

KINESIOLOGISTS: RAIDERS OF THE LOST PARADIGM?

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Introduction: what's in a name?

Gymnastics and physical education have for a long time been the brand names for both the theory and practice of the culture of movement. The term 'gymnastics' reappeared with the Renaissance (a.o. Mercurialis, 1569). GutsMuths mentioned the term physical education in the subtitle of his *Gymnastik für die Jugend* (1793), but Jahn (1816) opted for the neologism of 'Turnen' for nationalistic purposes.

Around 1850 new terms were proposed for labelling the therapeutic application of exercise, e.g. 'kinésithérapie' (Georgii, 1847) or 'kinesiatrik' (Schreber, 1852). In 1857 Dally created the term and concept of 'kinesiology' ('*cinésiologie*') as "... the science of movement in its relationship with education, hygiene and therapy" (Prot, 1997; Renson, 2000).

This paper will track kinesiology's migration to the United States of America, where it first appeared in 1886. The term quickly spread, but now with the restricted meaning of 'movement analysis' or 'applied anatomy'. When the American Academy of Physical Education changed its name to the American Academy of Kinesiology and Physical Education (AAKPE) in 1993, Nicolas Dally's original paradigm was more or less restored after one hundred and thirty six years.

Nils Posse brings kinesiology to America

The term kinesiology made its appearance in the United States of America in 1886 and became known when Baron Nils Posse published *The special kinesiology of educational gymnastics* in Boston in 1894. Posse was a medical gymnast from the Gymnastic Central Institute of Stockholm, who had emigrated to the U.S. in 1885. According to Ellen W. Gerber (1971: 308), Nils Posse (1862-1895), more than anyone else, was responsible for introducing Swedish gymnastics to America. Posse's father was a Swedish nobleman and army major. After high school Posse completed a fifteen-



Figure 1. Baron Nils Posse (1862-1895)

month course at the Royal Military School at Karlsberg, where Per Henrik Ling – the father of Swedish gymnastics - had been a fencing master from 1813 to 1825. Posse spent five years in the army, first as a private and later with the rank of second lieutenant. He attended a two-year course at the Central Institute of Gymnastics in Stockholm, including medical as well as educational and military gymnastics. When he graduated at the age of twenty-three, he left for America with the intention of making a career in medical gymnastics. On his arrival in Boston in 1885, he immediately contacted the city's physicians in the hope of selling his services (Hackensmith, 1966: 355). His pamphlet on *Medical gymnastics*, which he published in Boston in 1887, brought him into contact with the wealthy benefactress Mary Hemenway, who founded the Boston Normal School of Gymnastics in the fall of 1889. Baron Posse became the

only teacher. He conducted classes of daily gymnastics and instruction in methods of teaching, the students practising on each other; applied anatomy and physiology were also taught (Leonard, 1915: 137-146; Gerber, 1971: 308-318). Several papers were dedicated to the introduction of Swedish gymnastics in the U.S. and to the role of the Boston Normal School of Gymnastics at the 1979 HISPA conference in Uppsala, Sweden (Park, 1979; Spears, 1979; Howell, 1979; Remley, 1979).

The 1889 Boston Conference in the Interest of Physical Training

Mrs. Hemenway, assisted by Miss Amy Morris Homans, instigated a *Conference in the Interest of Physical Training* in Boston on November 29 and 30, 1889. The major address of the first session of this conference, which became a landmark event in the history of physical education in North America, was given by Edward Mussey Hartwell (1850-1922). Hartwell, who held both a Ph.D. in animal biology and an M.D., spoke on the topic of 'The nature of physical training, and the best means of securing its ends' (Barrows, 1890: 5-22). Hartwell discussed the historical unity of the field. He did not endorse athletics as the proper core of physical education – as several universities did – but enunciated his support for gymnastics over athletics. A year later, he was appointed Director of Physical Training for the Boston Public Schools (Leonard, 1915: 147-155; Gerber, 1971: 319-324).

During the conference the various 'systems' were explained by leading exponents and compared and discussed as to their validity and practicability. At the beginning of the second session Baron Posse set forth 'The chief characteristics of the Swedish system of gymnastics', followed by a demonstration of the Ling system of educational gymnastics by a class of women under his leadership (Barrows, 1890: 42-51). A lively discussion followed Posse's paper and demonstration. The Earl of Meath commented that the Swedish system had been quite recently introduced into the board schools of London. With British humor, he pointed out though that the reason why the Swedish system was believed to be best adapted to English schools was because it was the most economical "... because they told us that no apparatus was necessary" (Barrows, 1890: 51-52). Dr. Jay W. Seaver of Yale University first stated that there had never been a system developed with so much scientific study and painstaking as this Ling system. But that "... American needs are peculiar" (Barrows, 1890: 53). He believed that if

this system would be adopted, it should be modified and adapted to the circumstances in a scientific way. "That is the peculiar genius of America" (p. 53) and "I believe that if there is one thing where we Yankees surpass other people, it is in our inventive ingenuity" (p. 54).

