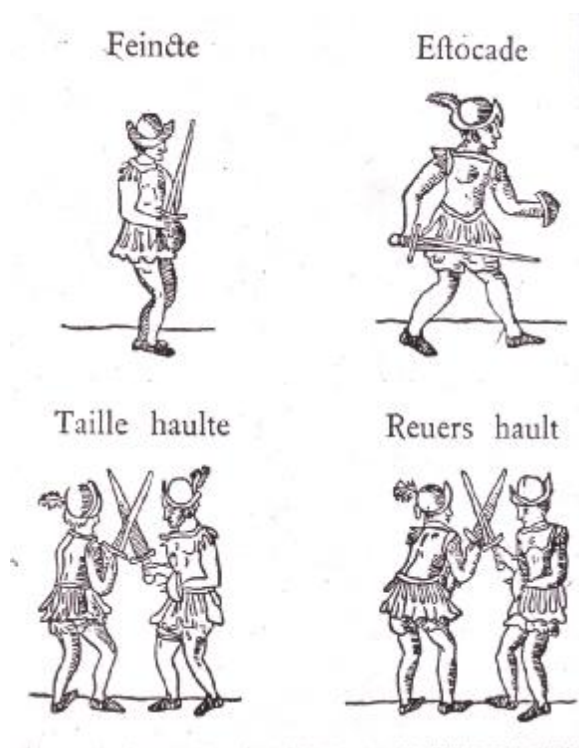


Notation of Movement in the Arts of War, Fencing and the Dance

Sydney Anglo

All students of early dance are familiar with the illustrations used by Thoinot Arbeau to elucidate the account of sword dancing in his famous book, *Orchésographie*, published in 1588: the *Feincte*, *Estocade*, *Taille haulte*, *Reuers hault*, *Taille basse*, and *Reuers bas*.



ARBEAU

They may, however, be less familiar with the following illustrations, taken from a set of sixty-four woodcuts published fifteen years earlier, in a book on fencing by Henri de Saint Didier who dedicated it to Charles IX King of France.¹



SAINCT DIDIER

We have here simple geometrical ground plans, with numbered footprints and a written text, which the master and pupil are supposed to follow in order to produce technically correct fencing movements. And these schematic woodcuts are the progenitors of several centuries of increasingly labyrinthine patterns of interwoven footprints and track movements used to elucidate all kinds of dancing - from ballet to ball-room.

Saint-Didier is a convenient introduction to the early development of movement notation for his work emphasizes the fact that - while the relevance of such notation to historians both of fencing and of dancing is obvious - the masters of arms must take precedence both because they antedate the dancers and because the material relating to their

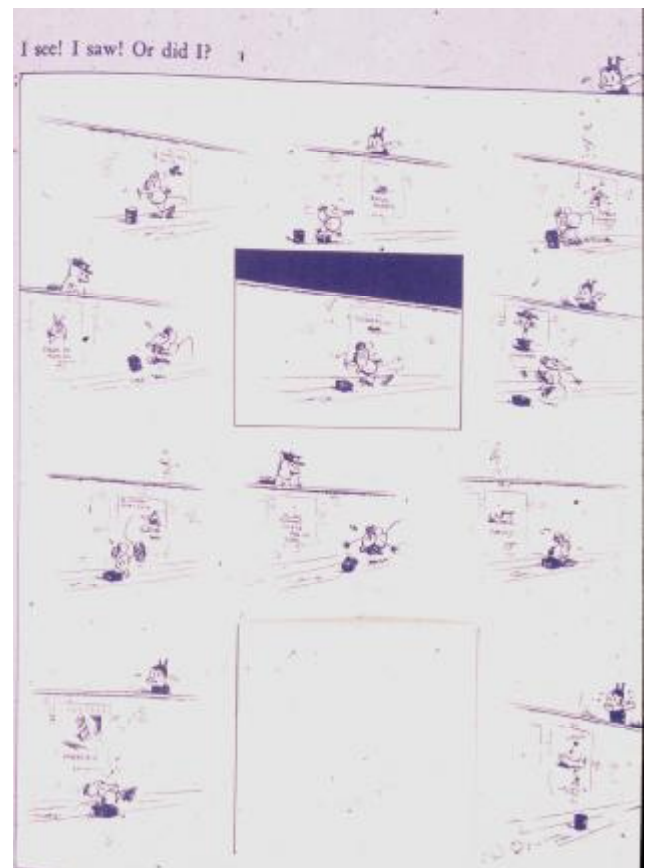
notational experiments is vastly more copious.

