

Putting Identity on Hold: Motion Capture and the Mystery of the Disappearing Blackness*

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Abstract:

The movement of black bodies has often been captured by motion-tracking/sensing technologies in different contexts and situations, from animation cinema to facial recognition, from art to police preemptive profiling. As often argued by critical and media theorists, digital technologies of this kind operate an interesting ambiguous datafication of the black body, by filtering data along a subtle and shifting border between the invisibility of the captured body and the visibility of its movement. This article will discuss the motion capture of Savion Glover's tap dance performance for the animation movie *Happy Feet*. Applying an interdisciplinary perspective given by the encounter between dance and movement studies, philosophy and cultural studies, the article tries to move the discussion beyond the simple critique of digital technologies as neutralizing forms of representation, and beyond the theoretical and practical attempts to preserve a 'lived-in' and 'body-specific' experience of the racially identifiable body. Instead, a different theoretical perspective is given, through which the motion capture apparatus can be defined as a differential marker, a machine that allows for an 'immediated calculation' of movement and race. Amplifying the humanly and digitally limited understanding of experience as data elaboration (datum as object of perception and knowledge), and putting data in relation to feelings, it is possible to understand the digital capture as a way to preserve movement, its singularity or its 'datum of difference', from a universal sameness of movements without bodies.

A happy penguin can be a good tap dancer, there is no doubt. Especially if the penguin is a 3D character moved by the steps of motion-captured African American tap dancer Savion Glover, in the Oscar-winning animation *Happy Feet* by director George Miller (2006). In fact, Mumble the penguin is not only an extremely talented dancer, but also (and unlike his fellows) an extremely off-key singer with a shrill voice. His vocal incapacity is perceived by the other penguins as a sort of psycho-physical disability which, combined with his exceptional ability to tap dance (a skill that is quite despicable in the penguins' community), puts him in a position of social discrimination. Nevertheless, throughout the story Mumble proves to be so good at dancing that his steps even manage to communicate empathy to human beings, convincing them to give up fishing, and thus saving penguins from starvation. In the last scenes, as if touched by the magic of Mumble's movements, all penguins (even the oldest and most traditionalist ones) end up dancing a beautiful choreography of rhythmic joy in Antarctica. In parallel with this happy ending, this article will try to develop a positive analytical curve, starting from the cultural criticism of the animated penguin and of the motion capture technology as respectively figure and tool of racial discrimination, and ending with a redrawing of their role as protagonists of a postracial challenge.

In order to endow Mumble with his magical dancing gift, it was first of all necessary for Glover to wear a black suit with sensors attached all over it, and to let his gestures and steps be tracked and recorded by a digital machine. This apparently simple event immediately plunges us into a quite controversial techno-cultural history, as the movement of black people has often been captured by motion-tracking/sensing techniques and technologies, in contexts and situations as different as those of slave body measurements and criminal statistics, facial recognition and racial profiling, but also racist animation cinema and critical performance. Caught among the latest strands of this ambiguous technological relation, the black body-image of the digital era is a cultural construction that keeps shifting between invisibility (when the HP's webcam software does not manage to track the movements of a black face, or when Google Photos tags a picture of two black people as 'Gorillas') and effacement (when a black dancer like Glover is motion captured). It could, in fact, be argued that the differential of biocultural identification in a heavily digitized society distributes itself through the sieve of a machinic perception of race, and along the border that runs between what we/it see and what remains unseen. From this point of view, Glover seems to have simply disappeared in his black suit. But beyond this simple and apparently evident matter of fact, the issue of the dancer's disappearing 'blackness' leads us to ask several questions that seem even more problematic, regarding the inherent blackness of Glover's and Mumble's steps. Can a dance, or a particular dance style such as tap dance, be recognized as essentially black, when its performer's face and body are not there anymore? And how can a technology such as motion capture be able to really capture that blackness, without falling into the techno-rhetoric of biometric control? This article will try to move the discussion beyond the critique of digital technology as a neutralizing form of representation, and beyond the necessity to preserve a 'body-specific' notion of racial (self-)identification. This act of moving beyond is certainly not aimed at dismissing the reality of the racist capture characterizing many animation movies such as *Happy Feet*, but only at understanding if subtler strategies of escape can be perhaps be seen at work in the very heart of the colonialist operation. But before moving beyond, we might first need to move back. In the 17th century, German philosopher Gottfried Leibniz believed that all problems can be reduced to a combinatorics of particular elements, and be discussed/solved through calculus. Could we transpose this chronologically and culturally distant idea into our present experience of *Happy Feet*, and imagine a way to think about race as something that can be calculated and re-combined, rather than merely represented? How would this form of 'racial calculus' take place, and how would it differ from the mercantile calculation of life's stretchable limits, and of its exchangeability in the interest of colonialist capital? Could a mathematical re/combination of race in some way make us reconsider Glover's digital capture in a more generative way?