Also Dr. W.G. Anderson of the Brooklyn School for Physical Training started off in the same key:

"I am an American. It is natural, therefore, that I should defend anything that is American ... Mr. Posse has given several exercises illustrating the methods adopted by our teachers. I have never seen a good teacher give such grotesque movements ... The so-called American system is as scientific as that of Ling" (Barrows, 1890: 54).

Anderson was of the opinion that the system to be adopted by the Boston Public Schools should be an eclectic one, embracing the best ideas of all known methods. If the Boston schoolmasters would try the Ling system for one year, then a similar test should be given to the so-called American systems (p. 56).

The discussion of this session was concluded by Dr. Edward Hitchcock of Amherst College, trying to pacify the opposite standpoints. Although he had been working at physical culture for quarter of a century, he admitted that he did not know of a so-called American system:

"We have not a universal system that will govern us. But I am rejoiced that the Boston people are discussing the question of the Ling system ... We are always experimenting; indeed we are en experiment as a nation" (Barrows, 1890: 56).

Anyway Mrs. Hemenway's hopes were realized in June 1890, when the Boston School Committee voted to introduce the Ling or Swedish gymnastics into Boston public schools (Leonard, 1923: 325).

The year after the 1889 conference Posse resigned from the Boston Normal School of Gymnastics, apparently due to a clash of personalities with Miss Homans (Spears 1979). He opened his own Posse Gymnasium and School, from which ninety-six women and [only] six men would graduate. The Posse Gymnasium had three departments: pedagogical (teacher training); educational; and medico-gymnastic (masseurs). A high school diploma was required for entering the two-year course; the students also had to pass an examination in anatomy, physiology, kinesiology and practical gymnastics to be admitted to the senior year. A third year, post-graduate course was also offered. Five hospitals in Boston established massage clinics with graduates of the Posse Gymnasium (Gerber, 1971: 314-318).

1894: Nils Posse and the special kinesiology of educational gymnastics

Joan Paul (1996) mentioned that Posse first coined the title 'kinesiology' in 1886, deriving it from the Greek words 'kinesis' motion and 'logos' discourse. He suggested that it was the most appropriate title for gymnastics. Reet Howell (1979) drew the attention to one of his articles *Modification of the Swedish system of gymnastics to meet American conditions* (Posse, 1892), in which he claimed – without any diffidence:

“In Sweden a new science has been evolved by Ling and his followers who have named it kinesiology (kinesis - motion), which in free translation means the science of gymnastics. It embraces the principles which are fundamental to all exercise, whether medical or educational, German or Chinese, and its content might be best expressed as: Kinesiology (The Mechanics)
(The Physiology)
(The Philosophy)
(The Classification) of Exercise”.

Despite the misleading title of the article, Posse argued that there was only one system, that of rational gymnastics, and non other than that espoused by Ling met the necessary criteria (Howell, 1979):

“We do not believe in modifying the Swedish system, for it is in itself a modification ... Neither do we believe in modifying any other system, nor in inventing a new one to meet American or other conditions” (Posse, 1892).

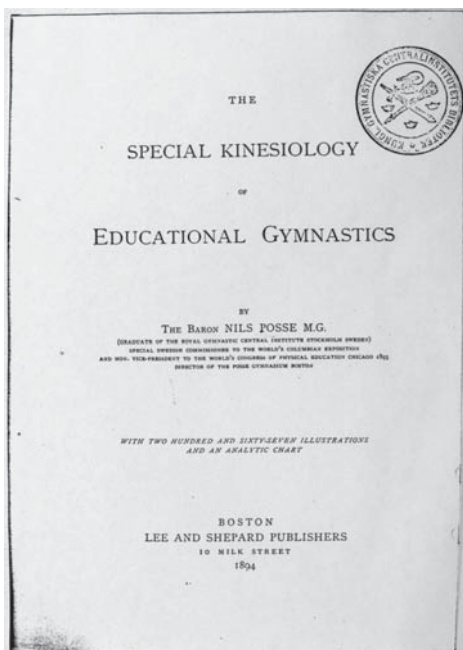


Figure 2. The title page of the third enlarged edition of Posse's *Special Kinesiology ...*, 1894.

In 1890 Posse had published his book on *The Swedish system of educational gymnastics*. In the third enlarged edition of 1894 the title was changed to *The special kinesiology of educational gymnastics* (Posse, 1894; Leonard, 1915: 137-146; Gerber, 197: 314-318). In his preface Posse stated that after the two editions of *The Swedish system of educational gymnastics* became ex-hausted, he deemed it desirable to change the title to *Special kinesiology*,

“... it being a treatise on the mechanics, effects, and classification of special exercises, - the subject matter still describes the Swedish system of educational gymnastics” (Posse, 1894: V).

Posse used a confused line of reasoning, when he defended his science of educational gymnastics in the following terms:

“Gymnastics is educational only when one adheres to the principles of education; and it is Swedish only when it is applied in accordance with General Kinesiology, i.e., with the principles of gymnastics” (Posse, 1894: VI).