That a well-executed picture may be more eloquent than pages of text was a medieval and Renaissance commonplace. Artists, theologians, and mathematicians all recognized the ease with which an image could convey ideas and information. But the question for us is this: how far can any image convey information about movement? At best, no isolated picture can suggest more than the idea that some movement has started and that it *could* continue in another picture were the artist to execute it. If the artist does not provide this, then such potential movement can only be completed in the mind of a viewer already familiar with whatever is intended.

We can see this easily if we glance at the figures in Caroso's well-known *Nobiltà di dame* (1600).² These allegedly depict the "correct" opening positions for various dances described in the text. Yet, even with these descriptions, it has been difficult to reconstruct the steps in a way satisfactory to all scholars; while, without them, we would not even know that the people involved were meant to be dancing at all. It is simply impossible to record something as complicated as a dance (that is a whole series of movements) within a single *representational* illustration.³

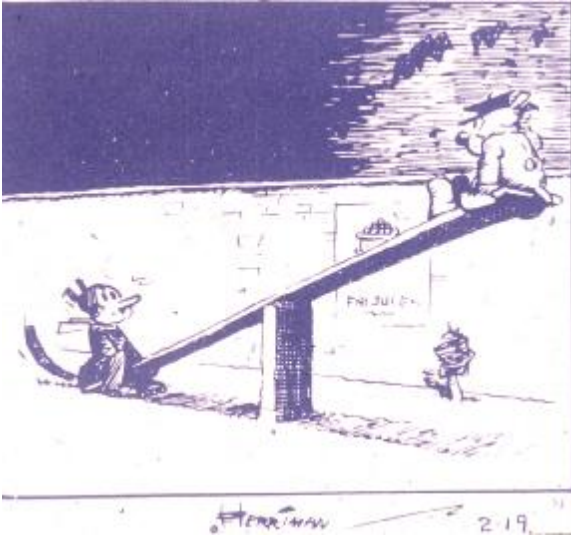
However, the difficulties become less intractable when the converse is attempted: that is when a single movement (or at least a very circumscribed series of movements) is depicted by a sequence of pictures each showing a different moment of the development, and thus providing, in effect, a series of staging posts for the mind which is able to interpolate a passage of time between each occurrence. It sounds complicated, but it is a technique with which everyone is familiar. Simple pictorial instructions on how to fasten a seat belt or assemble a piece of flat-packed furniture, spring to mind. It is also the method exploited by strip cartoonists who may use it to convey narrative or,

conversely, to baffle their own fictional characters and tease their readers. One example will suffice to demonstrate this. Here is a cartoon-strip by George Herriman showing the increasing bewilderment of Ignatz Mouse whose intention to hurl a brick at Krazy Kat is frustrated by the seemingly inexplicable intermittent appearance of Officer Pup over the fence.⁴ Here, first, we have the entire page with just one frame obliterated:



KRAZY KAT

And here is the missing frame which suddenly makes sense of an apparently insoluble mystery:



KRAZY KAT

More serious instances of this sort of approach are to be found in the drill manuals which evolved in the seventeenth century. The best-known and most frequently-reproduced of these was Jacob de Gheyn's *Exercise of Armes* (1607) which devoted forty-two plates to every stage of carrying, loading, and preparing the caliver for firing; a further forty-three plates to the musket; and thirty-two more to handling the pike.⁵ Less well-known are the contemporaneous but superior pictorial aids provided in the instruction manuals of Johann Jacobi von Wallhausen,⁶ and there followed a whole series of text books incorporating sequential illustrations to show troops how to handle their weapons - a genre of which Henry Hexham's treatment of pike handling is a typical example.⁷