*RECLAIMER.

This is a Cultural Studies essay. It seems important to clearly state this as a simple matter of fact, in order to prevent any possible discrimination of the essay's fictional components. Certainly, such discrimination would be moved by a serious motivation: while fiction presupposes at least a certain amount of lying, critical essays should...? After all, even if we take for granted the untenability of critical truthfulness in the essay paradigm, the question remains: why fiction in a cultural study? Because, in its 'as if' modality, fiction activates the potentials that philosophy finds everywhere in the real.

The essay is actually not a fiction but a mix of fictions. Specifically, it starts from the plot of a film, George Miller's *Happy Feet*, and rewrites some of its nodes, unfolding them towards different directions. But it also starts from a novel: Herman Melville's *Moby Dick*, to which it limits itself to formally and timidly pay homage (through the addition of a somehow redundant etymology, or through the adoption of what can sound, at times, as a too wooden dialogue). The reason for making these two distant fictions work together, is the controversial nature of both in relation to the concept of race and its in/visibility. Someone is not visible and is looked for, someone appears and disappears... Obviously, the ways in which this theme emerges in the two fictional works are very different, but collapsing them into a remix aims at highlighting their most general agreement. In any case, it will certainly be a good complement to the reading of this remix, to have had some previous acquaintance with both film and novel.

Names and characters, together with their own words and stories, are not entirely the products of the author's imagination, but neither

are they the alter-egos of real people and events. Many real names in fact do enter this fiction, but only in a sort of multi-ventriloquist narration. The author does not see this voice theft as a much more illicit operation, than that of 'speaking for' or on behalf of someone else, through one's own voice (for example critiquing a supposedly vilifying racist technique, on behalf of those who accepted it voluntarily). The appearance of these names, therefore, should hopefully not look or sound much more illegitimate than a citation.

The choice to quote long bits of text in a collage-like manner, is intentional and related to the theatrical nature of the fiction. The presence of italics indicates the quotes, but the whole essay makes a rather free use of bits and pieces of other texts that it would have been impossible to properly reference.

ETYMOLOGY.

(Collected and supplied by the Director of the Centre for Contemporary Micropolitical Studies)

The hypermodern cultural thinker – wonderfully enveloped in a tunic of diasporic experiences; I see him now. He was ever at his desk (or was it a deck?), typing in the light of a LED electric bulb, or playing in clubs and labs and squats, sharing ideas, rhythms and data with his comrades. He loved to fight the political battle of a collective intellectual life; it somehow reminded him that it is never possible to go back to the roots.

IDENTITY: Who someone is: the name of a person. – The qualities, beliefs, etc., that make a particular person or group different from others. – MERRIAM-WEBSTER DICTIONARY ¹

STYLE: A particular way in which something is done, created, or performed. – MERRIAM-WEBSTER DICTIONARY ²

MOVIE: A recording of moving images that tells a story and that people watch on a screen or television. – MERRIAM WEBSTER DICTIONARY ³

MOTION CAPTURE: The process or technique of recording patterns of movement digitally, especially the recording of an actor's movements for the purpose of animating a digital character in a film or video game. – OXFORD LIVING DICTIONARIES ⁴

DISCRIMINATION: Treating a person or particular group of people differently, especially in a worse way from the way in which you treat other people, because of their skin colour, sex, sexuality, etc. – CAMBRIDGE DICTIONARY ⁵

EXCERPTS (Supplied by a Follower of the CCMS).

