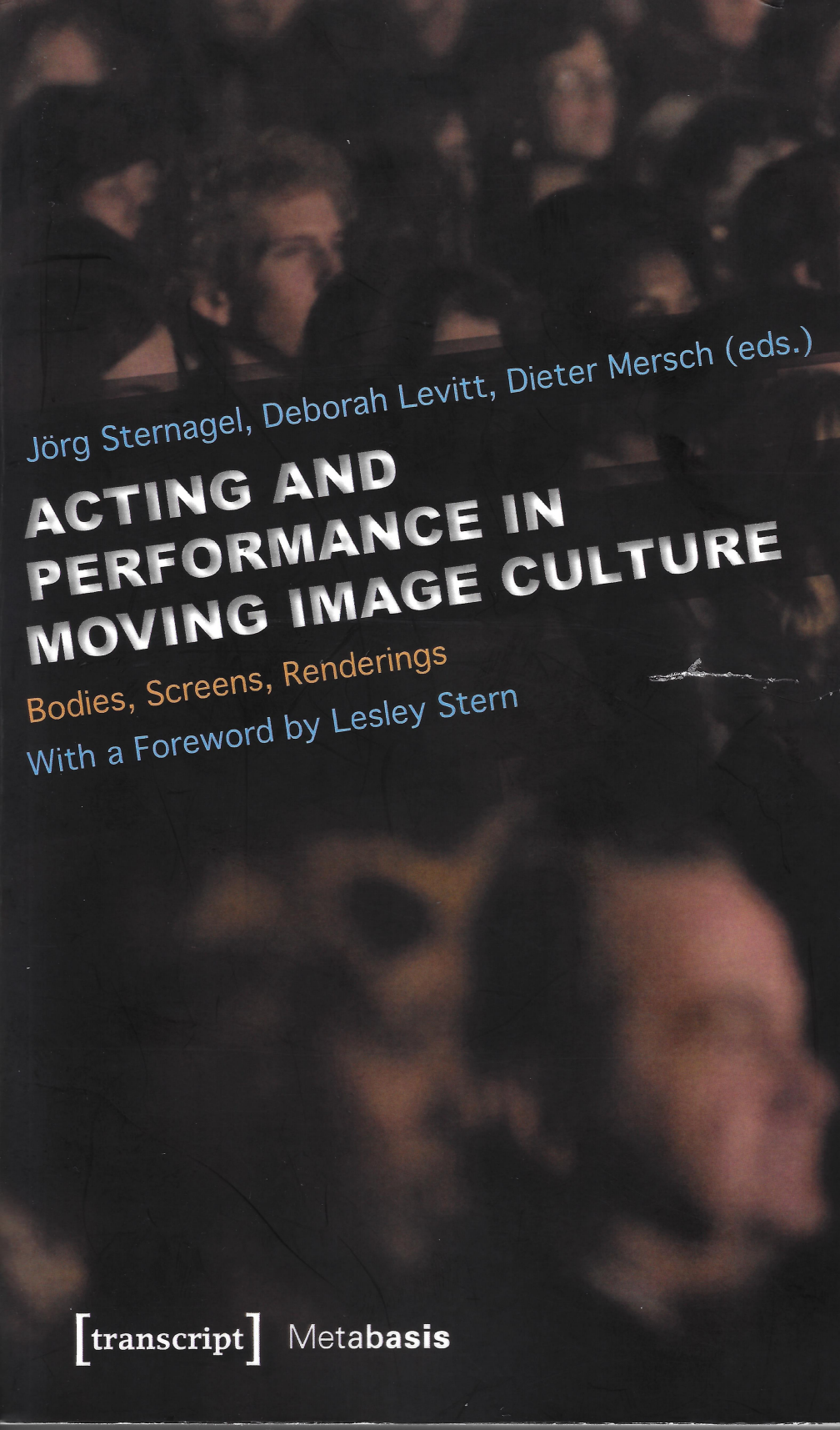

Jörg Sternagel, Deborah Levitt, Dieter Mersch (eds.)

ACTING AND PERFORMANCE IN MOVING IMAGE CULTURE

Bodies, Screens, Renderings

With a Foreword by Lesley Stern

[transcript] Metabasis

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Sharon Marie Carnicke

Emotional Expressivity in Motion Picture Capture Technology

With the release of The Lord of The Rings: The Two Towers (Peter Jackson, 2002), motion capture photography became a viable venue for acting when a human actor in his prime, Andy Serkis, was cast to play the character of Gollum—a five hundred year-old creature with a small, desiccated body composed of sinew, bones and little else. Jackson and Serkis had proved that motion capture could be used to create a complex and emotionally rich character in a film. This essay explores the ontology of film performances created through motion capture by bringing together the findings of a scientific experiment that uses this cinematic technology to study emotional expressivity and information about the creation of Gollum.