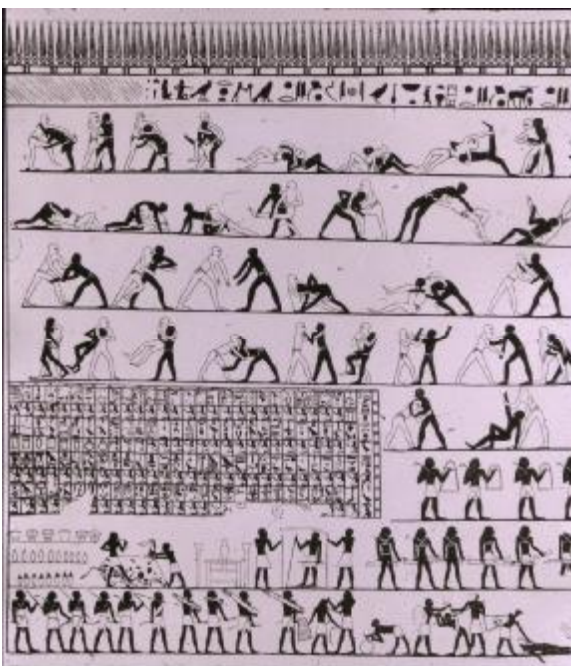
HEXHAM

Didactic techniques of this kind are almost as old as art itself and continue in use to the present day. The great leap forward came, of course, with the photographic experiments of Edward Muybridge in the latter half of the nineteenth century; and cinematography itself is, after all, merely compounded of immense series of frozen gestures which, projected at 24 frames per second, give a convincing illusion of movement.⁸ Indeed, such "frozen gestures" have remained the best visual record of past movement until videotape and even more recent technology have, at last, provided a virtually seamless reproduction of continuous action.

But what of pre-photographic attempts to show not merely a single movement, but whole complexes of interrelated movements in such detail and with such accuracy that they may be understood and imitated by a third party? To what extent was it possible to develop a notation of movement analogous

to the notation of music - something which enables skilled interpreters to duplicate performances in different places and at different times?⁹ Well, as soon as one starts to study the primary sources, two things become obvious: first, that the earliest attempts at a systematic depiction of sequences of individual movements are associated with various types of *personal* physical combat; and second, that from the beginning these sequences tended to be more didactic than commemorative; and, as one would expect, they were pictorial rather than symbolic. It was only possible, therefore, to indicate movement by multiplying the images in groups of related postures in much the same way as we have already noted in seventeenth-century drill manuals. And it is a curious fact that, throughout the immensely long history of didactic illustrations for various types of combat, this purely representational approach has predominated.

The most ancient examples are probably the Egyptian reliefs of wrestling couples (59 in one instance, 122 in another, and as many as 219 in a third) showing different stages of combat or different styles of wrestling.¹⁰ Here, for example, are wrestlers from the tomb in Beni Hasan about 2050 B.C. which are very clear and easy to follow.



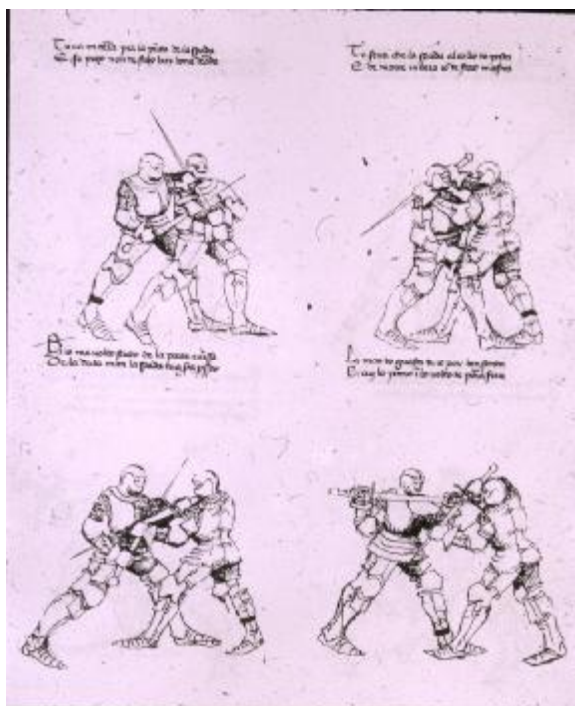
On the whole, medieval pictures of combat styles were less accomplished and, although they did try to present short sequences to elucidate particular movements, they remained a long way behind the sophistication of the ancient Egyptians. The earliest surviving fencing book thus far known to us is a German manuscript treatise on sword and buckler combat, dated as very late thirteenth-century, and now preserved in the library of the Royal Armouries.¹¹ Each illustration is accompanied by a short text, and the purpose of the volume is plainly didactic - although the efficacy of its instruction is limited by the fact that all the illustrations really boil down to permutations of just fifteen basic, highly stylized, pictographs which reveal very little about the movements of the legs and feet.