When the zealous Follower got out of the dark movie theatre, an even darker sensation filled her body and mind simultaneously, almost spoiling that pleasurable feeling of entertainment that the movie had been producing in her for almost two hours. A story of adventure and love among penguins, with a happy ending and nice choreographies set in the beautiful landscape of Antarctica. And yet, there was something missing there, the scholar heard herself muttering, something was definitely missing from the moving images she had just ran after with her eyes. But what was that? And why was it so significant, so assertive, so phenomenologically predominant in its absence, that it managed to nick one of the subtlest pleasures from her experience, that is, the post-cinematic-vision effect? Amazed, the Follower decided she would certainly go more in depth into the mystery, through a rigorous investigation of all the elements at her disposal, until the light of a total rational comprehension would be thrown on this experiential black hole. Here is a recording of the information she collected in order to start her investigation:

Classical racism involved a logic of dehumanization, in which African people were defined as having bodies but not minds: in this way the superexploitation of the black body as muscle-machine could be justified. – KOBENA MERCER [6 Kobena Mercer, *Welcome to the Jungle: New Positions in Black Cultural Studies* (London: Routledge, 1994), 138.]

The division within the character of Mumble between voice and action, mind and body, reflects the technologies that were used to bring the character to life. (...) Elijah Wood – ... provided the voice for Mumble, while through the process of motion capture, famed tap dancer Savion Glover lent Mumble his distinctive movement and dancing. ... New media technologies make such a design option not only possible, but also increasingly prevalent. No longer must only one person—such as a highly paid star—create a whole performance. ... Motion capture allows performances to be divided from the start, with multiple performers creating only fragments of the whole. (...) I do not want to essentialise conventional film acting, since it has never been a seamless whole either, but the patchwork nature of performance with the use of motion capture entails additional consequences for the representation of race and other qualities specific to performers' bodies. Despite the film-makers' presumed intentions, the schism within the performance of Mumble reduces Glover's performance to corporeal movement, perpetuating the association of African Americans with the body while the white actor provides the language, usually associated with the mind. Motion capture technology could have split the performance in any number of ways, but it still managed to reproduce the mind/body dualism along racial lines. As Mumble tries to reason through his feelings with language, the performance is dominated by the white actor, but when his emotions take over, Mumble is compelled to dance to express frustration, anger, joy, or anxiety, connecting the African-American performer to the non-rational experience of the body. – TANINE ALLISON ⁶

As with most contemporary animated features, the opening credits of *Happy Feet* (...) list the names of the stars who provided voice acting for the film: Elijah Wood, Robin Williams, and so on. (...) however, Savion Glover's name is nowhere to be found in the initial titles or in any of the trailers or ads; the film texts do not acknowledge his contribution as performer or choreographer until the closing credits – where it is not particularly prominent, wedged somewhere between the music arranger and the supervising sound editor. While not as famous as Williams or Kidman, Glover is widely regarded as the best tap dancer of his generation and has starred on Broadway and in numerous films and television shows, from *Tap* to *Bamboozled* to *Sesame Street*. And although he supplies just one piece of a character, this piece – like the voice, the one part the other top-billed performers provide – is essential, especially in these movies that take dancing as one of their central themes. So, why isn't Savion Glover's name more prominent? – TANINE ALLISON ⁷

To understand Savion Glover as merely a highly skilled movement generator, however, neglects how his unique dance style 'is' a form of expression, just as subtle and revealing as acting or speaking. (...) Throughout *Happy Feet*, Mumble dances seemingly involuntarily to express emotion – love, frustration, joy, and so on. (...) But beyond personal communication, dancing becomes a way to unite the community of penguins... Like Mumble, Glover has used dance to express not just personal emotions, but communal experience. His work has sought to convey the history and experience of African Americans. (...) In both dance style and persona, Glover evokes the history of black performance in America, from its regrettable beginnings (the minstrel show) to its most culturally important moments (jazz, dancehall revues, funk). (...) But what are the implications ..., when motion capture decorporealises the performance, eliminating its physical body and applying it to some other, virtual body – in the case of *Happy Feet*, that of a penguin? Is this racially specific dance history – so apparent in Glover's live performance, eliminated by digital technology? – TANINE ALLISON ⁸

