement or (re-) positioning;
- **Direct action by *Tori*:** For example, pulling or pushing in accordance with the concept of *Happo-no-Kuzushi* [3]. Though prohibited from *shiai* [contest] and *randori* [free practice], *atemi-waza* [striking techniques] can also be an excellent method of generating *kuzushi* – as can be seen in various *Kodokan kata*;
- **Reaction:** For example, *Hando-no-Kuzushi* [Unbalancing by Reaction] [6] – including *renzoku-waza* [continuous combination of techniques] i.e. the continuous application of techniques, one leading into the next (usually in the same direction) and *renraku-waza* [combination techniques] i.e. the application of several techniques in rapid succession (usually in different directions);
- **Direct action by *Uke*:** For example, *Kaeshi-waza* [Counter techniques] i.e. techniques performed when countering *Uke*'s own technique.

Another vital element in *kuzushi* is the disruption of more than *Uke*'s body. *Kuzushi* can also have a mental aspect whereby *Uke*'s concentration is disturbed – thus producing a momentary opportunity for an attack.

Tsukuri

Recall that *tsukuri* is the initial or preparatory moves made before the technique so that *Uke* can be thrown with minimal energy.

In *Best Judo* [4] Inokuma and Sato suggest that *tsukuri* is focused around the aligning of *Tori*'s body to take advantage of *Uke*'s loss of balance:

“*Tsukuri* is the entry and proper fitting in of your body into the position taken just before the moment required for completion of your throwing technique.” (...)

Whereas, in the *Throwing Techniques* volume of his influential books *Judo in Action* (and the later abridged *Dynamic Judo*), Kazuzo Kudo, *Kodokan* 9 *dan*, suggests that *tsukuri* is focused around the moving of *Uke*'s body to a position where he is easily thrown [7]:

“...to apply a technique to your opponent you must move together with him and push him and pull him in such a way that you force him into a posture in which your attack is easy to make and in which he is easily thrown. This is what we call the preparatory moves, or in Japanese, the *tsukuri*.” (...)

The senior *judoka* and *aikidoka*, Kenji Tomiki resolves this apparent contraction by explaining how *tsukuri* is itself divided into two parts, namely *aite-no-tsukuri* [preparing of the opponent] and *jibun-no-tsukuri* [preparing of oneself] [8]. This would account for the sometimes-contradictory explanations of *tsukuri* that feature in popular *judo* textbooks.

“*Preparatory action* is further divided into *aite-no-tsukuri* (preparing of the opponent) and *jibun-no-tsukuri* (preparing of self). *Preparing of the opponent* consists in destroying the opponent's balance before performing a technique and putting him in a posture where it will be easy to apply it. At the same instant, the contestant himself must be in a posture and position in which it is easy to apply a technique. This is the *preparing of self*.” (...)

Kake

Kake is the continuation of *tsukuri* through to the culmination of the throwing technique – the throw itself. Ichiro Abe – the holder of the rare *Kodokan* 10 *dan* grade, explains that to obtain a good *kake*, it is very important to seek unity of action of the body and mind, with the *tsukuri* and *kake* being combined to form one and the same action [9]. Abe goes on to explain that is only by combining *kuzushi* and *tsukuri* in the right way, according to both one's own and one's opponent's bodies, as well as to the throw that is being attempted, will one be able to achieve *kake* – which he terms the “moment of the throw”.

Other Pedagogical/Didactic Approaches

The authors who devote the most attention to *kuzushi* in the *judo* literature are those who propose alternative pedagogies. This is not to say that these persons have a correct grasp of *kuzushi*, or that their contribution is necessarily new, original or better, but rather, if their personal pedagogy is different, they feel compelled to communicate it.

Among those *judoka* who come to mind are Kazuzo Kudo, Tokio Hirano, Anton Geesink, Geoff Gleeson and Neil Adams [10]. It should be noted that most of the attempts to introduce a different approach, have not stuck and have been largely forgotten. Additionally, most of these alternative approaches have really dealt with “directions of throws”, and efforts to rearrange the Kodokan’s classical *tewaza*, *koshi-waza* and *ashi-waza* [hand-techniques, hip-techniques and leg-techniques] categorisation as opposed to the fundamentals of *kuzushi* itself.

Kazuzo Kudo

In *Judo in Action: Throwing Techniques*, Kudo, writes in detail on *kuzushi*. He expands the concept of *Happo-no-Kuzushi*, with its eight directions of off-balance, to *Jushiho-no-Kuzushi* with 14 directions of off-balance. Kudo achieves this by dividing the front corner directions into three, and the back-corner directions into two. So, for example, instead of the right front corner direction, Kudo has “outside right front”, “mid right front”, and “inside right front” and instead of the right rear corner, Kudo has “right rear”, and “right rear side”. Similarly, for the left sides.

