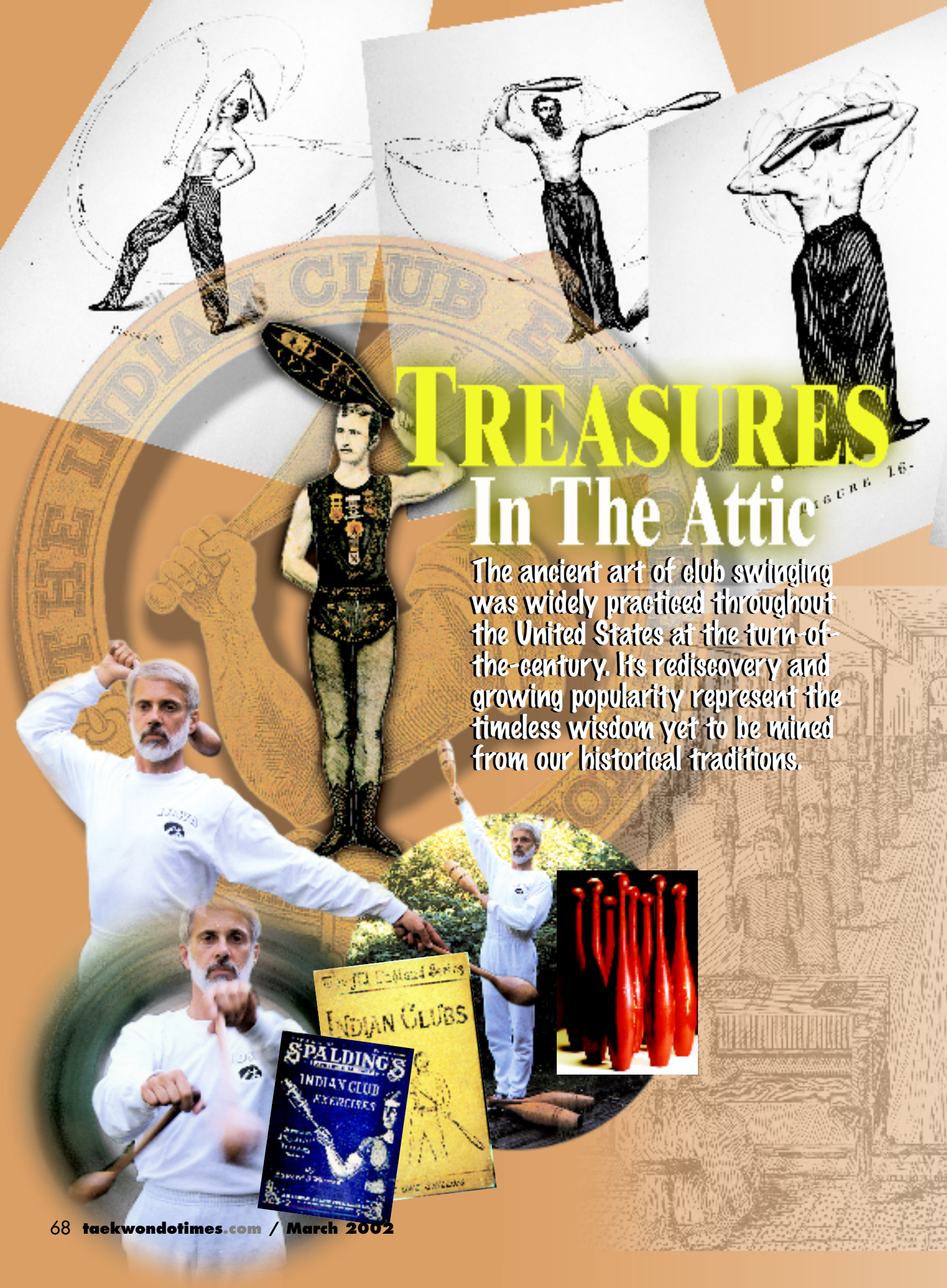


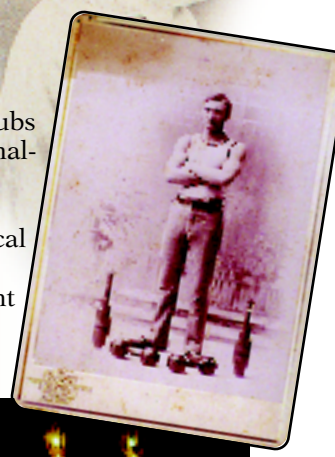
TREASURES In The Attic

The ancient art of club swinging was widely practiced throughout the United States at the turn-of-the-century. Its rediscovery and growing popularity represent the timeless wisdom yet to be mined from our historical traditions.

By Yoshiaki Takei, Ph.D., Ed Thomas, Ed.D. and Karen Garland

Club swinging was introduced into American physical culture in the early 1860's. The clubs are usually made of wood and sometimes resemble bowling pins. Today clubs are occasionally seen in old movies or photos, hanging in neat rows on the walls of gymnasia, or in the hands of men, women, and children from the distant past.