The USC Motion Capture Company

Shrikanth Narayanan, as Professor of Electrical Engineering, Computer Science, Linguistics, and Psychology, and I, as Professor of Theatre and Slavic Languages and Literature, are currently the co-principle investigators for a three-year, interdisciplinary and experimental project at the Viterbi School of Engineering of the University of Southern California (USC). Our project is funded by the National Science Foundation (NSF) in the United States; and it furthers a growing body of research on the physical expression of emotion. Our overall intent is to assemble a database of emotionally expressive behavior that can be widely accessed by scientists,

who need measurable data about the ways in which humans communicate emotion. Such data has wide applications in the developing fields of affective computing, virtual reality, intelligent virtual agents, and robotics.

Our project is unique in the scientific field on two fronts. First, the scientists rely upon actors, rather than people from other walks of life, to create credible emotional behavior through performance. Second, the actors' performances are recorded using the cinematic technology of motion capture photography. Thus, while our scientific team is composed of researchers from the disciplines of computer science, linguistics, and psychology, the team's heart is the company of twelve actors, who are undergraduate students in the USC School of Theatre. I bring to the project my expertise in the theory and practice of acting; and I also serve as the on-set director during the filming of performances.[1]

While the scientists gain insight into human emotional behavior, our project also offers a unique opportunity to study how actors, trained in stage techniques, adjust to motion capture technology. My experience as actor and director and my scholarship on the history of acting informs my conviction that acting is—at base—a discrete art form, which has—over the centuries—variously adapted to the changing technologies that have framed and presented actors' work to audiences, whether those frames be proscenium arches, camera lenses, or computer screens. Put another way, the history of acting shows that the basic processes of acting—grounded as they are in the actor's body and voice—remain relatively stable, while the changing technologies of stage and screen continually prompt actors to rethink how they use their bodies and voices in the service of their art (e.g. what parts of the body are best utilized for physical gestures; what size, rhythms, and intensities best inform their movements; what speed and volume in their speech best conveys their artistic intent). For example, an actor who communicates surprise from a vast, nineteenth century stage could ill afford to raise only an eyebrow, but might instead open her mouth wide in a gasp as she moves several steps backward. Yet, such physical choices would seem out of place in a cinematic close-up, where the raised eyebrow fills the frame sufficiently and just as productively conveys surprise.

Within the bounds of our NSF experiments, my wider interest in the adjustments that actors make as they move between stage and screen has found a particularly productive avenue of inquiry. As Professor Narayanan and I discussed the parameters of our collaborative work, we agreed to ground all our experiments in Stanislavsky's Active Analysis. Not only does this acting technique develop the flexibility of mind and imagination that contemporary

actors need as they cope with technologies like motion capture, but it also entails a carefully designed step-by-step process of work that allows the scientists to control for the many variables that actors must juggle in performance. Hence, the research team has used Active Analysis to develop concrete protocols for the work itself and coherent measures to better examine the actors' performances. In this way, our experiments in acting avoid the kind of impressionistic or subjective analysis that is anathema in the sciences. Consequently, my personal research within the parameters of our larger project focuses on the specific ways in which actors trained in Active Analysis adapt to work in a motion capture studio.

A full exposition of my study's importance to both the practice and theory of acting lies beyond the bounds of this essay, which explores only how our study can better inform scholarship on film acting. Therefore, I confine my initial remarks about our experiments to a brief description of the theory and practice of Active Analysis in order to give my readers a better sense of how the USC company is working. There then follows a suggestion—more pertinent to the overall aims of this anthology—on why motion capture presents an especially interesting technological frame for the presentation of acting.

Active Analysis is a text-based rehearsal technique that Stanislavsky developed in the Soviet Union during the last few years of his life (1934-1938) while under political house arrest. He was confined largely because major aspects of his System of actor training (e.g. exercises he adapted from the spiritual practice of Yoga and his commitment to non-realistic forms of drama) were subversive of major Soviet policies on the arts (e.g. the imposition of Marxist materialism, which replaced all other spiritual beliefs in 1917, and Socialist Realism, which replaced all other artistic styles in 1934). Ironically, while Stalinist propaganda turned Stanislavsky into a public icon for theatrical realism, he privately worked out the tenets of Active Analysis in secret on plays that were unsanctioned and with actors who could not speak publicly about the work. In fact, Active Analysis was banned in Soviet Russia until the 1960s during the political thaw that followed Khrushchev's public denunciation of Stalin's crimes. Only then could Stanislavsky's last students and assistants begin to teach and write about it openly (Carnicke 2010: 19-25).