Identity is not as transparent or unproblematic as we think. Perhaps instead of thinking of identity as an already accomplished fact, which the new cultural practices then represent, we should think, instead, of identity as a 'production', which is never complete, always in process, (...). This view problematizes the very authority and authenticity to which the term, 'cultural identity', lays claim. – STUART HALL⁹

As Frank B. Wilderson III teaches us, the improvisational imperative is, therefore, "to stay in the hold of the ship, despite my fantasies of flight." – FRED MOTEN AND STEFANO HARNEY¹⁰

A LECTURE ON HUMANITY.

Some time ago, having little or no hope of winning back the respect of my brothers, a respect which, I have to say, was already lost after I moved (or rather, tapped) my first steps, I thought I would swim about a little, and bring myself to see the warm parts of the world. While swimming from land to land, I would certainly be able to discover something about the strange alien species whose presence I had sensed around so many times, and which, I was sure, had been able to accomplish the greatest of wonders: that of making suddenly disappear almost all fish from our wide sea. It was certainly them, the aliens, who had in some way managed to blow out the aquatic population of the Antarctic Ocean, and not the Great PENGUOD outraged by my dancing (as someone had malevolently suggested to my brothers, therefore turning them all against me). But how to prove it? Where were these creatures? How did they look like? Would I be able to communicate with them? And most importantly, would they give us back our cods and shrimps? This species, I was to find out after a long long voyage through frozen and hot waters, was called 'human', and its specimens are scattered across the whole terrestrial surface. Among the strangest qualities possessed by them, the most marvellous and inexplicable is their capacity to neatly define the colour of their bodily upholstery, and to accordingly assign each other status and rank.

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One day, Professor Fanon sat quietly, and in a mild voice asked us to gather around his desk. "Modernity is nothing else than the *mise en fiches de l'homme*. The *fiches* are the records, files, time sheets, and identity documents that together form a biography, and sometimes an unauthorized one, of the modern subject. Control by quantification. Sociogeny is the organizational framework that, in the human condition of modernity, names what is and what is not admitted into the category of the human, according to the data provided by this '*mise en fiche*'." ¹¹ A brief pause ensued, and then Fanon continued, "In particular, blackness is fixed and framed as an object of surveillance, the black body kept under control and discriminated by continuously measuring, recording, annotating data from its qualities and movements: black body as black data." The professor slowly closed the book and started to turn the pages of a journal. At last, folding his hand down upon the proper page, said: "Now go to the third page of Dr. Michael Ralph's article – And yet, in slave insurance policies, human chattel was priced, not according to physical stature (as has often been the assumption); instead, prices were based on the enslaved person's skill set – In this article, Dr. Ralph tells us that, if we take a step back, we see that the slavery epoch was in fact a fertile germination field for the racial control which has since then proliferated throughout modernity. This control machine started to assemble itself from the quantification and pricing of the 'negroes' skills and capacities to work, and from the early mechanism of insurance securities, a mechanism through which different values were respectively assigned to black property and to white lives, on the basis of measurements that defined the latter as more moderate and thoughtful and, therefore, as endowed with a better intellect and constitution, or chance to survive. After the abolition of slavery, the direct calculus of value extraction (or capitalization) from the reified time and activity of blacks was replaced by the use of vital statistics as another mechanism of insurance and indirect control, from which the lives of free blacks emerged as indeed more difficult to assess than those of slaves. In any case, the unquestionable mathematical connection starting to appear between skin colour and criminality rates confirmed, even more than the previous measurements of brain size, intelligence quotient or disease probability, the necessity for a strict surveillance of the black as 'lesser humans'." ¹² He said no more, but closing the journal, remained sitting, till all the students had departed, and he was left alone in the place.