Club swinging enjoyed immense popularity until America began losing interest in physical training in the 1920's. By the end of the 1930's, the art of club swinging was almost lost. Fifty years later, in the early 1990's, students in the Northern Illinois University Department of Physical Education began to train in this amazing and beautiful art. Club swinging has since spread into the American martial arts community and the United States Army.

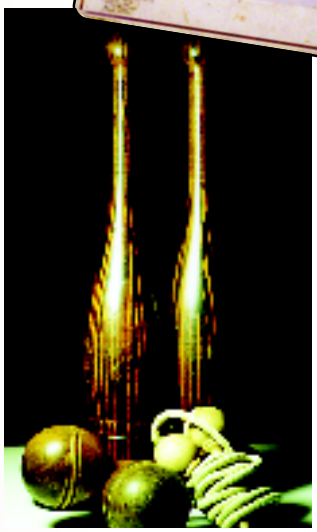


Club History

Club swinging has roots in ancient India and Persia. Hoffman (1996, p.6) notes that:

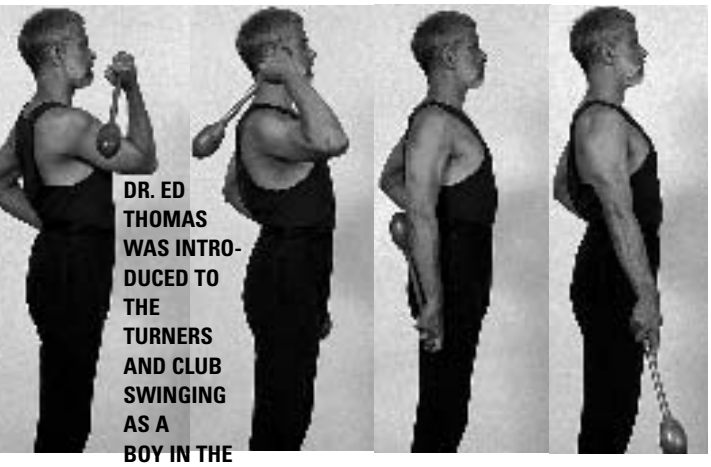
The Indian club can be traced to one of the most ancient weapons in India, the war club, or gada, a symbol of invincible physical prowess and worldly power. Almost every god and goddess of Hindu belief is depicted holding a gada, including Lord Vishnu, one of the principal Deities. Throughout the Islamic period, Rajput rulers and Muslim sultans favored the gada as the preferred weapon of combat. It was considered a great honor for the warrior to be trained in the use of the battle club. Through the ages, the war club changed in both name and form. Eventually, its use evolved in India as a means of physical exercise. (Personal correspondence from N.L. Nigam, Director of Salarjung Museum, Hyderabad, India, to A.J. Hoffman, November 18, 1990.)

HANUMAN FROM THE ANCIENT RAMAYANA WAS USUALLY SEEN WITH HIS GADA



TREASURES IN THE ATTIC

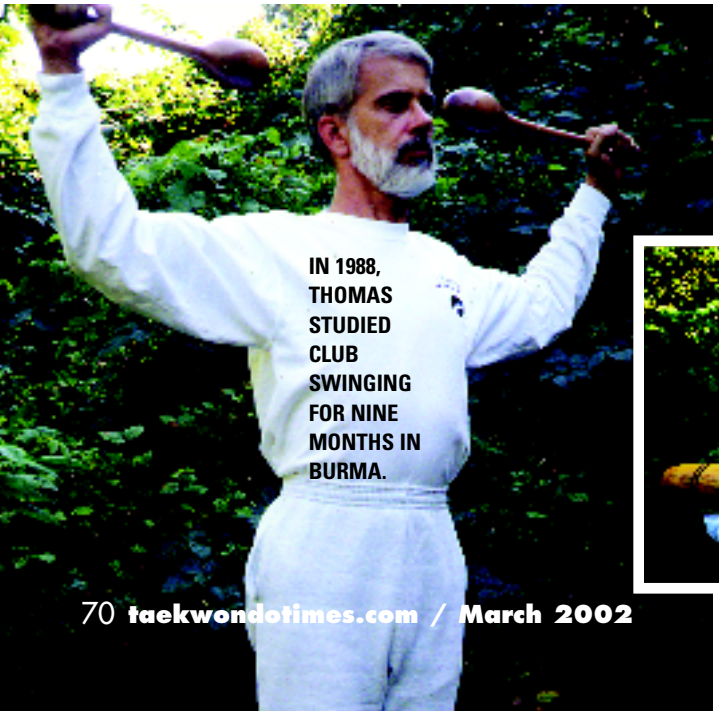
GERMAN IMMIGRANTS BROUGHT HIGHLY SOPHISTICATED RESTORATIVE AND MARTIAL TRAINING TO THE UNITED STATES IN THE MID-1800'S. THEY BUILT TRAINING HALLS AND HELPED DEVELOP SCHOOL PHYSICAL EDUCATION PROGRAMS IN MANY AMERICAN CITIES. THE GERMAN "TURNERS" EVENTUALLY ADOPTED CLUB SWINGING INTO THEIR TRAINING AND DID MUCH TO POPULARIZE IT.