The author also remains very obscure on the specific content of such a ‘general kinesiology’, which he touches upon when refuting the so-called eclectic systems:

“Systems of gymnastics created by taking ‘the best from all’ are to be shunned; first, because General Kinesiology recognizes no one system, unless it corresponds to the laws of gymnastics, and scientific gymnastics must always be the same the world over ...” (Posse, 1894: 5).

This argument is not only another sophism, it stands moreover in strong contrast with the declarations made during the 1889 Boston conference, where Posse stated:

“What we do in Sweden in the way of instructing a teacher to teach gymnastics ... We instruct him in the theory of gymnastics and teach him to use all the material at hand, so that really we teach an eclectic system” (Barrows, 1890: 128).

Apart from the announcement of a forthcoming work on general kinesiology (Posse, 1894: 10), and the fact that Posse considered Per Henrik Ling's son Hjalmar Ling [wrongly identified as M.D.], as the first authority on the science of Swedish Gymnastics and General Kinesiology (p. 281), all we know about general kinesiology from Posse's work is that it concerns the principles or laws of gymnastics.

Posse never mentioned Nicolas Dally, who first introduced the term and concept of kinesiology [cinésiologie] in France in 1857. At first sight Posse appeared to be a Swedish ‘fundamentalist’, who had not the slightest doubt about the Swedish system on any point. It seems that he adopted the term

kinesiology in order to sell his earlier publication *The Swedish system ...* (1890) under a new cover after he had failed to convince the participants of the 1889 Boston Conference on Physical Training of the superiority of the Swedish system.

When a Committee on Physical Training was announced at the Boston Conference, Posse's name was not among the eleven members. During the fourth and final session of the Boston Conference, Hartwell responded to Posse's re-marks in the following sibyllic terms:

"And I agree with him entirely that the Swedish gymnastics is based upon physiological principles; but unfortunately there are national prejudices which come here and there and prevent the partisans of one system from properly appreciating other systems at their full value" (Barrows, 1890: 130).

Gerber (197: 317) has nevertheless pointed out that Posse had permitted dumbbells, Indian clubs, and chest weights although these were not in popular use in Sweden, because they were a popular Americanism. As long as they had the desired effect they could be part of rational gymnastics according to the 'spirit of Ling' whose only law was the law of effect.

"It was probably this flexibility which permitted Swedish gymnastics to survive in America in competition with the more popular German apparatus" (Gerber, 197: 317).

1909: William Skarstrom and gymnastic kinesiology

A second edition of *The special kinesiology ...* appeared in 1903, eight years after Nils Posse's death. Then, in 1909 a new publication in the same Swedish gymnastics tradition was published by William Skarstrom entitled *Gymnastic kinesiology: a manual of the mechanism of gymnastic movements*; the second edition followed in 1913. Skarstrom was a 1895 graduate of the Boston Normal School of Gymnastics (BNSG) and the holder of an M.D. from Harvard. He had been a part-time instructor at the BNSG and at the Massachusetts Institute of Technology and had also taught at Teacher's College, Columbia University, before he joined the faculty of BNSG in 1912. From 1909 onwards BNSG had been incorporated into Wellesley College, where it became the Department of Hygiene and Physical Education. As the principle teacher of Swedish gymnastics, Skarstrom managed to have the first departures from the traditional Ling gymnastics accepted by enthusiasts of the system (Gerber, 197: 311-312). His book on *Gymnastic kinesiology ...* put kine-

siology in a mechanical perspective. It was based on his series of articles in the *American Physical Education Review* in 1908 and 1909; among these: 'Kinesiology of the trunk, shoulder and hip applied to Gymnastics'. Skarstrom's work is an analysis of muscle action (Wells, 1968). "Later publications have not equalled this thorough and detailed description of muscle action in specific movements" (Cooper & Glassow 1976: 6). "This was probably the first 'scientific' textbook on the subject available to physical educators in the United States" (Park 1985: 12).

Posse's and Skarstrom's appropriation of the term kinesiology as 'appellation non-controlée' of the mechanism of [Swedish] gymnastics exercises, was eventually rather successful in the United States. More influential in the U.S. than Skarstrom's text, however, has been the work of Wilbur Bowen, who published *The action of muscles in bodily movement and posture* in 1912. Bowen's text was revised and its title changed in 1917 to *Applied anatomy and kinesiology: the mechanism of muscular movement*. There were several reeditions; the seventh was edited by Henry Stone in 1953. The title was – again – changed to *Kinesiology and applied anatomy* with the 1959 edition by Philip Rasch and Roger Burke (Cooper & Glassow, 1976: 6-8; Wilkerson, 1997: 331-334).

Kinesiology goes mechanic

After consultation of Wilkinson's (1997) review, a computer search in the library catalogues of the University of Western Ontario (February, 2002) and Leuven (May, 2002), and the SPORTDiscus database of SIRC (August, 2002) provided the following results listed in Table 1. Only monographs which carried the term *kinesiology* in their title were selected. No yearbooks or congress proceedings were listed. The second or later editions of the same publication were only included when changes occurred in the title.