Active Analysis is not to be confused with the American Method which was launched by Lee Strasberg in the 1930s, made famous by film actors from Marlon Brando to Robert De Niro, and famously depends upon the use of the actor's personal emotion to create psychologically realistic characters. By the time that Stanislavsky faced

house arrest in 1934, he had already abjured the use of personal emotion in performance as too capricious and uncontrollable for artistic purposes. Active Analysis trades instead upon the actor's flexibility of mind and imagination. But those American artists who created the Method did not know, nor could they know, of Active Analysis; Soviet politics had too skillfully buried it. Moreover, Soviet propaganda was so pervasively successful, that Stanislavsky's actual work is still largely misunderstood in the West. Thus, while Active Analysis now determines the acting and directing curricula of Russia's most prestigious theatre academies including Moscow's Cinematography Institute, it is still rarely taught in the United States and Europe.

Active Analysis is based upon a theoretical model that links dramatic literature to embodied performance. Stanislavsky saw a play as a *score of actions* with its words encoding performance in much the same way as musical notes encode sound. Moreover, dramatic *structure* can be determined by following *the chain of events* that occur as the play unfolds. Each event results when an *impelling action* meets a *counteraction*. The play's tone, quality, style, and thematic issues emerge from the specific ways in which the actors embody these collisions in performance. In short, Stanislavsky conceives of performance as a dynamic interplay of impelling actions and counteractions that must be decoded by close reading of the play. The actor trained in Active Analysis therefore begins with a deep analysis of the play's text, paying close attention to the ways in which a character speaks or keeps silent, employs differing styles of language, uses images, and utters the actual sounds that compose the words. These textual details are the dramatic notes that suggest to the actor how the music of dramatic action can be embodied through his or her performance.

Following logically from this conception of drama, Stanislavsky taught the actor to use this close reading to establish the character's overall *line of impelling actions and counteractions* (a concept akin to that of musical phrases and motifs) throughout the play. This *line* lays out a map of the journey that the character must travel from the beginning to the end of the play. Once the actor has determined this line, he or she must then define each of the particular *impelling actions* or *counteractions* in that *line* by selecting an *active verb* to express precisely what the character does within each collision that builds the structure of play, event by event. In performance the actor then merely performs his or her chosen verbs in sequence, allowing the play to unfold.

In artistic work, the director may intervene in the actor's analysis of the *line of actions and counteractions* and in the choice of *verbs*.

Such intervention allows the director to control the final aesthetic interpretation of the play and style of performance. In our project, the scientists sometimes suggest *lines* and *verbs* in order to experiment with how changes in the actor's analysis would impact the emotional dynamics of any given performance.

Rehearsals in Active Analysis are designed to test the cast's understanding of the play's interpersonal dynamics. Actors do so by physicalizing their *impelling actions* and *counteractions* via their choices of *verbs*, before they memorize the author's text. Thus, they rehearse by performing and repeating tightly structured improvisational *etudes*, which track the play's dynamics closely. Sometimes actors improvise by using whatever words they wish, thus paraphrasing the scene at hand; sometimes they perform in silence, communicating only through physical means. These *etudes* function as preliminary drafts of performance, paradoxically allowing the actors to discover how the author's words are necessary to them by initially stepping away from the text. Actors soon learn that to produce the exact dynamics inherent within the play they must use the words given to them by the playwright as tools to accomplish their *verbs*. As a result, actors tend to experience performance as itself a form of playwriting; and hence, they retain the initial spontaneity of rehearsal, even once their memorization of the text is complete.

In terms of emotional expressivity, Active Analysis trusts that actors who take action, or resist the actions of others, will experience emotion during performance much as do people in normal life; emotion arises naturally from the performed interpersonal dynamics of the moment. Unlike the American Method, which asks actors to start by defining the emotion that they seek to create, then to find within their most intimate experiences an analogous personal emotion, and finally to recreate that personal emotion on behalf of the character, Active Analysis allows actors to be surprised by the emotions that arise within them as they work. Hence, as our scientific team soon realized, Active Analysis can provoke genuine emotion in actors more easily and reliably than the Method.

I now turn to the frame within which out project presents the work of our company. During the first two years of our project, the USC Motion Capture Company used Active Analysis to rehearse and perform scenes from Shakespeare and Chekhov and to improvise scenarios written by the research team on contemporary issues. In the course of this work, adjusting Active Analysis to motion capture photography proved quite easy for the company. By focusing on the interpersonal dynamics and lines of *impelling actions and counteractions* within each scene or scenario, the actors readily pro-

duced emotionally expressive movements that could be successfully captured and digitized.