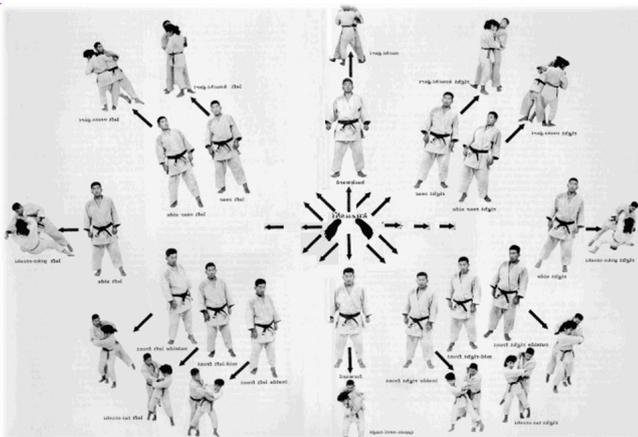


Figure 2: Kazuzo Kudo's Fourteen Directions of Unbalancing

Tokio Hirano

Tokio Hirano was a prominent *judo* teacher in Western Europe during the early stages of its evolution. He developed his own original approach towards teaching and practicing *kuzushi* and *tsukuri* that emphasised the use of rotational unbalancing. Hirano argued that a *judo* throw has four sequential phases: 1) *kumu* [gripping], 2) *tsukuri*, 3) *kake* and 4) *nageru* [throwing]. Later, Hirano created three *judo kata* [forms] to illustrate his very original approach to *kuzushi*. These were based on the natural phenomena of different types of waves in water, applied in a *judo* context.

It is beyond the scope of this article to elaborate further on Hirano’s ideas, but the keen reader can see reference [5].

Neil Adams

The 1981 World Champion in the light-middleweight (-78kg) category, Neil Adams of Great Britain, has embarked upon a campaign to increase technical standards within *judo*. As part of this, Adams is promoting *kuzushi* as a fundamental building block of technically excellent *judo*, and has developed a range of audio-visual teaching materials [11] and specific training aids, in support of his campaign – part of which he has termed a “*Kuzushi* Revolution”.

Using the traditional sleeve and lapel grip as a starting point, Adams considers the role played by each hand in generating *kuzushi*. Adams terms the “sleeve hand” (*i.e.* the one placed on the elbow and gripping the under-seam of *Uke*’s *judogi*) the “control hand”, and explains how it is this hand that controls the shape of the technique and guides the throw, throughout its execution, right to the end. Similarly, Adams terms the “lapel hand” (*i.e.* the one gripping the lapel of *Uke*’s *judogi*) the “direction hand”, and explains how it creates the direction of the throw and determines where *Uke* will land. See Figures 3 and 4. By working together, the control hand and the direction hand combine to create *kuzushi*.



Figure 3: The Control Hand



Figure 4: The Direction Hand

It can be argued that Adams’ concepts are merely a Western reinterpretation of the traditional Japanese concepts of *hikite* [sleeve hand / pulling hand] and *tsurite* [collar hand / drawing hand]. It is of course also essential to remember that *kuzushi* should always be executed with the entire body, and not with the hands alone.

As a teaching model, Adams also introduces the concept of two balance lines – one horizontal, the other vertical, which

judoka must be aware of. Adams explains how the horizontal balance line is the axis around which *Uke* is stable to the front and back, whereas the vertical balance line dictates his stability to the left and the right – see Figures 5 and 6. When situated on these balance lines *Uke* is strong and firm and cannot be thrown. *Kuzushi* is achieved by displacing *Uke* around these balance lines, thus breaking his balance to the front or back over the horizontal balance line, and to the left or right over the vertical balance line. *Uke*'s position is now weak and he can be thrown.