Gertrud Hawley published *The kinesiology of corrective exercise* in 1937 and Gladys Scott her classical textbook in 1942, followed by a study guide and manual in 1947. The *Kinesiology laboratory manual* by Kranz in 1948 was later frequently re-edited by Thompson under the title of *Manual of structural kinesiology*. Katharine Wells followed with *Kinesiology: the mechanical and anatomic fundamentals of human motion illustrated* in 1950; Morehouse and Cooper with *Kinesiology 'tout court'*; and Ruth Glassow with *A laboratory manual for functional kinesiology*. Steindler *Kinesiology of the human body under normal and pathological conditions* appeared

for the first time in 1955. In 1959 Duvall and Lorraine published *Kinesiology: the anatomy of motion*; Rasch and Burke their version of Bowen's *Kinesiology and applied anatomy*; and Massey *The kinesiology of weight lifting*.

The academic breakthrough of mechanical kinesiology was continued in the sixties with other standard works by Cooper and Glassow; Harris; Broer; and Barham and Thomas. Brunnstrom introduced the concept of *Clinical kinesiology* in 1962 and Morehouse published two brochures in 1965, one on the subject matter and one on the concept of kinesiology.

Apart from the reeditions from the 'enduring classics', the seventies saw the apparition of a set of new textbooks and manuals on mechanical kinesiology by a range of authors such as Jensen and Schultz; Logan and McKinney; Kelley; Desmedt; Barham and Wooten; Esch and Lepley; Groves and Camaione; Spence; Schultz; and Hinson. Logan and McKinney changed their 1970 title to *Anatomic kinesiology* in 1977. Barham introduced the term *Mechanical kinesiology* in 1978 and also edited a *Teacher's guide to accompany mechanical kinesiology*.

During the eighties, several re-editions appeared and also new publications by Greenlee e.a.; Kneer; Piscopo and Baley; Jensen e.a.; and Soderberg. Enoka published the *Neuromechanical basis of kinesiology* and Fitt scored a 'primeur' with *Dance kinesiology*.

The nineties, however, showed a bifurcation in the kinesiology paradigm. On the one hand the mechanical tradition was carried on in the publications by Wilkerson; Yessis; Gench; Tyldesley and Grieve; Greene and Roberts; and Konin. However, in the 1970s, the term biomechanics emerged to supersede kinesiology as a descriptor for the mechanics of movement (Wilkerson, 1997). On the other hand, from 1993 onwards, when the American Academy of Physical Education (AAPE, founded in 1930) changed its name to the American Academy of Kinesiology and Physical Education (AAKPE), kinesiology emerged as the 'new old' descriptor of the crossdisciplinary science of human movement and humans in movement (Renson 1998).

1993: Kinesiology goes back to the original concept of Dally

After the critical Conant report (1963) on the quality of the academic training of physical education teachers, and Henry's (1964) paper on physical education as a discipline, a quest was started in the U.S. for a new scholarly identity and

scientific paradigm. Along with other terms, such as human kinetics, kinanthropology, sport science or exercise science, kinesiology was proposed as the name label for the field of physical education (Swanson & Massengale, 1997; Renson 1989; 1991; 1998).

As early as 1966 Jerry Barham presented the thesis that it is the scholarly study of these man-movement-environmental relationships that constitute the academic and scientific core of kinesiology. He distinguished five major divisions of general kinesiology: physiological, psychological, mechanical, maturational and structural kinesiology (Barham, 1966).

"Kinesiology is the scholarly study of the human movement as a discipline ... Physical therapists as well as physical educators have long recognized kinesiology as the academic core of their professional practises (Barham, 1966: 68).

The first large scale full blown attempt to conceptualize kinesiology with a detailed curriculum model was made by Marlin M. Mackenzie of Columbia University teachers College. He published a monograph in 1969 entitled *Toward a new curriculum in physical education* in which he suggested kinesiology as the new name for physical education. The central focus should be changed from exercises, dances and sports to human movement and his thesis was that:

"...the systematic study of human movement, or kinesiology, involves movement as well as feeling and thinking about movement, and, further that kinesiology can and should be an integral part of liberal education" (Mackenzie, 1969: 15).

He also identified the following seven major classifications within the realm of human movement (kinesiology): 1. movement forms; 2. mechanical principles of movement; 3. structure and function of the moving human organism; 4. movement and the person; 5. learning how to move; 6. movement and health; and 7. movement and meaning.

Rosalind Cassidy (1976) proposed – in the same line - that kinesiology was the most appropriate term for the field, once known as physical education (Paul, 1996).

Vincent e.a. (1988) presented a rationale for kinesiology as the new name for former departments of physical education because: "The title of Exercise and Sport Sciences seems to limit the department to the sciences" (p. 109).