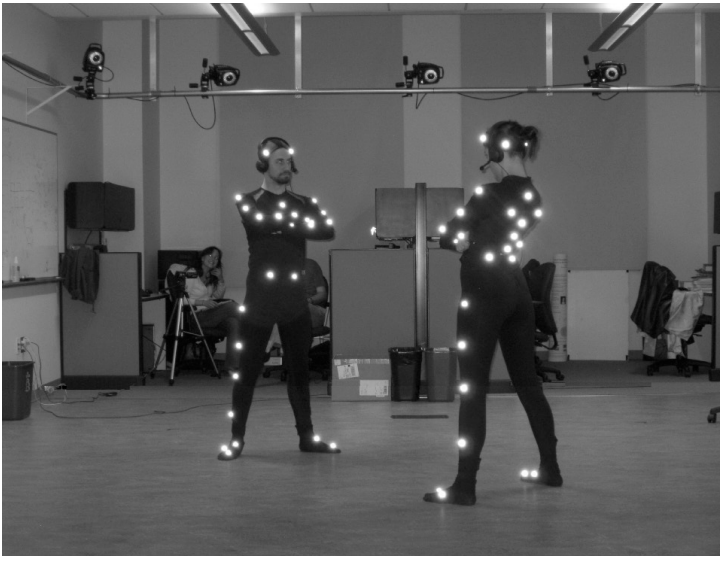

Figure 1: Two Actors from the USC Motion Capture Company—Rose Leisner and Ray Chase—Performing a Scene from Shakespeare's The Taming of the Shrew.

At the same time, motion capture seems, at first glance, to rob actors of acting's most stable elements, body and voice. As you know, motion capture photography depends upon the actor wearing a suit with markers placed in such a way as to make obvious the body's motion through space. Cameras are hung on a square grid above the actors' heads and these cameras contain sensors that read and record the actor's motion by turning the constellation of markers into a constellation of dots on a computer screen. In other words, the cameras never photograph the actor in actual space, only the actor's movements through space. Later, the engineers literally connect the recorded dots to get stick figures that move in a three-dimensional but virtual space. These figures can then be manipulated, measured, or, in the case of characters like Gollum, animated. I like to call these sketches »dancing skeletons« because they reveal the bones of physical actions, even as they strip flesh and facial expression from the actors' bodies.

Gollum as Case Study

While actors, trained in techniques like Active Analysis which encourage them to use their bodies expressively, find it fairly easy to adjust to a ring of motion capture cameras, this photographic technology presents a special challenge to scholars who write about film acting, because the actual image of the actor as a person disappears in the final screen performance. How can we find the young and vital Andy Serkis in the ancient Gollum? What does it mean when Peter Jackson lists Serkis as the actor who plays Gollum in the scrolling list of credits that unfurl at the end of The Two Towers and The Return of the King? To expose the actor's agency when framed by motion capture technology, I therefore now turn to my essay's case study on Serkis as Gollum, first tracing the collaborative creation of the character and only then analyzing the acting behind the final cinematic performance.

The Making of Gollum

When Peter Jackson began to film The Two Towers, he was already using motion capture to turn the work of a handful of actors and horses into the illusion of thousands for his battle sequences, much as other directors had done before him. But for Gollum, Jackson had a different goal. As executive producer Mark Ordesky states, Gollum is a »pivotal« role intended as a »CG character who actually has to deliver a dramatic performance« by interacting credibly with a human cast (The Taming of Smeagol, Michael Pellerin 2003). Jim Rygiel, the film's Visual Effects Designer, more explicitly explains that, »we realized we had to make [Gollum] fully computer-generated, and yet ensure he looked absolutely real in his acting and the way he speaks« (in Serkis 2003: 34). A slow and painful three year process of experimentation by Jackson and his team of designers and animators at WETA Workshop, Ltd. (New Zealand) ultimately led to the use of live, on-set motion capture.

The process began with an audition. Initially, Jackson sought a voice actor—nothing more—for a character that had already been crafted by animators for the first film in the planned trilogy, The Fellowship of the Ring (Peter Jackson, 2001). When Andy Serkis auditioned, Jackson made an important discovery about acting. Serkis needed to contort his face and body in order to produce the character's voice—an oddly hollow, hoarse sound in the back of his throat. In short, Gollum's voice could only come from an actor who also physicalized Gollum's body. »It was really in that audition that

I came to realize something that had never occurred to me«, said Jackson, »that the [actor's] voice and facial expressions … are related; you can't separate the two« (The Taming of Smeagol 2003). Jackson had found in Serkis' audition, precisely what Stanislavsky had always demanded of actors—a holistic use of self that he persistently called »psycho-physical«.