DR. ED THOMAS WAS INTRODUCED TO THE TURNERS AND CLUB SWINGING AS A BOY IN THE MID-1950'S.

SIM D. KEHOE WAS PROBABLY THE PERSON MOST RESPONSIBLE FOR THE GROWTH OF CLUB SWINGING IN THE UNITED STATES TOWARD THE END OF THE 18TH CENTURY.

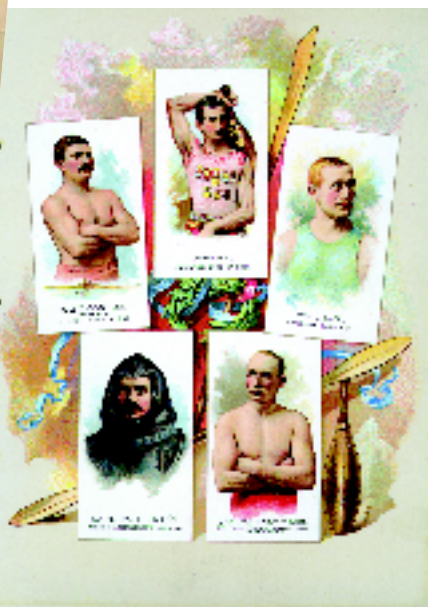
Posse (1894) called clubs "the oldest known implement for military gymnastics" (p. 24). The difference between lifting dumbbells and swinging clubs, he explained, is that lifting dumbbells adds weight to the lever (this is the commonly practiced linear lifting). Indian clubs increase the momentum of the pendulum (this is the circular nature of club swinging). In other words, Indian clubs can be described as circular weight training (Thomas, 1995). Lemaire (1889) connected clubs to the Ancient West and to physical training when he wrote:



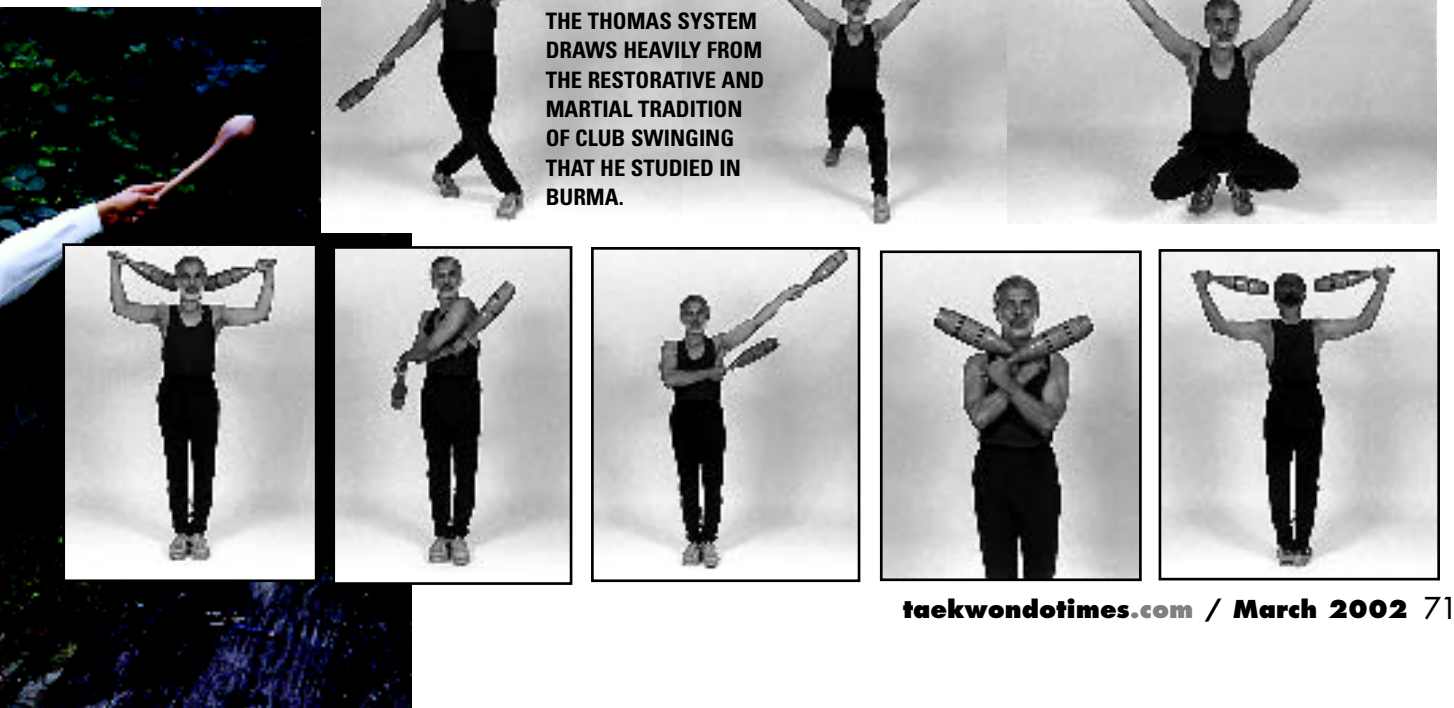
IN 1988, THOMAS STUDIED CLUB SWINGING FOR NINE MONTHS IN BURMA.

