

# FROM ASSISTANT TO PERFORMER: THE CHANGING ROLES OF TECHNOLOGIES IN DIGITAL DANCE

ZEYNEP GUNDUZ

The aim of this paper is to demonstrate that the integration of technology in the choreography of staged digital dance changes the role of technology into a performing element onstage and to a dance partner for the human dancer.

The performance takes place in the venue Fabrica in Brighton. The audience looks down from all sides of the theatre upon a square, white floor, which functions as a stage and as a screen. The performance begins with the appearance of three straight, short white lines on the floor. The lines move horizontally from the left to the right of the stage during which they extend in length. To the right of the stage, the three white lines converge to form a diagonal and then disappear. A moment later, a bright, white light illuminates the theater. The dancer appears on the left of the stage. She is sitting in a curled position. Similar to the lines before her, she too walks horizontally from the left to the right of the dance floor while maintaining her curled position. In the meantime, a white line traverses her body vertically and moves with the dancer to the other side of the stage. During this passage, the line moves forward and backward simultaneously with the dancer as she shifts her body weight forward and backward. Gradually, a second light appears onstage. This time the light forms a silhouette around the dancer's body and contracts and expands together with the dancer's movements. In addition, the silhouette intensifies its amount of light as the dancer intensifies the force of her movements, in particular the movements of her arms and legs. The scene ends with the dancer and the light next to each other. Each in their own way, they perform the same movement phrase (organized movement into units of time and space) while moving simultaneously in the same direction. At a certain point, the dancer stands still and watches as the white light grows to cover the entire dance floor, and then, slowly shrinks back down to a spot in the dark before disappearing.

The above paragraph describes the opening scene of *Glow* (2006), a recent example of a dance practice labeled digital dance. *Glow* is made by the choreographer Gideon Obarzanek and the media artist Frieder Weiss. Weiss's website promotes *Glow* as a "spectacular 27-minute duet for body and technology created with the "latest video-based real-time interactive technologies that operate with sophisticated motion-tracking software." [1]

Watching *Glow* left me feeling disoriented. Although simple, there is something peculiar about *Glow*'s choreography as a result of the replacement of one of the human dancers with interactive technology in its presentation of a 'duet'. To start with, the projected images are present on the stage throughout the entire performance. Therefore, the actions executed by the technology, perceived in the form of projected images, are over-exposed for the perception of the spectator. Second, the projected images play an active role throughout the performance in conjunction with the movements of the dancer. In turn, the movements of the dancer seem to complete the movements of the technology and vice versa. Hence, *Glow* seems to portray two different types of movement to be perceived onstage: human and technological. *Glow*'s choreography raises many questions: How can one dance with computer technologies? What is the role of technologies in this performance? And why do I feel so disoriented by watching *Glow*?

The second viewing of *Glow* made me realize that *Glow's* choreography is peculiar because it does not fulfill my expectation of a dance performance, which is—in a strict sense—to see dancing bodies onstage. Technology, however, does not form part of my expectations from a dance performance. Rather, I perceive technology at moments in which technology creates a certain effect on the dancing body: for example, when side-lights add an extra lyrical effect to the movements of the dancer. Hence, there seems to be a certain hierarchy in my perception of a dance performance. In this ordering, the human body is of primary significance while technology seems to be of secondary prominence. Moreover, I realize that until this performance, I have paid little attention to relationships between dancers and technologies.

The integration of technology in *Glow's* choreography, however, seems to unsettle this primary/secondary positioning of the human dancer and technology to which I am used to. The staging of technology in *Glow* requires a distribution of attention between the human dancer and the projected images provided by the technology. In fact, technology seems to occupy a role equal to the dancer's and it seems to function as a central element of the choreography. Although non-human, the central role played by technology leads to the unconventional idea that technologies may function as performers in the choreography, alongside the human dancer, in the sense of executing an act in front of an audience.

Historically, in theater, technologies have most often functioned to assist the performance and to direct the focus of attention to the performer onstage. An extensive description of the historical role of technology in Western European theatrical presentation is offered in the work of Christopher Baugh (2005). A key observation of Baugh's is that the assisting role played by technologies, in particular in the 19th century, has led to a neat division between the animate and inanimate elements onstage. Interestingly, Baugh uses a rather incidental expression to describe this division. The term he uses is "hierarchy of perceptual importance", and although in his text it operates as an incidental term, it seems to neatly conceptualize the clear division of roles he describes. [2] As such, and because of the relevance to the present paper, the term is adopted as a key-working concept in this presentation.