Returning to my hostel, I found my room mate Savion there all alone, as he had left the class before its end. He was sitting on the floor, looking at a photograph of himself in a black suit all covered with sensors. Could the accurate capture of his movements for the making of that film, he wondered, be considered as part of the same apparatus of racial control Fanon had been talking about? Could this modern technological segment be made critically juxtaposable to older practices such as inventories of ships' cargo and the cheek-by-jowl arrangement in the stowage plan of the slave ship, or the synoptic power exercised in slave markets and auction blocks, where the many watched the few? Or even to contemporary racial statistics and profiling? He stood up and took a book from a shelf: Simone Browne, *Dark Matters*. On the Surveillance of Blackness, and started to read aloud: "the surveillant assemblage sees the observed human body "broken down by being abstracted from its territorial setting" and then reassembled elsewhere (...) to then serve as virtual "data doubles," and also as sites of comparison, in the same way in which in credit scores or urinalysis drug testing, one's biological sample is collected and tested for drug use, or when "lie detectors align and compare assorted flows of respiration, pulse and electricity." ¹³ That black suit," he said to me but without looking at me, "made my body really disappear, lose its human shape and become data. It was a proper act of racializing surveillance, as Browne would say. This confirms what Professor Fanon taught us today: it is always the white gaze that fixes a black body as an object amongst objects; the white gaze, the only valid one, has already dissected me." ¹⁴ "But," I objected, "control technologies such as facial recognition utilize the gathered data in order to dissect, recompose and identify a black subject, whereas the motion capture software seemed to ignore or even to completely forget about your blackness." "And yet," he replied, "it somehow managed to steal my movements and to donate them to another body. And there was no live-action footage to prove this." ¹⁵ "It has been argued," I insisted, "that exactly for these technical reasons, motion capture can create a world untainted by categories of physical or racial difference, as it renders such difference irrelevant and deessentializes it: racial identity is not 'visible', and therefore not 'stereotypable', anymore." "Still yet," he replied after a pause, "the movie making machine actually reduced my role to that of a 'mere' mover, perpetuating the white gaze's stereotype of African-Americans as associated to the body and to the non-rational expression of feelings. Motion capture seems to me a tool of dissection and naturalization that leaves these stereotypes unquestioned, exactly because, thanks to it, my presence became invisible and, together with it, all racial issues and body politics were set aside. Motion capture and other digital techniques are therefore implicated in this process of naturalising racial discrimination, by making it ... invisible. The mechanical eyes of sensors and cameras were all on me like tools of racial appropriation, rather than of postracial representation. I feel like I really disappeared, my identity was stolen." ¹⁶

My initial mission to find out the truth about the missing fish in Antarctica and about the responsibility of humans in this fact, was taking me towards an important discovery that made humans even more mysterious and difficult to approach: a technology called motion capture was able to steal their identity. But something, in this argument, did not convince me. Something was missing from Savion's thoughts. The point he was making about the disappearance of his identity felt important, but not really explanatory in this particular case. When I went to bed later that night, lying with my eyes half closed and my mind fully awoken, I could not stop thinking of Steve Mann's definition of the human eye as already being a body-borne camera, of Judith Butler's definition of the racially saturated field of