LIGHT CLUBS ARE USED TO DEVELOP SPEED; HEAVY CLUBS BUILD STRENGTH. AND POWER.

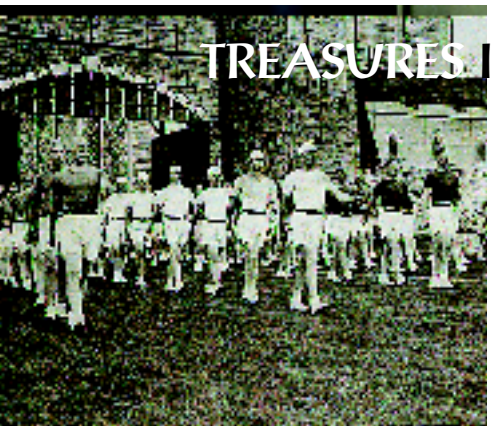
FAR LEFT: THIS ETCHING OF AN INDIAN CLUB SWINGER APPEARED IN THE AUGUST 14, 1852, EDITION OF *THE ILLUSTRATED LONDON NEWS*. **LEFT:** THIS PAGE FROM THE MARCH 17, 1860, *NEW YORK ILLUSTRATED NEWS* SHOWS A DRAWING OF SCOTCH CLUBS. **BELOW:** SPORTSMEN OF THE DAY ARE DEPICTED ON TOBACCO CARDS. FAMOUS CLUB SWINGER GUS HILL IS FEATURED (TOP ROW CENTER) ON THIS CIRCA 1890 COLLECTION.



That the club is the most ancient weapon nobody can deny. It is the most natural and handy that can be found; and consequently the first used by man, for we find that Cain slew Abel with a club. The ordinary weapon of the athletic god Hercules was a club; and though he also used a bow and arrow, he is always represented with his club. In ancient times, both in Greece and Rome, the strongest athletes, on public occasions, were fond of brandishing clubs, believing themselves to be representatives of Hercules. We hear of Milo of Crotona leading his compatriots to war armed with a club. A Roman emperor, Commodus, proud of his immense strength, paraded the streets with a club as Hercules. . . .Thus, clubs, in one form or another, have had a conspicuous place in nature, mythology, and history. But what interests us more here is the adaptation of clubs to the development of health and strength. (p. 7)



THE THOMAS SYSTEM DRAWS HEAVILY FROM THE RESTORATIVE AND MARTIAL TRADITION OF CLUB SWINGING THAT HE STUDIED IN BURMA.



ORGANIZED BRITISH MILITARY PHYSICAL READINESS TRAINING HAS ITS ROOTS IN THE 1860'S AND INCLUDES CLUB SWINGING. CLUBS WERE USED EXTENSIVELY YEARS AGO FOR INDIVIDUAL TRAINING AND DEMONSTRATIONS.

CLUB SWINGING WAS ONCE WIDELY PRACTICED AT MANY COLLEGES THROUGHOUT THE UNITED STATES.

The restorative nature of club swinging caught the attention of foreign missionaries, travelers, merchants, and British military officers in India during the early 19th Century. Kehoe (1866) reported that one British Army officer wrote:

The wonderful club exercise is one of the most effectual kinds of athletic training known anywhere in common use throughout India. The clubs are of wood, varying in weight according to the strength of the person using them, and in length about two feet and a half, and some six or seven inches in diameter at the base, which is level, so as to admit of their standing firmly when placed on the ground, and thus affording great convenience for using them in the swinging positions. The exercise is in great repute among the native soldiery, police and others whose caste renders them liable to emergencies where great strength of muscle is desirable. The evolutions which the clubs are made to perform, in the hands of one accustomed to their use, are exceedingly graceful, and they vary almost without limit. Beside the great recommendation of simplicity, Indian club practice possesses the essential property of expanding the chest and exercising every muscle in the body concurrently. (p. 8)

The British Army eventually integrated club swinging into its physical training, and it subsequently gained great popularity among English civilians as well. Bishop (1979) notes that interest in clubs increased substantially after Queen Victoria witnessed a demonstration of their use and endorsed them. In 1862, Sim D. Kehoe produced the first clubs in the United States (Hoffman, 1996), and the German Turners and the United States Army eventually adopted them. In response to a gift of clubs to Lieutenant General Ulysses S. Grant by Kehoe, Grant wrote:

THESE IMAGES WERE TAKEN AT CLINTON, IOWA, AT AROUND THE BEGINNING OF THE TWENTIETH CENTURY. THE LARGE ADULT-SIZED CLUBS AND DUMB-BELLS ON THE LEFT ARE A CONTRAST TO THE SMALLER ONES USED BY THESE TWO BOYS ON THE RIGHT.