Baugh locates the roots of the hierarchy of perceptual importance in the changes in artistic values and infrastructural developments in theater in the 19th century. For Baugh, the changes that took place in theater in this era are highly significant because they led to a dominant understanding of the functioning of theater, in which the theater text and its mediation via the actor stands central. Technology, on the other hand, functions to assist the actor onstage or to enhance the dramaturgy of the art work. In fact, Baugh explains that the 19th century functioning of theater was so influential that it designates a paradigm in theater, which remained constant until it was challenged in two different eras in the 20th century. The first challenge came with the onset of modernist and avant-garde approaches at the beginning of the 20th century. The next most significant challenge to the paradigm of theater came in the last three decades of the 20th century, with the shift towards the postdramatic paradigm and continues to grow in strength. Nevertheless, despite these challenges Baugh writes that the paradigm of theater and its associated hierarchies are still widely understood in the domain of theatre and performance.

Artistic and infrastructural developments in the 19th century European theatrical dance presentation show many similarities to the developments in the 19th century theatrical presentation. Also in dance, the 19th century designates an important era in which dance as art form went through major artistic reforms in form and content, accompanied by infrastructural changes. Each in its own way, the shifts in the infrastructure and artistic status of dance as an art form in the 19th century can be seen to contribute to the hierarchy of perceptual importance in dance.

For example, whereas in the 18th century, the dancer had to make great effort to maintain the audience's attention, in the 19th century, the changing value of the dance as a serious art form, and the infrastructural changes in theatres, with a separation of the auditorium and the stage, demanded nothing else but the audience's full attention to the action, and thus, the human dancer onstage. Another strategy to keep hold of the audience's attention to the action onstage was to reduce changes in set design to a minimal level. As Alexander Bland explains (1976), at the start of the 19th century, in dance, stage design showed a tendency for simplicity and was not necessarily designed for tricks and surprise effects, which could distract the attention of the audience from the performance. [3]

In addition, in the 19th century, a shift in the status of the female dancer shaped the audience's perception to what they should be seeing onstage, namely, the dancing body. An important shift in the 19th century is the introduction of a star system and the rise of the female dancer. Although Bland points out that the star system could not have taken place if it was not for the invention of gas lighting that allowed the dancers to be individually noticeable by the audience, Selma Jeanne Cohen underlines that in the 19th century, "innovations in theme, in technique, costume" accentuated the artistic and physical qualities of the female dancer and they "all centered on her." [4] Moreover, the rise of the star system, with a particular focus on the ballerina indicates that the position of the human body onstage is even more stabilized and centralized, because the evaluation of the choreography is now to a large extent reliant on the performance of the ballerina, meaning the demonstration of her artistic and physical skills in front of an audience. In sum, the staging of dance in the 19th century implies a separation of the roles of the animate and inanimate elements onstage.

Moreover, the influences of the understanding of technology as assisting devices for the human performer, and thus a hierarchy of perceptual importance, can be detected in current studies on the role of stage elements in dance. According to stage designer Rouben Ter-Arutunian (2004), in most cases, technologies simply support the choreography and the physicality of the dancer as elements of stage design, such as lighting, costumes, and scenery. [5] According to this linear working mode of creation, first the choreography is created whilst the supporting elements, such as lighting or costumes, are designed when the choreography is finished. Hence, technology is not a part of the 'dance proper' but is considered as an additional element to give the choreography a final touch.

The division of roles between the human and non-human elements in dance can also be demonstrated by considering the words of dance scholar Selma Jeanne Cohen. Cohen describes the elements of standard theatrical dance as "a performer equipped with movement skills, a role to be played, a stage to lay on, music, costume, and décor to enhance the spectacle, an audience to respond to it." [6] Here, the performer is introduced as the primary focus and the other elements are introduced to enable or enhance the focus in one way or another, which, in most cases, lead to reduce the relationship between dancer and technology to a minimal level. In sum, the hierarchy of perceptual importance leads to the creation of certain roles and relationships amongst the human dancer and technology in the staging of the choreography.

This paper argues that the integration of technology in staged digital dance, [7] exemplified here with *Glow*, may represent a turning point in the understanding of the role of technology in dance as assistant devices to the human performer. The specific integration of interactive technologies in *Glow* cannot simply be seen as an extension of the conventional role of technologies as assisting devices in dance. Rather, this paper argues that, in *Glow*, technology functions on a higher level, as a performer, alongside the human dancer, which leads to certain shifts amongst the roles and relations in the involved parties within the cultural practice of dance. Due to restrictions, in this paper, I will focus only on the shifts roles

and relations amongst four parties during the creation of the choreography in staged digital dance: choreographer, media designer, dancer, and technology. By examining these shifts, I aim to show how technology functions as a performing element onstage and as a dance partner in staged digital dance.

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## STAGED DIGITAL DANCE

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One of the most significant changes resulting from the fundamental role played by technology in staged digital dance is the introduction of the media designer as co-creator to the choreography, in collaboration with the choreographer. It is important to underline that, in staged digital dance, the media designer takes part in the creation of the choreography from the very start of the process. Hence, the introduction of the media designer as co-creator from the very beginning marks a difference of the artistic status of the media designer from that of the supporting staff, such as light designer. Whereas technology and other supporting stage elements are most often created when the choreography is finished, in staged digital dance such a linear and independent mode of working during the creation of the choreography is problematized. Hence, the status of the media designer as co-creator in the artistic process can be understood as a symptom of a change in the understanding of the role of technology in dance: no longer as a supporting device but as a central element in the choreography.