A major breakthrough occurred in 1993 when the American Academy of Physical Education (AAPE) changed its name to American Academy of Kinesiology and Physical Education (AAKPE). AAPE's past president Jerry Thomas (1993)

Table 1. Overview of kinesiology monographs in North America 1894-2000

Posse N	1894	The special kinesiology of educational gymnastics
Skarstrom W	1909	Gymnastic kinesiology: a manual of the mechanism of gymnastic movement
Bowen WP	1917	Applied anatomy and kinesiology: the mechanism of muscular movement
Hawley G	1937	The kinesiology of corrective exercise
Scott MG	1942	Analysis of human motion: a textbook in kinesiology
Scott MG	1947	Kinesiology handbook: a study guide and laboratory manual
Kranz LG Reedited by Thompson CW	1948 -	Kinesiology, laboratory manual Manual of structural kinesiology
Glassow RB	1950	A laboratory manual for functional kinesiology
Morehouse LE & Cooper JM	1950	Kinesiology
Wells KF	1950	Kinesiology: the mechanical and anatomic fundamentals of human motion illustrated
Lipovitz FJ	1952	Basic kinesiology
Steindler A	1955	Kinesiology of the human body under normal and pathological conditions
Rasch PJ & Burke RK	1959	Kinesiology and applied anatomy
Massey BH	1959	The kinesiology of weight lifting
Brunstrom S	1962	Clinical kinesiology
Cooper JM & Glassow RB	1963	Kinesiology
Morehouse LE	1965	Subject matter of kinesiology
Morehouse LE	1965	Concept of kinesiology and physical education as academic disciplines
Harris RW	1967	Kinesiology: workbook and laboratory manual
Broer MR	1968	An introduction to kinesiology
Barham JN & Thomas WL	1969	Anatomical kinesiology
Jensen CR & Schultz GW	1970	Applied kinesiology: the scientific study of human performance
Logan GA & McKinney	1970	Kinesiology
Kelley DL	1971	Kinesiology: fundamentals of motion description
Desmedt JE	1973	New concepts of the motor unit, neuromuscular disorders, electromyographic kinesiology
Barham JN & Wooten EP	1973	Structural kinesiology
Esch D & Lepley M	1974	Musculoskeletal function: an anatomy and kinesiology manual
Groves R & Camaione DN	1975	Concepts in kinesiology
Spence DW	1975	Essentials of kinesiology: a laboratory manual
Schutz NW	1976	Kinesiology: the articulation of movement
Hinson MM	1977	Kinesiology
Logan GA & McKinney WC	1977	Anatomic kinesiology
Barham JN	1978	Mechanical kinesiology
Barham JN	1978	Teachers guide to accompany mechanical kinesiology
Greenlee G e.a.	1981	Kinesiology
Kneer ME	1981	Kinesiology
Piscopo J & Baley JE	1981	Kinesiology: the science of movement
Jensen CR e.a.	1983	Applied kinesiology and biomechanics
Soderberg GL	1986	Kinesiology application to pathological motion
Enoka RM	1988	Neuromechanical basis of kinesiology
Fitt SS	1988	Dance kinesiology
Wilkerson JD e.a.	1991	Teaching kinesiology and biomechanics
Yessis M	1992	Kinesiology of exercise: a safe and effective way to improve bodybuilding and athletic performance
Charles JM	1994	Contemporary kinesiology: an introduction to the study of human movement
Vincent WJ	1994	Statistics in kinesiology
Zeigler EF	1994	Physical education and kinesiology in North America: professional & scholarly foundations
Gench BE e.a.	1995	Anatomical kinesiology
Wade MG & Baker JAW	1995	Introduction to kinesiology: the science and practice of physical activity
Tyldesley B & Grieve JI	1996	Muscles, nerves and movement: kinesiology in daily living
Greene DP & Roberts SL	1999	Kinesiology: movement in the context of activity
Konin JG	1999	Practical kinesiology for the physical therapist assistant
Hoffman SJ & Harris J	2000	Introduction to kinesiology: studying physical activity

expressed his concern that kinesiology be cross-disciplinary in nature. Therefore he explained why the sub-disciplines, e.g. exercise physiology, motor behavior, biomechanics, sport history and physical education pedagogy should fit together in an integrated model instead of being located in a parent discipline.

The AAPE resolution that approved the choice of kinesiology as the description of the field was passed at the business meeting of the Academy on April 19, 1989 (American Academy of Physical Education 1990), resulting from Karl Newell's (1990) proposals to change the name.

As a consequence of this 'encyclical' resolution, several departments of physical education in the U.S. changed their name into departments of kinesiology, but not unanimously. Some opted to keep the well-established brand of physical education, others changed to sport and/or exercise science or to a myriad of other names. Therefore, also in 1993, the Kinesiology Academy within the American Association of Health, Physical Education, Recreation and Dance (AAHPERD) changed its name to Biomechanics Academy (Wilkerson, 1997: 347).

This period of drastic paradigmatic changes was either perceived as a heretic period in the history of physical education or as an ecstatic moment in the history of kinesiology. The Tower of Babel atmosphere which has reigned since then among human movement scholars of different feathers, was the topic of lively discussions in *Quest*, the journal of the National Association for Physical Education in Higher Education. The major complaint was that the study of human movement had become overspecialized and fragmented without concern for an integrated paradigm (Renson, 1991).

The first integrative effort by John M. Charles (1994) attempted to define and delineate the study of kinesiology at university level from a liberal arts perspective. Wade and Baker (1995) presented an overview of the subdisciplines of the field, but rather as a juxtaposition than as an integrative whole. Finally, Shirl Hoffman and Janet Harris (2000) have recently presented a more integrated approach in *Introduction to kinesiology: studying physical activity*.