WEST POINT CADETS LEARNED CLUB SWINGING UNDER HERMAN J. KOEHLER, FATHER OF MODERN ARMY PHYICAL READINESS TRAINING, IN THE LATE-1800'S AND EARLY-1900'S.

THESE THREE IMAGES CAPTURED CIRCA 1925 FORM A "TRIPTYCH" AND DEPICT A YOUNG CHRISTIAN BOY WITH HIS CLUBS AND WOODEN DUMBBELLS.

CLUB SWINGING WAS A POPULAR FEMALE ACTIVITY FROM PRIMARY THROUGH POSTSECONDARY SCHOOLS. MANY COLLEGES ORGANIZED COMPETITIVE TEAMS.

I have the pleasure of acknowledging the receipt of a full set of rosewood Dumb-Bells and Indian Clubs, of your manufacture. They are of the nicest workmanship. Please accept my thanks for your thus remembering me, and particularly my boys, who I know will take great delight as well as receive benefit from using them. (Kehoe, 1866, p. 9)

The United States Army Manual of Physical Training (1914) notes:

THESE PHOTO ILLUSTRATIONS ARE TAKEN FROM ***INDIAN CLUBS, THE ALL ENGLAND SERIES,*** BY COLONEL G.T.R. CORBBETT AND A.F. JENKIN OF THE GERMAN GYMNASTIC SOCIETY AND PUBLISHED IN LONDON IN 1918 BY G.BELL & SONS, LTD.

The effect of these exercises, when performed with light clubs, is chiefly a neural one, hence they are primary factors in the development of grace, coordination and rhythm. As they tend to supple the muscles and articulations of the shoulders and to the upper and fore arms and wrist, they are indicated in cases where there is a tendency toward what is ordinarily known as muscle bound. (p. 113)

Club swinging in late-19th Century America was associated in the civilian sector with the then popular "Muscular Christianity" movement that linked physical training to moral and spiritual development. Physical education pioneer Dio Lewis (1882) advocated club swinging and believed it would "cultivate patience and endurance, and operate happily upon the longitudinal muscles of the back and shoulders, thus tending to correct the habit of stooping" (p. 171). Bornstein (1889) associated club swinging with strength and health, stating:

PRESIDENT THEODORE ROOSEVELT'S INTEREST IN CLUB SWINGING WAS DEPICTED IN A POLITICAL CARTOON.

PUGILISTS OF THE 1920'S USED CLUB SWINGING AND DUMBBELL DRILLS TO HELP DEVELOP FIGHTING SKILLS. THESE FIVE VAUDEVILLIAN PRIZE FIGHTERS ARE SHOWN WITH SOME OF THEIR TRAINING TOOLS.

Analysis of the Double Inside-Outside Club Swinging Pattern

Club swinging sequences, performed in slow motion, were first photographed using a 35-mm still camera. Preliminary analysis to identify joint actions and the muscles as well as key positions was then conducted by a biomechanist based upon personal knowledge and reference to textbooks of anatomy for confirmation. The club sequences were repeated in normal speed at a later time. This second performance was filmed using a Locam II 16-mm motion-picture camera operating at 100 Hz. The film was viewed and qualitative analysis was conducted using a Vanguard projection head. The image was projected onto a digitizing board to re-evaluate and confirm the result of joint actions and the muscles used in moving from one key position to another during the performance.

The motion of the club swinging exercise discussed in this article is described phase-by-phase in the section below. In addition, a more detailed presentation of joint actions and muscles involved with the exercise are organized into the table that follows.

Position 1: Arms parallel and extended directly overhead, the forearms slightly turned inward (pronation), and the wrists held in neutral position.

Position 1 to 2: Arms kept straight and lowered in the frontal plane to the horizontal position (adduction of the humerus). The forearms kept in slight pronation and the wrists in neutral position.