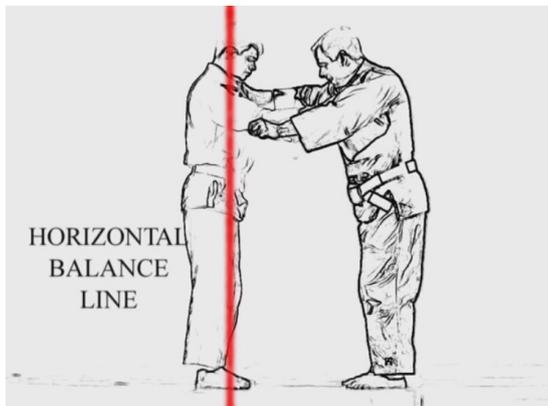


Figure 5: The Horizontal Balance Line

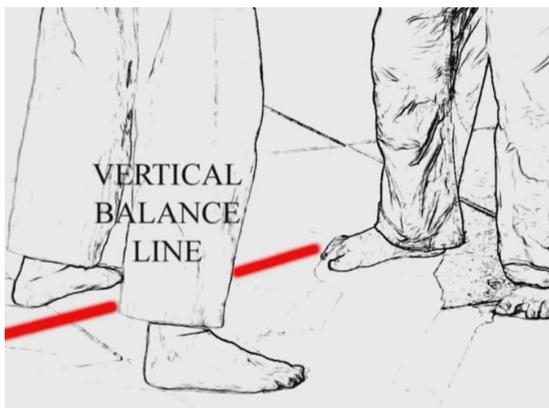


Figure 6: The Vertical Balance Line

Adams goes on to explain how *Tori* must also be correctly positioned over his own balance lines to properly execute a technique. Incorrect positioning around the balance line could result in *Tori* not having the core power or the stability to throw *Uke* and render him vulnerable to being countered. Adams also considers the proper movement of *Tori*'s head as being an important factor in displacing *Uke* off their balance line, and thus achieving effective *kuzushi*.

Scientific Analysis

Apart from those mostly known as *judoka*, academics have proposed alternative approaches based upon modern biomechanical knowledge and analysis methods. Most prominent is the work of the Italian academic and *judoka* Professor Attilio Sacripanti, of the University of Rome *Tor Vergata*, who introduces the concepts of Action Invariants for the *kuzushi* and *tsukuri* phases in *judo* [12], [13]. General Action Invariants are aimed at shortening the distance between the opposing *judoka* to break *Uke*'s symmetry and

move his Centre Of Mass (COM) – thereby altering his stability and mobility. Specific Action Invariants focus on the role played by arms and legs in *kuzushi* and *tsukuri*.

One should note that the scientific explanation of *kuzushi* (other than the COM falling out of the base of support) is complicated, since scientifically, and dependent on the theoretical model, *kuzushi* does not exist as a separate entity. For example, the French academics Trilles *et al*, in Paillard [14], have a different approach to Sacripanti's whereby they propose a mathematical model of such complexity that one could argue that it loses touch with reality. The main difference with Sacripanti's approach is that they split up the body into all its (main) separate joints that do work, with equations for each of those joints, and what each joint does.

Though our understanding of physics and biomechanics has advanced since the creation of *judo* in 1882, it is by no means clear that contemporary science has, in this subject area, something to offer that is superior to traditional *Kodokan* teaching methods. It can be argued that one will not necessarily improve one's *judo* by studying scientific models, as the mathematical equations themselves only provide clarity and insight into the various push/pull forces at play. They do not explain how and why, for example, Kyuzo Mifune, *Kodokan* 10 *dan*, was such a great *judoka*.

It must also be remembered that *kuzushi* is a pedagogical/didactic concept, and not a scientific one. The scientific concepts involved are different, and include, as stated, aspects such as closing the distance between two objects and the physical collision of two bodies, etc. These are not concepts that *pedagogically* are to be found in Kano's *Kodokan* teaching system, which is understandable, as Kano's teaching structure was pedagogical, not scientific.

It is beyond the scope of this article to elaborate further on the application of biomechanics to *judo*, but the interested reader is directed to the references already supplied in this section, and to the introductory article by Lonsdale [15].

Concluding Remarks

This article has explained the three distinct elements of *kuzushi*, *tsukuri* and *ake* – the triad that forms a fundamental teaching method within *judo*. It has also introduced a selection of other approaches – with an emphasis on *kuzushi* – that have been suggested by prominent *judoka*, as well as mathematical models developed by academics.

While much of the emphasis has been on *kuzushi*, recall that *kuzushi* on its own is meaningless, and must be blended with *tsukuri* and *ake* to apply and complete a technique in an efficient and productive manner.

The author is of the view that a mathematical analysis of *judo* in not of any real assistance to the *judoka* in his practice of *kuzushi*, *tsukuri* and *ake*, and believes that these are skills which can only be acquired through actual instruction and practice on the *tatami* [mat]. As part of this, one need look no further than the *Nage-no-kata* [Forms of Throwing] as a *ready-made* teaching aid to help to develop an understanding of the processes involved [16].

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www.KanoSociety.org • sensei@kanosociety.org

The Richard Bowen Collection



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In 1949, Richard Bowen began judo training in London at the Budokwai, of which became Vice-President. He lived in Japan for four years to deepen his studies. A former British International, he fought in the first ever World Judo Championships in Japan in 1956. He was the author of more than eighty articles. Richard Bowen built up an extensive judo Library in the course of research for his articles and books, and he kindly donated it to the University of Bath Library. Items in the collection are for reference use only (not available for loan). Items can be viewed between 9am-5pm.