MS. I.33

From the late fourteenth century onwards, several masters tried to perpetuate their skills by using words and pictures. The best known is Fiore de' Liberi da Premariacco, whose treatise survives in a number of variant versions, all well illustrated and intelligently arranged.¹² Fiore made a serious attempt to group together postures

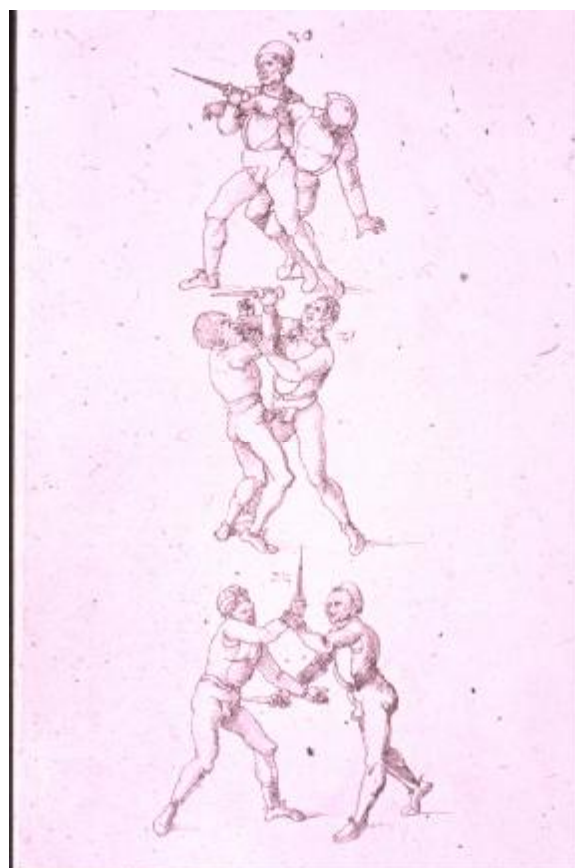
relating to some particular combat in a logical sequence: as we can see here.



FIORE DE' LIBERI

And his work was not improved upon until well into the sixteenth century.

Fifteenth-century German combat manuals offered a similar combination of illustrations and captions, although the latter were generally briefer and less informative than in Fiore. However, their drawings, while strictly utilitarian and rarely of much artistic merit, are clear; and the large number of surviving manuscripts is a considerable help in the reconstruction of the combats depicted.¹³ Very occasionally, an accomplished artist became interested in the problems posed by recording fighting techniques, and Albrecht Durer demonstrated his own enthusiasm for armed and unarmed combat by producing a long series of annotated drawings based upon an especially crude but comprehensive fifteenth-century manuscript.¹⁴



DURER

As one would expect, there is a vast improvement in quality and precision, but both conception and method remain unaltered and it was not until nearly three decades later, that there was a real advance in conveying technical information about combat when, in 1536, a Bolognese master, Achille Marozzo published a treatise in which, as he says on the title-page, he discusses single combat with every kind of weapon, "with figures which show, with the arms in hand, all the effects and guards which can be made".¹⁵ These "figures" are 82 simple, but very clear woodcuts which are closely allied to verbal descriptions far longer and more systematic than in any preceding manual; and the book had an instant and sustained success. With regard to notation, Marozzo's method is significant because he defines, depicts, and names individual strokes and postures thereby providing a visual and verbal vocabulary which can then be used as a shorthand to summarize a whole complex of linked movements. And this is a

didactic technique still favoured in modern fencing manuals.

Marozzo remained popular even into the seventeenth century. But in 1553 a much wider range of possibilities was opened up when Camillo Agrippa - who was not a fencing master, but a mathematician, architect and engineer - published his *Trattato di scientia d'arme*.¹⁶ Again his illustrations offer a series of postures, but these are now placed within an elaborate theoretical and geometrical framework; and his book marks the beginning of two distinct lines of approach to the problem of movement notation - both of which were to yield a rich harvest of ideas and techniques.

In the first place, Agrippa's work suggested various experiments in the purely representational recording of movement; and one of these was the technique of using composite pictures to suggest the unfolding of a single movement. Thus we see what appear to be four fencers but who are, in fact, merely one shown in four different stages of a single movement; or, as in this illustration, we see five fencers who are really two.