As a consequence of this discovery, Jackson hired Serkis as more than a voice actor; for the better part of two years, Serkis also performed his role on set. On 17 April 2000, Serkis arrived on set for the first time, ready to embody the fantastical character of Gollum, who is obsessed with murderous desire for the magic ring that the story's hero, Frodo, seeks to destroy. While his scene partners were appropriately costumed, Serkis wore a white lycra suit to facilitate his crawling, crouching movements as Gollum. The scene shot that day was a climactic moment from the last of the three Lord of the Rings films, The Return of the King (Peter Jackson, 2003), when Gollum jumps Frodo (played by Elijah Wood) and Frodo's friend Sam (played by Sean Astin) in order to wrest the precious ring away from them.

The three actors in the scene treated some takes as any other live action scene—jumping on each other, grabbing, and pulling at each other. These takes were called *animation reference* shots. For other takes—called *mime passes*—Serkis was pulled out of the frame and Wood and Astin repeated their physical actions without Serkis. In other words, the two actors now worked as if with a green screen, treating Gollum as an absent image to be added during post-production. At this stage in the experimentation, everyone assumed that the design team would use the *mime passes* for the final film, filling in the empty spaces with animation that had been inspired by the *reference* shots. The creative team soon noticed, however, that the acting was invariably more convincing in the *animation reference* shots with Serkis than in the *mime passes* without him. Thus, they had discovered another of Stanislavsky's primary maxims—that an actor's best assistant is his or her scene partner.

Therefore, the animators began to experiment with ways in which Serkis could more fully control the CG performance. On one front, they used rotoscoping—an animation technique developed in 1915 by Max Fleischer and widely used by Walt Disney—whereby the animator traces over a live action performance. In this case, WETA used Serkis' performance in the *animation reference* shots as the basis for their rotoscoping. On another front, they allowed Serkis to manipulate the animation more directly through motion capture. They then used the motion capture data to trace the movements of the animated Gollum into the film. The design crew began

to call this technique, *rotoanimation* (The Taming of Smeagol 2003). Serkis now performed his role both on set and then again in a motion capture studio, and the animators later reconciled the various takes in post-production.

Figure 2: The Forbidden Pool in The Two Towers—This Split Screen Shows the Relationship Between Serkis' Motion Captured Performance and Gollum's Appearance in the Film.

On 20 June 2003, as the filming of Jackson's trilogy neared completion, Serkis arrived on set to re-shoot the same climactic scene from The Return of the King that he had performed on his first day, but he now wore a motion capture suit with markers instead of his plain lycra unitard. Jackson had decided to expand the scene at Mount Doom, but little time remained for filming. Therefore, the design and production team had come to a radical decision. Given the pressing schedule, Serkis would now perform for normal and motion capture cameras simultaneously. Three years of experimentation in how best to combine an actor's expressivity with a CG character had led to this first-time use of live on-set motion capture. »It worked perfectly«, Jackson said, and was in fact »the culmination of

the technical achievement of Gollum« (A Filmmaker's Journey, Michael Pellerin 2004).

As I have elsewhere argued, the screen actor is one of a team of artistic collaborators, who work in consonance with others to create film performances. The director generally heads up this team, and sets boundaries for each team member's contribution to the whole. Therefore, how much or how little agency actors enjoy varies greatly from film to film (Carnicke 2004: 42-67).

In the creation of Gollum, Jackson gave Serkis a great deal of latitude and Serkis used it to challenge the entire team to re-think the character's psychological dimensions. For the first film in the trilogy, The Fellowship of the Ring, the animators had seen Gollum as unremittingly villainous and thus had drawn a character in consonance with that view. Serkis, however, saw Gollum as a complex, tortured soul, whose evil springs from deep suffering. Desire for power had transformed him from a kindly Hobbit into an obsessive and dangerous creature. Beginning with The Two Towers, the trilogy's production team facilitated both Serkis' conception and his performance of the character.

On the one hand, the trilogy's writers supplied new dialogue. For example, Fran Walsh wrote a dualistic monologue that allowed Serkis to embody both aspects of Gollum as deftly as had John Barrymore in his performance of both sides of a single character in the silent film version of Dr. Jekyll and Mr. Hyde (John S. Robertson, 1920). As James Naremore pointed out in his groundbreaking book, *Acting in the Cinema*, such dualistic scenes draw stark attention to the art of acting because they allow the spectator to see the actor at work by juxtaposing two different characters played in turn by the same person (Naremore 1988: 76).