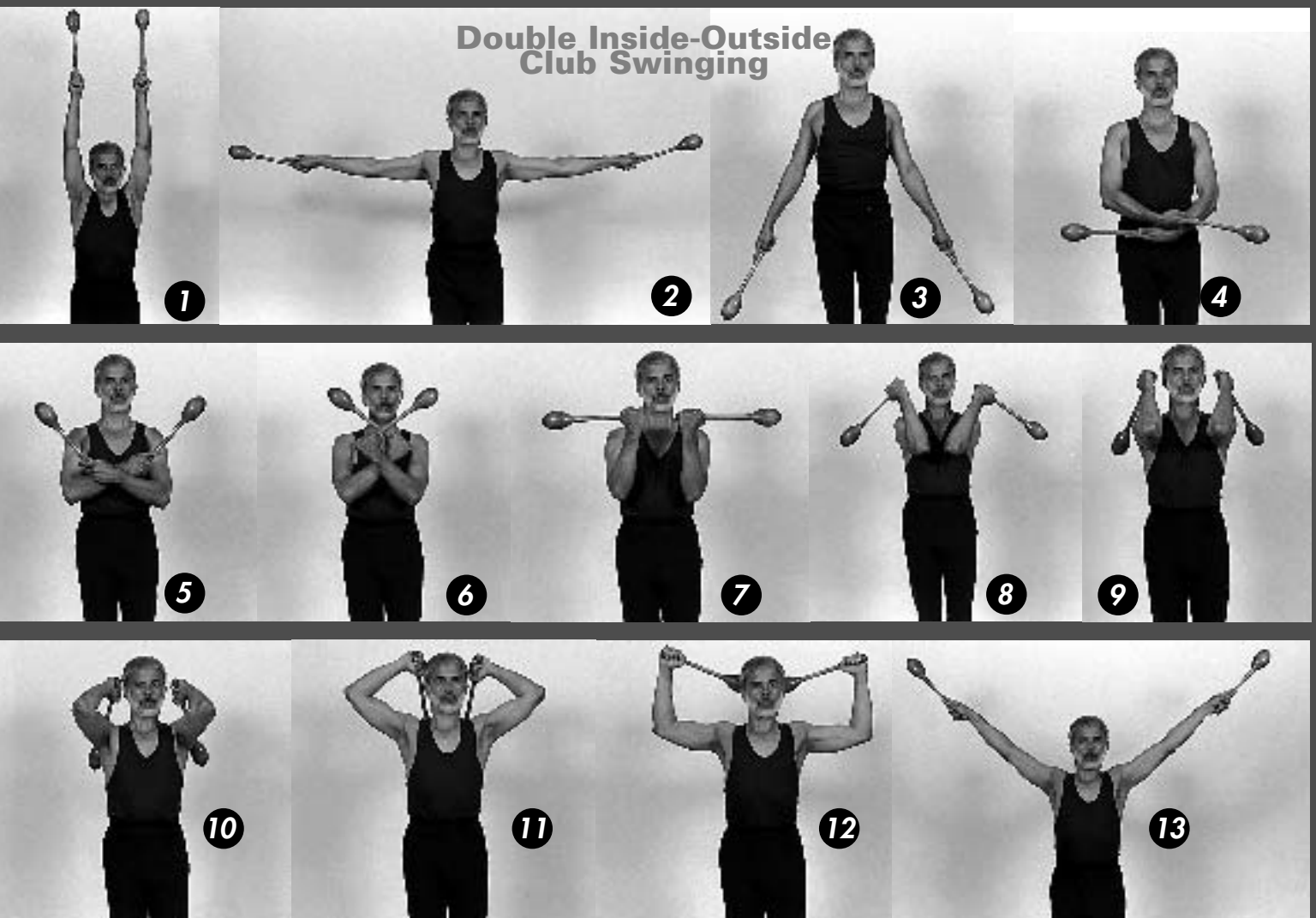
Position 2 to 3: Arms kept straight and lowered in the same plane to an inverted "V" position (continued adduction of the humerus). The forearms kept in slight pronation and the wrists in neutral position.

Position 3 to 5: Arms kept straight and lowered to "vertical" position (continued adduction of the humerus). Subsequently, the upper arms are rolled toward the trunk (inward rotation of the humerus) and, simultaneously, the elbows are flexed to "crossed-forearm" position in front of the chest. The forearms themselves are turned outward slightly to neutral position (supination). The wrists are held in neutral position.

Position 5 to 8: The forearm-club alignment is broken and the wrists are flexed laterally (radial deviation). The upper arms and elbows are brought closer to each other in front of the chest (hyperadduction of the humerus). Simultaneously, the upper arms are rolled outward (outward rotation of the humerus) with the elbow joint held in flexion, as before, resulting in a "V" position formed by the forearms and a contrasting "inverted V" position formed by the clubs.

Position 8 to 11: The elbow joint is held in flexion and the wrist joint in radial deviation, as before. The upper arms and elbows are lifted diagonally from in front of the chest to "diamond" position with the elbows pointing outward at the side of the head, and the club head pointing downward toward the floor (i.e., sequential actions of the flexion, horizontal extension, and abduction of the humerus at the shoulder joint).

Position 11 to 13: Arms are extended fully and elevated to a "V" position overhead as a result of straightening the elbows (extension) and the wrists (ulnar deviation) to complete the full cycle of motion.

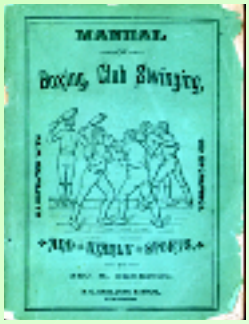


In summary, it is evident that the double inside-outside club swing, when correctly performed, can exercise the shoulder girdle, shoulder joint, humero-ulnar and radio-ulnar joints, and wrist joint over a full range of motion. It can exercise both agonist and antagonist muscles (flexors and extensors, adductors and abductors, and inward and outward rotators) of these joints in a single cycle of fluid motion. Conventional weight training usually limits its movement to simple upward and downward (i.e., shoulder press, tricep extension, bicep curl exercises) or forward and backward (i.e., bench press exercise) types of linear motion. The circular motion of club swinging can be used to improve flexibility and muscle tonus of these joints and muscles. It also appears useful as an exercise modality for rehabilitation.