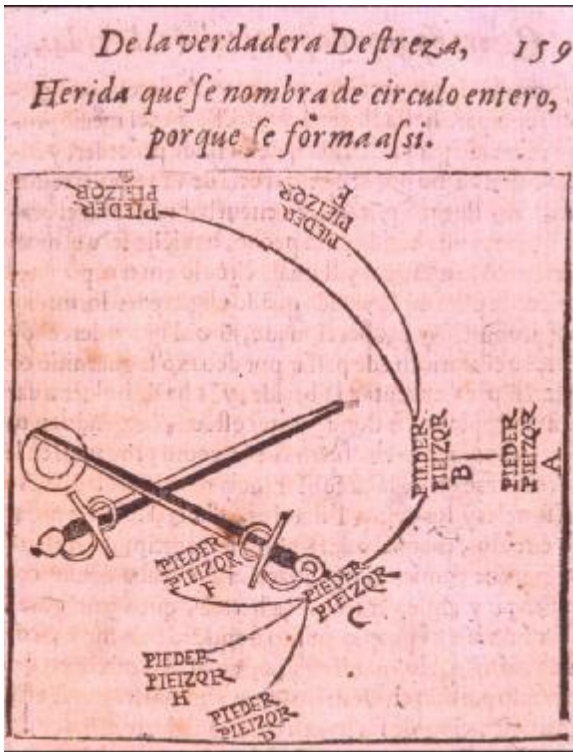
AGRIPPA

A similar technique was effectively exploited by an anonymous Italian artist in a series of manuscript illustrations to another fencing treatise in 1587;¹⁷ and the use of multiple images, as we shall see, reached its apogee early in the seventeenth century.

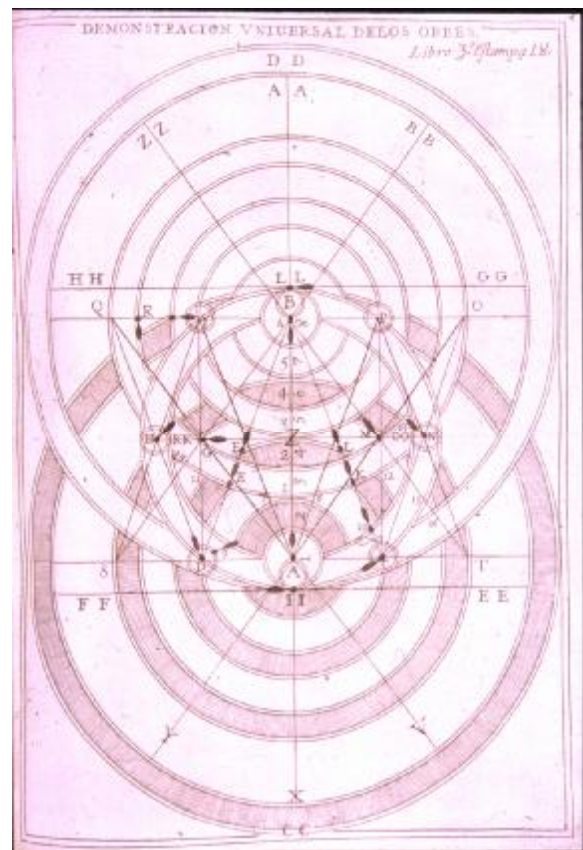
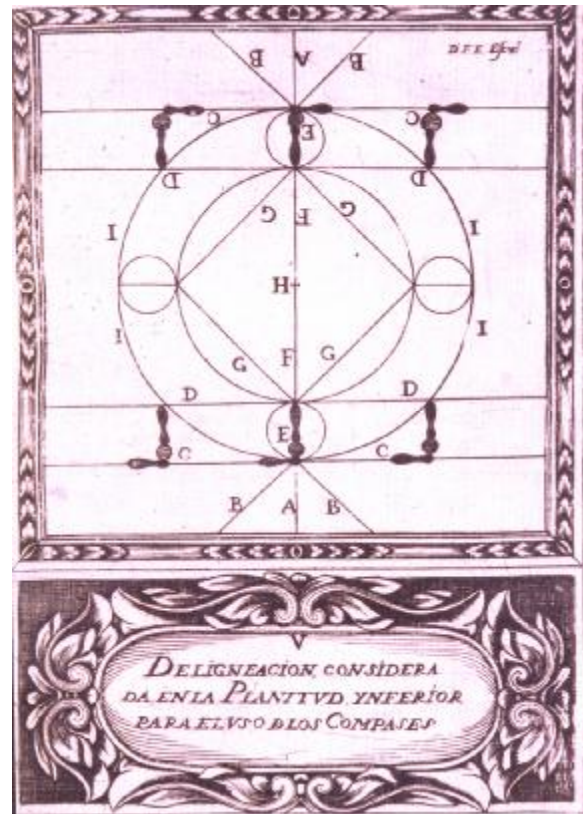
The other notational possibility suggested by Agrippa was to relate human movement to mathematics or, more specifically, to geometry. We have already met a rather