Conclusions

It is still a mystery as to why Nils Posse introduced the term kinesiology into the United States as a brand name for his Swedish educational gymnastics. I suggested in this paper that he probably changed to kinesiology after the prefix Swedish – and some of the scientific bluff connected with it –

had met serious opposition from important American leaders in the field during and after the 1889 Boston Conference.

Quite surprising is the fact that Posse never attributed the term kinesiology to its originator, the French 'homme savant' Nicolas Dally, but to Ling and his followers. Even more so because the true father of 'kinesiology' had launched a frontal attack against Ling and the Swedish gymnastic system in his 1857 book *Cinésiologie ou science du mouvement dans ses rapports avec l'éducation, l'hygiène et la thérapie*:

"The Swedish idea originated from contact with the French idea. The art of fencing, which was part of the military gymnastics of the ancients, and whose fine traditions were faithfully preserved by the French nobility" (Dally, 1857: 149).

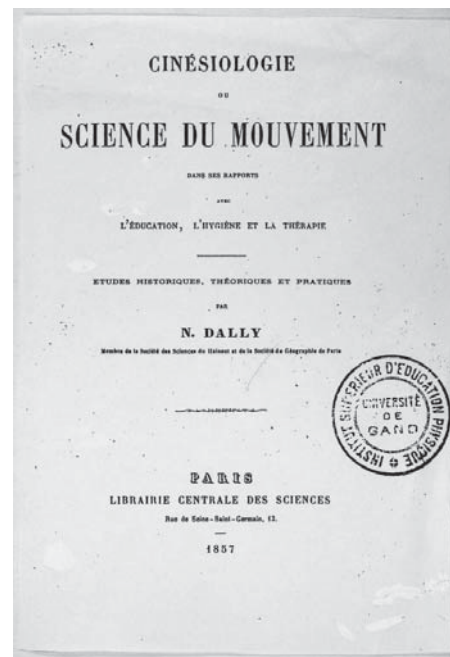


Figure 3. The title page of Dally's book *Cinésiologie ...*, 1857.

Dally pointed to the fact that Ling, had taken fencing lessons from two French masters during his stay in Copenhagen. Ling himself became an expert fencing master and had experienced the therapeutic potential of movement after these exercises cured him from a rheumatic paralysis of the arm: "... he understood that movement, well organized, can have a favorable effect on the physical and moral health of a person" (Dally, 1857: 141). Dally denied Ling any originality:

"So what's the merit of Ling? Enlightened by the French art of fencing ... he appropriated the results already obtained by the most skillful gym-

nasts from Germany ... he was one of the firsts to formulate a complete body of doctrines based on the anatomical and physiological knowledge of his time" (Dally, 1857: 155).

Dally even accused Ling of stealing his body of doctrines from the Chinese Tao-Ssé monks, insinuating that Ling had laid hands on the report of Jesuit father Joseph Amiot (1776-1814) or on another original Chinese treatise, reported either by other missionaries or by some European embassy personnel in China:

"Ling's entire doctrine, both theoretical and practical, is nothing more than a daguerreotype of Kung Fu of Tao the Ssé ... This is, according to our historical investigations, the true merit of Ling" (Dally, 1857: 155).

In this context it is worth noting that Dally had published a work on *Voyages of missionaries in all parts of the world* (1843) during his stay in Brussels, Belgium (Renson & Delheye, 1999). It

included Amiot's report *Mémoires concernant les Chinois* (1776-1814), which was amply cited and illustrated in *Cinésiologie* (1857: 89-110).

Kinesiology started its itinerary on American soil through the plagiarism of Nils Posse in 1886. The term was adopted in the physical education milieu with the connotation of movement analysis. When, in the 1970s, the term biomechanics emerged as a descriptor for the mechanics of movement, kinesiology gradually became an umbrella concept for the cross-disciplinary science of human movement. A bench mark in this evolution was when the American Academy of Physical Education (AAPE) changed its name to American Academy of Kinesiology and Physical Education (AAKPE) in 1993. Although Nicolas Dally was never mentioned in the debates which led to this paradigmatic shift, kinesiology in the U.S. has –unconsciously – returned to the original concept of its creator after a peregrination of one hundred and thirty six years.

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KINEZIOLoZI: OTIMAČI IZGUBLJENE PARADIGME?

Sažetak

Uvod: što je to u imenu?

Gimnastika i tjelesni odgoj bili su dugo vremena zaštićeni i prepoznatljivi nazivi i za teoriju i za praksu kulture kretanja (fizičke kulture). Termin *gimnastika* pojavio se u razdoblju renesanse (pripisuje se Mercurialisu iz 1569). GutsMuths spomenuo je termin «tjelesni odgoj» u podnaslovu svoje knjige *Gymnastik für die Jugend* (1793), ali se Jahn (1816) odlučio za neologizam *turnen* za nacionalističku uporabu (u Njemačkoj, op. prev.). Oko 1850. godine predloženi su novi termini za označavanje vježbanja primijenjenoga u terapijske svrhe, primjerice *kinésitherapie* (Georgii, 1847) ili *kinesiatrik* (Screber, 1852). Godine 1857. Dally je stvorio termin i pojam kineziologije (*cinésiologie*) kao «... znanosti o kretanju u odnosu prema odgoju, higijeni i terapiji» (Prot, 1997; Renson, 1999).