On the other hand, the designers also supported Serkis through visual changes in the animated character. They re-designed Gollum to resemble the actor more closely and to reflect Serkis' more nuanced conception of the role. Finally, they gave Serkis more agency in creating his role than is usual for animated characters by allowing him to use motion capture photography as a performance tool. Consequently, in The Two Towers and The Return of the King Gollum looks and acts quite differently than he had in The Fellowship of the Ring.

Finding the Actor in a Motion Captured Performance

In USC's motion capture studio our entire team has been surprised, nay amazed, by how recognizable each individual actor is from his

or her computerized data. The dancing skeletons on the screen may have been stripped of all flesh, but they remain utterly recognizable as the people whose motions they record. Moreover, their emotional states and their interactions with each other are also amazingly legible on the computer screen, even when the sound of their words goes unheard. As one of our company observed: »MoCap taught me a great deal about how much physical expression affects the audience's impresion of the emotions played in a scene. When we watched our captured images it was clear what was going on in the scenes, even without sound or facial expressions« (Peyser 2010).

Such obvious legibility provokes puzzling ontological questions about the relationship between the actor's material body and his or her unique presence within a filmed image of any type, whether that image reflect the actor's visual appearance or whether it capture the actor's motion through a mere constellation of moving dots. If an actors' movements alone can so stunningly conjure their presences, then perhaps actors have non-material »ideolects«, to borrow Naremore's term for those physical habits that mark stars as unique individuals (Naremore 1988: 4).[2]

Reflecting the legibility of the actor's idiolect within motion capture, Steven Spielberg has likened the technology to »digital make-up«. »It's basically the actual performance of the actual actor«, he explains, »and what you're simply experiencing is make-up« (Hooks 2010). From this point of view, one can say that Serkis performed Gollum in the digital make-up provided by motion capture. When the trilogy's producers, New Line Productions, Inc., campaigned for an Academy Award nomination for Serkis in the role, they were implicitly agreeing with Spielberg. When the Academy, however, refused to entertain a nomination for Serkis, its members effectively disagreed, discounting the human agency that Serkis granted to his technologically enhanced performance.

This difference of opinion about motion capture technology merely restates the basic problem that must be faced whenever one seeks to describe and evaluate the acting within films. To think of motion capture technology as digital make-up ultimately explains little about the larger ontological issues that position acting as only one element in the creation of final on-screen performances. True, Serkis did act Gollum, but Gollum's performance in the film was created through the wider collaboration of Jackson with his entire collaborative team. While this team included Serkis, of course, it was also comprised of animators, writers, cameramen, editors, etc., all of whom acted the role of Gollum. In this way, Serkis' acting of Gollum was no different than the acting of any other role in a film, where acting provides only one component in the ultimate on-

screen performance. At times, Serkis controlled his performance, as he did for the dualistic monologue cited above. For this scene, the animators followed his work exactly (The Taming of Smeagol 2003). At other times, the animators controlled the role, as they did whenever they added non-human motions that Serkis could never have actually performed either on set or in a motion capture studio. Interviews with the designers give examples of this kind of intervention in Gollum's ability to climb vertically down a rock face and to jump lightly from a great height, as he does during the flight with Frodo and Sam on Mount Doom (The Taming of Smeagol 2003). The resulting screen performance is a hybrid of live actor and CG animation. As Serkis' fellow cast member John Rhys-Davis has rightly observed, »When the human body is taken and digitized and enhanced, it isn't really an actor's performance, and yet, unquestionably, an actor had a major part of it or in it« (The Taming of Smeagol 2003). The release of Avatar (James Cameron, 2009) proves that films will continue to experiment with such hybrids.

Acting is the domain of the actor; screen performances are always hybrids of human agency and technological interventions. Like any other kind of make-up used to transform an actor's image, the »digital make-up« of motion capture does not obviate the need for film scholars to consider how the actor has contributed to the final screen performance. If my direct experience with motion capture has taught me anything, it is that the work that actors do in a motion capture studio remains starkly present within the skeletal figures that dance on the computer screen. In short, performances created through motion capture photography, like that of Gollum, can be subjected to the same kind of analysis and assessment as any other screen performance.

Analyzing the Performance of Serkis/Gollum

As I write this essay, I am reminded of a truism that I first confronted when I moved from the field of acting practice into that of cinematic scholarship. How the actor works (whether through Active Analysis or via the Method) matters as little to the reception of performance as does the pianist's fingering to the listener's enjoyment of music (Carnicke 2004: 47-48). The culmination of this essay, therefore, rests neither upon what the USC motion capture project is finding about human emotion generally, nor upon what the actors are learning about adjusting Active Analysis to the cinematic framing of their work. Only what our project suggests about the actor's image on the screen is valuable to the goals that prompt

this anthology, because only what can be seen in the film ultimately counts in terms of the analysis and evaluation of a screen performance.