What follows, the introduction of the media designer in digital dance requires a shift in the position of the choreographer, which involves the distribution of the choreographer's creative authority. Richard Povall argues that the emergence of digital dance was possible within the context of a new "paradigm of collaboration." [8] For Povall, this newly emergent art form of digital dance fundamentally changes the distribution of power structures and roles both within the creation and the exhibition of the performance. Povall argues that digital dance performances require the choreographer to hand over the omnipotent role he or she enjoys in non-digital-technology based dance performances in favor of a more egalitarian, collaborative relationship primarily with a computer programmer. [9] This new paradigm, according to Povall, stands in direct opposition to the conventional working paradigm in which the supporting disciplines, such as the lighting or sound technician, bring their separate pre-designed parts to the table as and when the choreographer requires them to do so. [10] Translating Povall's points to the argument of this paper implies that technology no longer functions as an add-on in the creation of the choreography in staged digital dance. Rather, technology functions on a higher level, as a performing element in the choreography to the extent that it requires the expertise and creativity of the media designer, alongside the creativity of the choreographer.

The crucial role of technology in the creation of the choreography requires new ways of working from the choreographer and also from the dancer. Whereas in choreographic practices in which technology functions as a supporting element a basic knowledge of the effects provided by technology is sufficient, staged digital dance requires a more detailed understanding of the technical system from the choreographer and dancer. In turn, the thorough understanding of the technical system required from the choreographer and dancer signals the dissolution of the staging of technology and the human dancer in a non-relational manner within a hierarchy of perceptual importance.

Johannes Birringer (2008) states that, most often, the understanding of the operations of the technology necessitates additional training from the choreographer and the dancer. [11] The additional training required from the choreographer and dancer usually takes place before the rehearsals. It may take the form of workshops or informal gatherings in which the media designer demonstrates the technology to the choreographer and dancer. In the case of *Glow*, for example, choreographer Obarzanek and media

designer and programmer Frieder Weiss met before the creation of the choreography. This was necessary because it was important for Weiss to understand the choreographic concept that Obarzanek aimed to achieve. In the same manner, Obarzanek needed to understand the way the technical system operates as well as the aesthetic possibilities offered by the technology. For Obarzanek, this was necessary because just as one needs to get acquainted with the strengths and weaknesses of human dancers, one also needs to get to know the strengths and weaknesses of the technical system:

The system has an inherent quality to it and a particular way of existing. For me as a choreographer it was really important to understand that and work with that. For example, the system is never completely still and stable; it always has this little movement to it. [...] The technology brings a kind of 'frequency' into the choreography that you'd normally never really have in a dance work. It has an aesthetic-kinetic quality to it that is in the nature of the machine. [11]

Hence, for the choreographer the understanding of the operations of technology—its potentials and limitations—is necessary because it leads to effective collaboration with the technology, as a performing element in the choreography. It also demonstrates that technology is now understood as a dance partner for the human dancer.

In sum, in staged digital dance, it is important for the choreographer and also for the dancer to understand the operations of the technology because the potentials and limitations of technology shape the choreography to a certain extent. Erin Manning (2006) underlines that the use of interactive technology in dance results in a reduction of the quality and tempo of the physical movements of the dancer. [12] She explains that a fully actualized (visible and complete) movement is necessary for software detection, usually by accentuating the extremity of the body (for example, by prolonging the arm or leg movements) or a displacement of the whole body across space. Therefore, technology conditions the choreography because it generates a preference for fully actualized movements rather than small ones. Moreover, Manning underlines that video-based motion-tracking systems require the dancer to slow down the tempo of the dance movements because slow movements can be better tracked by the system.

Certain scholars, such as Manning, are critical of the integration of technology in digital dance because technology conditions the choreography and restricts the physicality of the human performer. Yet this criticism can also be read on a different level—that is how the integration of technology functions as a dance partner on the basis of its influence on the choreography. From this perspective, which is the point of view of this paper, the restrictions brought by the interactive system are useful to understand how technology functions as a dance partner for the human dancer.

Hence, with staged digital dance, the interrelation and interdependence between technology and the human dancer, which has mostly remained hidden from the perception of the audience in the history of dance, is laid bare in the aesthetics of the choreography for the perception of the audience. In digital dance, technology moves to the center of the stage, alongside the human dancer. Moreover, staged digital dance portrays human and technology in a dynamic relationship with each other. This implies that, within the art form of dance, we need to expand the evaluative criteria of performer and performance to include technology and technological performance.

## References and Notes:

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