U radu se prati migracija naziva i pojma *kineziologija* u Sjedinjene Američke Države, gdje se riječ prvi put pojavila 1886. godine. Termin se brzo proširio, ali sada u svom suženom značenju «analize pokreta» ili «primijenjene anatomije». Kada je 1993. godine American Academy of Physical Education (AAPE; Američka akademija za tjelesni odgoj) promijenila svoje ime u American Academy of Kinesiology and Physical Education (AAKPE; Američka akademija za kineziologiju i tjelesni odgoj), izvorna paradigma Nicolasa Dallyja bila je manje-više obnovljena nakon stotinu trideset šest godina.

Nils Posse prenosi kineziologiju u Ameriku

Termin *kineziologija* pojavio se u SAD-u 1886. godine, a poznat je postao nakon što je barun Nils Posse (1862. – 1895.) objavio svoju knjigu *The special kinesiology of educational gymnastics* u Bostonu 1894. godine. Posse je u SAD došao iz Stockholma, iz Centralnog gimnastičkog instituta, gdje se bavio medicinskom, odgojnom i vojničkom gimnastikom, te je Amerikance upoznao sa švedskim sustavom vježbanja. U Bostonu je pokušao ostvariti karijeru baveći se medicinskom gimnastikom, a od 1889. godine predavao je na bostonskoj Normal School of Gymnastics – svakodnevno je održavao nastavu gimnastike, a predavao je slijedeće predmete: o metodama poučavanja gimnastike, primijenjena anatomija i primijenjena fiziologija.

Bostonska konferencija o tjelesnom vježbanju 1889. godine

Pokrenule su je Mary Hemenway i Amy Morris Homans. Prvo izlaganje na toj konferenciji održao je 29. studenog 1889. g. Edward Mussey Hartwell (1850. - 1922.) «Priroda tjelesnog vježbanja (*physical training*) i najbolji načini da se osigura postizanje svrhe». To izlaganje poznato je kao kamen temeljac u povijesti tjelesnog odgoja u Sjevernoj Americi. Tijekom konferencije predstavljeni su i vrednovani različiti sustavi vježbanja sa stajališta korisnosti i upotrebljivosti. Posse je predstavio švedski gimnastički sustav o kojemu se razvila živa diskusija među pristašama i protivnicima. Godine 1890. u bostonske državne škole uvedena je Lingova ili švedska gimnastika. Iste je godine Posse otvorio svoj Gymnasium & School sa tri odjela: pedagoškim (osposobljavanje učitelja), odgojnim i odjelom medicinske gimnastike (maseri). Devedeset šest žena i šestorica muškaraca diplomirala su nakon dvogodišnjeg tečaja / studija tijekom kojega su polagali ispite iz anatomije, fiziologije, kineziologije i praktične gimnastike. Ponuđen je bio i jednogodišnji poslijediplomski studij.

Godina 1894.: Nils Posse i specijalna kineziologija odgojne gimnastike

Posse je skovao riječ kineziologija 1886. g. od grčke riječi kinesis (kinesis – pokret) i logos (lógos – riječ, diskurs) i pripisao je Lingu. Godine 1892. piše: «U Švedskoj su Ling i njegovi sljedbenici razvili novu znanost i nazvali su je kineziologija (...), što u slobodnu prijevodu znači znanost o gimnastici. Obuhvaća principe koji su osnovni za sve vježbe, bile one medicinske ili odgojne, njemačke ili kineske, a njen sadržaj mogao bi se najbolje izraziti kao: Kineziologija (mekhanika, fiziologija, filozofija, klasifikacija) vježbanja.» Posse je rabio pojmove specijalna kineziologija i opća kineziologija, ali nikada nije spomenuo Nicolasa Dallyja.

Godina 1909.: William Skarstrom i gimnastička kineziologija

W. Skarstrom je 1909. g. objavio knjigu *Gymnastic kinesiology: a manual of the mechanism of gymnastic movements* u kojoj je podrobno opisao rad mišića u izvedbi specifičnih pokreta, čime je prvi kineziologiju postavio u mehaničku perspektivu. Kasnije je stajalište Wilbura Bowena o kineziologiji (najpoznatije iz-

danje iz 1917. *Primijenjena anatomija i kineziologija: mehanizam mišićnog rada*, koje je doživjelo nekoliko izmijenjenih i dopunjenih izdanja, primjerice, 1953. g. pojavila se publikacija pod opet izmijenjenim naslovom: *Kineziologija i primijenjena anatomija*.) bilo vrlo široko prihvaćeno diljem SAD-a.