Cynthia Baron and I have argued in our book, *Reframing Screen Performance* (2008), that there are a number of useful terminologies, derived from the craft of acting, which can be productively used to describe and analyze screen performance. Their scholarly use need not presume that the actors employed these techniques in their work. The USC motion capture company works via Active Analysis; and one still can use any terminology one likes to describe and examine their resulting performances as captured on the computer screen. So too, can scholars—who wish to evaluate cinematic performances created through motion capture—use any variety of terminologies and theories to explain and assess what they see.

Therefore, I will briefly consider three different strategies of analysis, each based on a different craft terminology for acting, in order to demonstrate how each can inform an examination of the performance that occurs at The Forbidden Pool in The Two Towers. During this scene Gollum catches and eats a fish. Serkis improvised this action in a motion capture studio, because, as he has said in multiple interviews, he wanted to show Gollum at his happiest. Jackson liked the work and wished to include it in his film. Therefore, the animators closely followed Serkis' dancing skeleton for their post-production animation of the scene. What can Delsarte's, Stanislavsky's, and Laban's various approaches to acting suggest about the richness of this particular moment in the Serkis/Gollum performance?

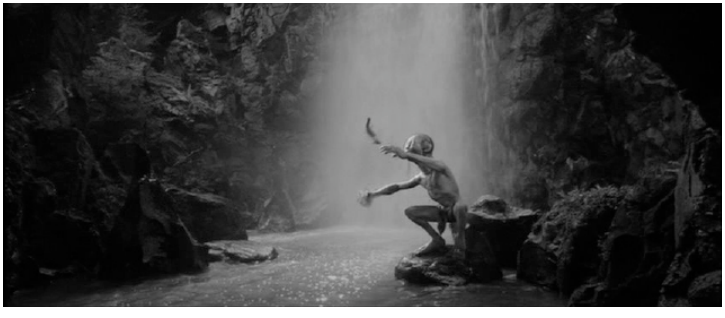

Figure 3: Gollum at The Forbidden Pool in Peter Jackson's The Lord of the Rings: The Two Towers (New Line Cinema, 2002). Digital Frame Enlargement.

First, François Delsarte (1811-1871) may be considered by many theatre scholars as »little more than an amusing historical footnote in acting theory,« to borrow Ed Hooks' words (Hooks 2000: 4), but the Frenchman's richly detailed semiotics of gesture offer the scholar much that is of use (see Baron, Carnicke 2008: 165-187 and Naremore 1988: 53-67). Delsarte had been a singer in Paris, who lost his voice due to poor teaching practices. In an effort to develop better training, he diligently studied the relationships between physical gesture, emotion, and language. Over time, he became the most significant acting teacher in Europe. Moreover, when an enthusiastic American student, Steele MacKaye, founded the first professional training program for actors in the United States in 1871, Delsartism became the nation's predominant form of actor training until Stanislavsky brought the Moscow Art Theatre to New York in 1923. Consequently, Delsarte also influenced the first generation of American screen actors (McTeague 1993: 1-43).

At base, Delsarte saw movement as a multi-layered personal, social, cultural, and psychological system of signs that can be read by observers for their emotional content. In other words, the body encodes non-verbal meaning which the viewer then decodes. Of course, Delsarte recognized that physical signs come from various sources: some gestures express individuality; some function as socially determined conventions, like waving »hello«; and some may be biologically connected to our physiological and emotional reactions (Delsarte 1893: 459-462). As he studied the variety and patterns in human gesture, he developed a complex catalogue, describing movement through the body and predicting how gestures might be read.

Actor training that stems from Delsarte's catalogue views »gesture [as] the direct agent of the heart« (ibid.: 39-40) and teaches actors to carefully craft their gestures according to his models.

Looking at Gollum through the lens of Delsarte's training, our eye would be drawn to the character's posture. Squatting heavily into the rock, Gollum is grounded, even as his head extends and lifts up out of his body toward the sky. Delsarte would call this an *opposition* through the body. Such an opposition, he suggests, denotes strength. In this case, it communicates the strength of Gollum's joy.