primitive example of this in the work of Sainct Didier with his postures, triangles, squares, and numbered footprints. But it was in Spain that the fencing masters developed movement notation in the direction of a more abstract system; and it is, perhaps, not a coincidence that the kinship between fencing and dancing was readily apparent to any critical observer of the Spanish style. As the peppery English warrior, George Silver, wrote in 1599: "This is the manner of the Spanish fight, they stand as brave as they can with their bodies straight upright, narrow spaced, and with their feet continually moving as if they were in a dance".¹⁸

The idea of diagrammatic representation of fencing movements was first seriously set forth in 1582 by Geronimo Sánchez de Carranza;¹⁹ but it was not until 1600 that it was systematically developed in the *Libro de las grandezas de la espada* by Luys Pacheco de Narvaez who was, and remained, completely besotted with the mathematics of fencing.²⁰ Throughout his life he continued to produce treatises filled with geometrical and philosophical speculation - although none made any advance upon his initial system of movement notation which, he optimistically asserted, would enable the reader "to teach himself, and learn without the necessity of a master to direct him". In order to achieve this, Narvaez provided 157 woodcuts in which the sword fights are viewed as though from above: with the relative positions of the blades at the final instant of any particular move figured by two swords crossed at various angles, either piercing, or tangential to, small circles (representing the swordsman's head and body) according as the blow is a thrust or a cut. These symbolic representations are further enhanced with directional lines, key letters, and labels to help relate them to a full textual description of what is supposed to be happening.



NARVAEZ



ETTENHARD and RADA

For more than a century after Narvaez's first book, geometry became a veritable obsession with the Spanish masters. They saw fencing as a wholly rational sequence of set movements which were susceptible to analysis and (most important from our point of view) also susceptible to diagrammatic representation. In short, they believed that it was possible - by using a combination of words and diagrams - to notate the movements of sword combat in the same way that one could notate music; and here, to clarify the point, are illustrations from two later Spanish masters, Antonio de Ettenhard and Francisco Lorenz de Rada.²¹

However, the *ne plus ultra* of the Spanish system was, in fact, the work of a Dutch fencing master, Girard Thibault, who had served his apprenticeship in Madrid.²² His massive *Académie de l'espée* (which was published posthumously in 1630) took movement notation to a remarkable level of complexity, sophistication, and bibliographical magnificence.²³ The book is illustrated by forty-six stupendous copperplates in which, says Thibault, are "plainly shewed by mathematical rules, on the foundation of the mysterious circle, the theory and practice of the true and hitherto unknown secrets of the handling of arms". The massive tome is conceived primarily as an analysis of motion and as a pedagogical method; and Thibault's notation is, at least partly, representational, in that it employs figures of human fencers in multiple postures. But this technique is developed far beyond the scope of any earlier text.



THIBAULT

Even more remarkable are Thibault's geometrical demonstrations of foot and sword movements which are of an unprecedented ingenuity, intricacy, and precision. In fact, the engraved plates indicate several things simultaneously, in different ways, and even in different planes. The representations of fencers show their postures and hand movements at various stages of each development. The circles, with their lines and letters, indicate the

sequence of foot placements. And the shadows of the swords, delineated at the fencers' feet, represent the engagement of the blades as they would be seen from above, in the manner of Narvaez, but vastly more sophisticated.



THIBAULT

Nevertheless, despite the myriad images, lines, letters, perspectives, and optical illusions, the whole paraphernalia resolves itself into multiple postures, a tracking system, and a diagrammatic, overhead view of the changing engagement of the swords. Provided that the student reads the letterpress diligently, studies the circles in the order prescribed, and follows the ground plans precisely as indicated, the whole complex is fairly easy to decode; and, using Thibault's system, it would, in fact, be perfectly feasible to choreograph, rehearse, and produce a simulated stage combat. Indeed, it would be equally possible to choreograph a sequence of dances. Yet Thibault's system, it should be noted, antedates Pierre Beauchamp's putative ballet notation by nearly half a century, and Feuillet's *Receuil de dances* by seventy years. Dance historians might study his book with profit.