Position	Shoulder Girdle	Shoulder Joint	Elbow	Wrist
1	Elevation (concentric): • levator scapulae • trapezius I, II • Upward rotation (concentric): • trapezius II, IV • serratus anterior	Abduction (concentric): • supraspinatus • deltoid (middle)	Extension (concentric): • triceps brachii • anconeus Pronation (concentric): • pronator teres • pronator quadratus • brachioradialis	Held in neutral position
1 to 2	***(In case of slow, controlled lowering motion against force of gravity)***			
	Depression (eccentric): • levator scapulae • trapezius I, II Downward rotation (eccentric): • trapezius II, IV • serratus anterior	Adduction (eccentric): • deltoids • supraspinatus	Held in extension (elbow joint) Held in pronation (radio-ulnar joint)	Held in neutral position
	(In case of fast, downward pulling action in the direction of force of gravity)			
	Depression (concentric): • trapezius (lower) • subclavius Downward rotation (concentric): • rhomboids • pectoralis minor • levator scapulae	Adduction (concentric): • pectoralis major • latissimus dorsi • teres major • deltoid (posterior)* • infraspinatus* • teres minor* *outward rotation to cancel inward rotationby the first three muscles	Held in extension (elbow joint) Held in pronation (radio-ulnar joint)	Held in neutral position
2 to 3	***(In case of slow, controlled lowering motion against force of gravity)***			
	Depression (eccentric): • levator scapulae • trapezius (upper) Downward rotation (eccentric): • serratus anterior • trapezius II, IV	Adduction (eccentric): • deltoids • supraspinatus	Held in extension (elbow joint)	Held in neutral position
	(In case of fast, downward pulling action in the direction of force of gravity)			
	Depression (concentric): • trapezius (lower) Downward rotation (concentric) • rhomboids • pectoralis minor • levator scapulae	Adduction (concentric): • pectoralis major • latissimus dorsi • teres major • deltoid (posterior)* • infraspinatus* • teres minor* *outward rotation to cancel inward rotationby the first three muscles	Held in extension (elbow joint) Held in pronation (radio-ulnar joint)	Held in neutral position
3 to 5	Held in neutral position	Inward rotation (concentric): • subscapularis • pectoralis major • deltoid (anterior) • latissimus dorsi • teres major	Flexion (concentric): • biceps brachii • brachialis • pronator teres • brachioradialis Supination (concentric): • supinator • biceps brachii • brachioradialis	Held in neutral position
5 to 8	Protraction (concentric): • serratus anterior • pectoralis minor	Hyperadduction (concentric): • pectoralis major Outward rotation (concentric): • teres minor • infraspinatus	Held in flexion (elbow joint) Held in neutral position (radio-ulnar joint)	Radial deviation (concentric): • flexor carpi radialis • extensor carpi radialis longus • extensor carpi radialis brevis
8 to 11	Upward rotation (concentric): • serratus anterior • trapezius II, IV Retraction (concentric): • rhomboids • trapezius III	Flexion (concentric): • deltoid (anterior) • pectoralis major (clavicular) Horizontal extension (concentric): • infraspinatus • teres minor • deltoid (posterior) Abduction (concentric): • supraspinatus • deltoid (middle) • subscapularis* • infraspinatus* • teres minor* • teres major* *Depression of the humeral head to bring about smooth abduction of the humerus	Held in flexion (elbow joint) Pronation (concentric): • ponator teres • ponator quadratus • brachioradialis	Held in radial deviation
11 to13	Upward rotation (concentric): • serratus anterior • trapezius II, IV Elevation (concentric): • levator scapulae • trapezius I, II	Abduction (concentric): • deltoids • supraspinatus	Extension (concentric): • triceps brachii • anconeus Held in pronation (radio-ulnar joint)	Ulnar deviation (concentric): • flexor carpi ulnaris • extensor carpi ulnaris

FOR NOVICE CLUB SWINGERS, DR. THOMAS RECOMMENDS TRAINING SLOWLY WITH LIGHT CLUBS UNTIL MOVEMENTS ARE PRECISE.