Second, the Russian actor/director Konstantin Stanislavsky (1863-1938), whose name is familiar beyond the field of theatre, began to seek a grammar for acting two years after his world-famous realistic stagings of Anton Chekhov's plays (1898-1904). As an actor, Stanislavsky had begun to feel unsatisfied with his performances, and asked himself a single question to which he pursued answers for the rest of his life: »Are there no technical paths to foster the

creative state of mind?« (Stanislavskii 1988: 375). For the rest of his life he compiled exercises and techniques, culled from a variety of sources, all designed to prompt the actor's creative work. He called this on-going compilation his System. His ceaseless search for ever new and more productive avenues in acting made his System a work in progress that changed and developed over time, culminating in Active Analysis. As one of his most clear-sighted assistants observes, he »did not cross out or discard, but rather summarized and brought together« all those things that he had learned about the art of acting (Knebel' 1967: 47).

One of the most consistently used elements in the System is the *object of attention*, a term which names anything that demands the actor's focus during performance, whether it be partner or prop (Carnicke 2006: 25-29). Stanislavsky took the term from the mental training of Yoga—called Raja Yoga—which he was studying from 1909 onward. He realized that yogic meditation could usefully teach actors to call forth and control at will the deep concentration necessary to acting (Carnicke 2009: 177).

Examining Gollum's scene at The Forbidden Pool through Stanislavsky's eyes might well position the fish as Serkis' primary *object of attention*. Throughout the scene, Gollum is totally absorbed by this object. Indeed, he is so deeply focused on the fish that Serkis' conveys Gollum's sense of personal isolation. Thus, he remains utterly unaware of other possible *objects of attention* in the vicinity, like the soldiers who watch him from above.

Third, Laban's elegantly simple vocabulary for the description of movement is already moving into the field of cinematic studies, as this anthology clearly demonstrates (see Carnicke, Baron 2008: 188-207). The Hungarian dancer Rudolf Laban (1879-1958) sought to distinguish the static poses that are named in the traditional terminology for classical ballet from the fluid flow of motion created as a dancer actually moves from step to step and pose to pose. By 1928 he had created the first successful notation system for dance, Labanotation. Moreover, his overall conception of dance as movement, rather than as the sum of discrete steps, directly influenced the emerging aesthetics of modern dance. Over time, his Movement Analysis, that first lay the foundation for Labanotation, moved into fields other than dance, including that of actor training.

In contrast to Delsarte's complicated and encyclopedic catalogue of gestures, Laban identifies instead movement's primary types, qualities, and energies (called *efforts*). In short, he focuses on the principles and patterns through which any movement can be compared and contrasted with another. For example, while Delsarte enumerates the full range of parameters possible in a single hand

gesture (e.g. whether the wrist is straight or flexed, whether the palm faces outward from the body, inward, upward or downward, whether the fingers are open or closed, etc.), Laban attends instead to how the hand moves through space (e.g. suddenly or in a sustained manner, quickly or slowing, with energy that seems to press down on the surrounding air or to float above it). Dancers and actors alike readily exchanged Delsarte's catalogue for Laban's principles of movement, which seemed from the first easier to learn and use in performance (Hecht 1971).

Using Laban's vocabulary to view Gollum's movement at The Forbidden Pool allows one to account for the ways that Serkis uses motion to bring nuance to the interpretation of his character. He alternates between Gollum's joyful, airy circling of his head and an angry, forceful beating of the fish against the rock. In the first case, Laban would identify Gollum's *effort* as »floating« characterized by »flexible, sustained, and light movement«. In the second case, Gollum »thrusts« his fish to the rock, using »direct, sudden, and strong« dynamics (Newlove, Dalby 2004: 124-140). The juxtaposition of these two contrasting *efforts* suggests how Serkis embodies his dualistic conception of his role at every turn of his performance, even when Gollum expresses joy.

In conclusion, I have been fortunate to work with actors who suit up for motion capture cameras. As a practitioner, I am learning much about how actors adjust their working means of expression to this particular cinematic frame, which will later be used to present their work to spectators. Moreover, as a scholar, I see actors' »ideolects«—which continue to conjure their presences after they have gone home—as confirmation of theatre's histories belief that acting is itself a form of art and cinema studies growing belief that actors, even in digital makeup, can, and do, contribute to films as collaborators in the creation of screen performances. This legibility further demonstrates that cinematic performances created through motion capture photography can be as closely observed and analyzed through the terminologies of acting craft, as any other screen performance.

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Notes

1 Two interviews about the USC experiments are available online with London's BBC news media at: <http://www.bbc.co.uk/news/technology-11013385> and <http://www.bbc.co.uk/iplayer/episode/p009hqkp/Science_In_Action_03_09_2010> [Accessed 5 February 2011].
2 At our conference in Potsdam, Paul McDonald suggested this term to me when we were discussing the amazing individuality of actors in motion capture.

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