Kineziologija kreće putem mehanike

U tablici 1 popisane su publikacije koje u naslovu imaju termin kineziologija. Vidi se dominacija mehaničkog poimanja kineziologije sve do devedesetih godina 20. stoljeća, kada se počinju javljati podjele u poimanju značenja riječi kineziologija. Nastavlja se mehanicistička tradicija, ali se pojavljuje «novi stari deskriptor za multidisciplinarnu i krosdisciplinarnu znanost o ljudskom kretanju i čovjeku u pokretu (Renson, 1998).

Godina 1993.: Kineziologija se vraća izvornom Dallyjevu poimanju

Nakon Conantova kritičkog izvješća (1963) o kakvoći akademskog obrazovanja učitelja tjelesnog odgoja i nakon Henryjeva članka (1964) o tjelesnom odgoju kao posebnoj disciplini, u SAD-u je počela potraga za novim akademskim identitetom i znanstvenom paradigmom. Uz mnogobrojne nazive, poput: humana kinetika, kinantropologija, znanost o sportu, znanost o vježbanju, predložen je i naziv kineziologija (Swanson & Massengale, 1997; Renson, 1989; 1991; 1998).

Jerry Barham je 1966. godine predstavio tezu da akademsku i znanstveno-istraživačku srž kineziologije čini proučavanje mnogobrojnih i kompleksnih odnosa čovjek-kretanje/pokret-okolina. Razlikovao je pet osnovnih grana unutar opće kineziologije: fiziološka kineziologija, psihološka kineziologija, (bio)mehanička kineziologija, razvojna (maturacijska) kineziologija i strukturalna kineziologija.

Godine 1969. Marlin M. Mackenzie je predložio razrađeni koncept kineziologije u planu i programu rada na Pedagoškoj akademiji (Teacher's College) Sveučilišta Columbia, a u svojoj knjizi *Toward a new curriculum in PE* (1969) predlaže kineziologiju kao novo ime za tjelesni odgoj svojom tezom da «... sustavno proučavanje ljudskoga kretanja, ili kineziologija, uključuje pokret jednako kao i osjete, osjećaje i razmišljanje o pokretu...». Unutar kineziologije prepoznaje: 1) kretne strukture (*movement forms*), 2) mehaničke principe kretanja, 3) strukturu i funkcioniranje ljudskoga tijela u kretanju, 4) pokret/kretanje i osobnost, 5) učenje pokreta/kretanja

(motoričko učenje), 6) pokret/kretanje i zdravlje, 7) pokret/kretanje i značenje.

Bivši predsjednik AAPE-a Jerry Thomas (1993) izrazio je svoj stav da je narav kineziologije transdisciplinarna, pa bi se sve poddiscipline, kao što su fiziologija vježbanja, motoričko ponašanje, biomehanika, povijest sporta i pedagogija tjelesnog odgoja, morale skupiti u integrirani model znanosti.

To razdoblje mijenjanja paradigme doživljavalo se ili kao heretičko u povijesti tjelesnog odgoja ili kao ekstatični trenutak u povijesti kineziologije. O toj atmosferi Babilonske kule, koja od tada vlada, puno se pisalo i raspravljalo u časopisu *Quest*. Iz svih rasprava probijala se osnovna žalopojka da se proučavanje ljudskog pokreta previše fragmentiralo i specijaliziralo te da se iz vida izgubila integralna paradigma (Renson, 1991).

Zaključak

Još uvijek ostaje tajnom zašto je Posse upotrijebio termin kineziologija kada je Amerikancima predstavljao švedski tjelovježbeni sustav. Autorova je pretpostavka kako je to učinio da bi izbjegao atribut švedski. Sve to čudi tim više što je N. Dally u svojoj knjizi iz 1857. napao Linga i njegovu gimnastiku oduzevši mu svaku izvornost: «Kakva je Lingova vrijednost? Potaknut francuskim umijećem mačevanja ... prilagodio je rezultate iznimno vještih njemačkih gimnastičara ... on je oblikovao zaokružen sustav doktrina o vježbanju, utemeljenih na onodobnom znanju anatomije i fiziologije». No, i za doktrinu optužuje Linga da ju je pokrao od kineskih tao-tse redovnika.

Kineziologija je svoj put po američkom tlu, dakle, započela plagijatom Nilsa Possea. Termin je s konotacijom analize pokreta prihvaćen u miljeu tjelesnog odgoja. Kada se sedamdesetih godina 20. st. pojavio termin biomehanika kao deskriptor za mehaniku kretanja, kineziologija se postupno pretvarala u nadređeni, zajednički pojam (*umbrella concept*) za inter- i multidisciplinarnu znanost o ljudskom kretanju. Ključnu točku u toj evoluciji čini promjena imena Američke akademije za tjelesni odgoj (American Academy of Physical Education; AAPE) u Američku akademiju za kineziologiju i tjelesni odgoj (AAKPE) 1993. godine. Premda se ime Nicolasa Dallyja nikada nije spomenulo u raspravama koje su dovele do paradigmatškog pomaka, kineziologija se u SAD-u vratila izvornom konceptu njezina tvorca nakon lutanja od stotinu trideset šest godina.

Sažetak načinila i prevela
Željka Jaklinović-Fressl