TREASURES IN THE ATTIC



Indian club exercises have of late years become one of the most universal methods of developing the muscular anatomy of the human body. Schools, colleges and even theological seminaries have adopted their use in their respective institutions with the most beneficial results. For keeping the body in a healthy and vigorous condition there has as yet been nothing invented, which for its simplicity and gracefulness can be favorably compared with the Indian club exercise. (p. 7)

Attacks on club swinging and physical training in general began to increase early in the 20th Century. Cermak (1916) spoke for the defenders of club swinging when he wrote:

I have heard, and still hear among the professional men and women unfavorable comments about club exercises, but knowing that there is no other kind of hand apparatus that would admit such a great, almost inexhaustible variety of pleasing exercises as the clubs, believing that the clubs should have a prominent place in educational gymnastics, that by collaboration of mind and muscle in these exercises we can develop the highest degree of coordination. (Preface)

Hoffman (1996) notes that by the 1920s, Americans traded interest in a moral attachment to physical fitness for speakeasies and dance halls. Club swingers were ridiculed, and social pressure eventually put the art to bed.

Benefits of Club Swinging

The shoulder girdle is by far one of the most moveable areas of the body, but it is also one of the most fragile. Ill-fitting furniture, poor posture, and numerous other factors often impair shoulder girdle mobility. This impacts negatively on other joints, including the elbow and wrist. When the ball-and-socket joint of the shoulder is made strong, aligned, and mobile, other joints also benefit. The circular patterns of club swinging represent the foundations upon which all other more complex shoulder girdle movements are derived.

CLUB SWINGING WAS A PART OF U.S. ARMY PHYSICAL READINESS TRAINING DOCTRINE FOR MANY YEARS. UNITED STATES ARMY RANGERS AT FORT BENNING, GEORGIA, BEGAN USING CLUBS AGAIN IN THE LATE-1990'S AS THE UNITED STATES ARMY PHYSICAL FITNESS SCHOOL REVISED TRAINING TO INCLUDE THE BEST OF PAST DOCTRINE.

THIS MEDAL WAS AN AWARD GIVEN TO A CLUB SWINGER. COMPETION WAS COMMON IN THE EARLY 1900'S. CLUB SWINGING, LIKE ROPE CLIMBING, WAS AN OLYMPIC EVENT FROM 1904 TO 1932.

CLUBS LINE THE WALL OF THIS 1950'S HAND-COLORED POST CARD OF TWO WEST POINT FENCERS

MOST CLUBS FOUND (AND MANUFACTURED) TODAY ARE IN THE ONE TO THREE POUND RANGE. THIS LARGE PAIR WEIGHS SEVEN POUNDS EACH.

THESE SMALL BRASS REPLICAS WERE SALESMEN'S SAMPLES IN THE EARLY 1900'S.

DRILL SARGENTS AND OFFICER CADRE FROM A U.S. ARMY BASIC TRAINING BRIGADE AT FORT JACKSON TRAINED WITH THE CLUBS IN THE LATE-1990'S.

THIS BRITISH ARMY PHYSICAL TRAINING INSTRUCTOR'S EMBLEM DEPICTS CLUB SWINGING.

LEFT: A "CIRCULAR" FOR "CALISTHENIC EXERCISES" OF THE DAY, CIRCA 1880, CLUB SWINGERS WERE MOST PROMINENTLY DISPLAYED. ABOVE: AN ADVERTISEMENT FOR CLUBS, WANDS, RINGS, DUMBBELLS, AND WOODEN BARBELLS

SOME CREATIVE CRAFTSMEN WOULD MAKE UNIQUE CLUB DESIGNS THAT INCLUDED SCREW-OFF TOPS FOR EASY TRANSPORT.

SAFETY STRAPS WERE SOMETIMES USED.

CLUBS WERE MADE IN A MYRIAD OF DESIGN VARIATIONS.

THIS CLUB WAS MADE WITH A CURIOUS GRIP AND ADJUSTABLE LENGTH.

AS CLUB SWINGING EVOLVED INTO A CIRCUS AMUSEMENT, CLUBS WERE EVENTUALLY MADE MUCH LIGHTER FOR JUGGLING.

There are hundreds of club movements that can be combined in an almost inexhaustible variety of flowing patterns.

Conclusions

As we shape physical training for the future, we are wise to revisit the past. Club swinging represents the many cultural treasures and wisdom that have long faded from the physical training landscape. As we rediscover the best of our restorative and martial traditions, we will improve our physical culture. Conversely, if we fail to link ourselves to past wisdom, we should not be surprised if the future emerges less sophisticated than the present.

The double inside-outside club pattern described in this article sequentially mobilizes the muscles of the shoulder girdle, shoulder joint, elbow joint, and wrist joint. This is not possible with the linear lifts of conventional weight training. Club exercises appear to have great potential for rehabilitation, physical training, and general neuromuscular development. ●

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Dr. Yoshiaki Takei is a Professor of Biomechanics at Northern Illinois University. He is a Shodan in Judo and Coached gymnastics at Long Beach State University from 1973-85. Dr. Takei was three-time National Amateur Athletic Union all-around gymnastics champion from 1971-73 and a two-time United States Gymnastics Federation All-Around Champion from 1972-73.
Karen Garland served for over twenty years as an administrative specialist in the Department of Physical Education at Northern Illinois University.
Dr. Ed Thomas is currently the Iowa K-12 Health and Physical Education Consultant.Thomas can be reached at ed.thomas@ed.state.ia.us.

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