Notes

1. Henri de Saint Didier, *Traicté contenant les secrets du premier livre de l'espée seule, mere de toutes armes* (Paris, 1573); facsimile reproduction (Paris, 1907).
2. Fabritio Caroso, *Nobiltà di dame* (Venice, 1600); English translation and edition, Julia Sutton and F. Marian Walker (Oxford, 1986).
3. For a succinct exposition of this point, see Sharon Fermor, "On the question of pictorial 'evidence' for fifteenth-century dance technique", *Dance Research. The Journal of the Society for Dance Research*, V.ii (1987), pp.18-32.
4. The original strip was reprinted in *George Herriman's Krazy Kat* (New York, 1969), p.113.
5. Jacob de Gheyn, *The Exercise of Armes for Calivres, Muskettes, and Pikes* (The Hague, 1607).
6. On Wallhausen, see Sydney Anglo, *The Martial Arts of Renaissance Europe* (New Haven and London, 2000), pp.60, 228-9, 263-4, 285-90.
7. Henry Hexham, *The Principles of the Art Militarie, practised in the warres of the United Netherlands* (London, 1637).
8. Eadward Muybridge, *Animal Locomotion: an electro-photographic investigation of consecutive phases of animal movement 1872-1885* (Philadelphia, 1887).
9. On this problem, see the pioneering work by Nelson Goodman, *Languages of Art. An Approach to a Theory of Symbols* (London, 1969).
10. Percy E. Newberry, *Beni Hasan* (London, 1903-4); Walter Wreszinski, *Atlas zur altegyptischen Kulturgeschichte* (Leipzig, 1923), Plates 169-79.
11. Royal Armouries, MS.I.33. This has been edited with an English translation by Jeffrey L. Forgeng as *The Medieval Art of Swordsmanship* (Leeds, 2003).
12. Fiore de'Liberi da Premariacco, *Flos duellatorum in armis, sine armis, equester, pedester*, ed. Francesco Novati (Bergamo, 1902). See also, Anglo, *Martial Arts*, pp.45-46, 130-2, 155-9, 177-81, 326 n.21,
13. On these manuscripts, see Hans-Peter Hils, *Meister Johann Liechtenauers Kunst des langen Schwertes* (Frankfurt-am-Main, Bern, New York, 1985).
14. Friedrich Dörnhoffer, "Albrecht Durer's Fechtbuch", in *Jahrbuch de Kunsthistorischen Sammlungen des Allerhöchsten Kaiserhauses*, XXVII (1907-9).
15. Achille Marozzo, *Opera nova* (Modena, 1536).
16. Camillo Agrippa, *Trattato della scientia d'arme, con un dialogo di filosofia* (Rome, 1553).
17. See Sydney Anglo, "Sixteenth-century Italian Drawings in Federico Ghislieri's 'Regole di molti cavagliereschi essercitii'", in *Apollo* (November 1994), pp.29-36.
18. George Silver, *Paradoxes of Defence* (London, 1599), p.14.
19. Geronimo Sánchez de Carranza, *Libro que trata de la philosophía de las armas* (Lisbon, 1582).
20. Luys Pacheco de Narvaez, *Libro de las grandezas de la espada* (Madrid 1600). See also *Llave y gobierno de la destreza, de una filosofia de las armas*, ed. Fernando Fernández Lanza (Alcalá, 1991).
21. Francesco Antonio de Ettenhard, *Compendio de los fundamentos de la verdadera destreza y filosofia de las armas* (Madrid, 1675); Francisco Lorenz de Rada, *Nobleza de la espada* (Madrid, 1705).

22. On Thibault, see Herman de la Fontaine Verwey, "Girard Thibault and his 'Academie de l'espée'", in *Quaerendo*, VIII (1978), pp.283-319.

23. Girard Thibault, *Academie de l'espée, ou se demonstrent par reigles mathematiques, sur le fondement d'un cercle mysterieux, la théorie et pratique des vrais et jusqu'a present incognus secrets du maniemment des armes a pied et a cheval* (Leyden, 1630). In fact, Thibault did not live to see the publication of his masterpiece; nor did he ever write the section on mounted combat.