Kuzushi, Tsukuri and Kake in Kodokan Judo

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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 Kanoshihan 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’yo-ryu [Divine True Willow School] jujutsu, to become Hoppo-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].

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 in 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 culmina- tion 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”.

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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.

Kazuo 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 Jushihono-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 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

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

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**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 kake – 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 kake 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 kake, 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].
References


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The Richard Bowen Collection

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.