visibility, and of what Maurice O. Wallace has called the “picturetaking racial gaze” that fixes and frames the black subject within a “rigid and limited grid of representational possibilities.”¹⁷ Suddenly, Savion’s critical words seemed to fall into that very grid: his body was black and, therefore, it had to be seen, recognized as such. I also remembered reading Tanine Allison’s article “Blackface, Happy Feet: The Politics Of Race In Motion Capture And Animation,” and how she reasoned in the same way: whereas a dance style can already evoke the signs of a black performance, the performance needs to remain attached to the corresponding body as its visible persona, in order to preserve a racially specific dance tradition. But, I therefore thought, while it is true that motion-capt-eracing could be considered as a technologically-armed identitarian ‘dispossession’, and while many cultural projects taking place in the land of humans aim at representing people who don’t get the amount of visibility that they deserve,¹⁸ it is recourse to self-possession in the face of dispossession (recourse, in other words, to politics) that represents the real danger.¹⁹ Who said that? It occurred to me that Fred Moten and Stefano Harney had argued something along these lines, in one of their lectures at school. And did not Browne herself talk about dark sousveillance, a tactic to render one’s self out of sight, oversight, as a strategy already used in the flight from slavery? Oversight in the flight from the racial identification of the human (or Glissant’s opacity)? But what was it that the moving digital dots had actually managed to capture, and what had been able to remain oversight, during Savion’s motion capture? Was the neutral physicality of the movement the only thing that got trapped by the digital tentacles, whereas his black identity managed to escape? Somehow, these reflections were giving to the dark mystery of a disappeared identity the more strategic connotation of a flight. Furthermore, such considerations brought to my mind Browne’s concept of dark matter as that thing which, reversing the negative quality of invisibility, brings to the fore opacity, the color black, limitlessness and the limitations imposed on blackness, the dark, antimatter, that which is not optically available, black holes, the Big Bang theory, and other concerns of cosmology where dark matter is that nonluminous component of the universe that is said to exist but cannot be observed, cannot be re-created in laboratory conditions. Its distribution cannot be measured; its properties cannot be determined; and so it remains undetectable. The gravitational pull of this unseen matter is said to move galaxies. Invisible and unknowable, yet somehow still there, dark matter, in this planetary sense, is theoretical. If the term “dark matter” is a way to think about race, where race, as Howard Winant puts it, “remains the dark matter, the often invisible substance that in many ways structures the universe of modernity,” then one must ask here, invisible to whom? Perhaps invisible only to a certain colonizing gaze, hidden behind a certain technology? And if this dark substance that is black is, or manages to be, invisible to some, how is it sensed, experienced, and lived by others? I recalled that Evelyn Hammonds had already taken up the astrophysics of black holes found in Michele Wallace’s discussion of the negation of black creative genius, to say that we can detect the presence of a black hole by its effects on the region of space where it is located and where, unseen, its energy distorts and disrupts that around it. And I knew that Browne had also used this theory as a way to develop reading strategies that allow us to make visible the distorting and productive effects of (...) blackness in general.²⁰ At this point, the question for me was not that of an effaced black body anymore, but had become: What are the effects of blackness on someone’s way of dancing? Can we really talk of a black style in a dance step? And can this style have effects, or be technologically captured, in some way? Soon after posing myself these questions and dilemmas, I fell asleep.

A LOVE STORY THAT STARTS FROM AN EMBARRASSING SITUATION.

The next day, I decided to throw more light onto the question, by visiting an animation studio. After much prolonged sauntering and many random inquiries, I learnt, from a girl named Gloria, that three studios – The Devil-studio, the Tit-bit Studio, and the Penguin Studio – held digital mocap sessions. This girl – a well-known singer that I’d met in a coffee shop and that, quite unexpectedly, seemed to know a lot about animation (‘by personal experience’, as she herself revealed) – told me that the studios would all be open to the public on the following day. While she talked, I noticed she looked more similar to me than all the other aliens I’d encountered so far, and more reassuringly familiar. For no particular reason, I opted for the last studio, and decided to pay it a short visit on the next day. In the meanwhile, I asked Gloria out that night, but my proposal was inevitably rejected. She said she did not like my voice, and felt that my presence was putting her in an embarrassing situation. She did not want to be seen around in the company of a shrilled-voice 3D Sphenischidae.

Choreographer Bill T. Jones was by chance also coming to the Penguin Studio on the following day. He had been invited by the multimedia artists of the Openended Group to do a motion capture session. You may have seen many mocap sessions in your day, for what I know; but take my word for it, you never saw such a rare event. As soon as Jones entered the studio, he started questioning the freedom of abstracted motion apparently allowed by the technology, and added: I do not want to be a disembodied, denatured, de-gendered series of lines moving in a void.²¹ Why would he be so reluctant, I wondered? Another human choreographer who attended the session explained to me that technologies of motion capture emphasize the repeatability of movement as a reproducible object, so that it can be preserved as a digital memory. After being abstracted from the body and dissected into points/dots/bits, the motion is given a new ‘skin’, as it is transferred to an animated character. This operation, she said, gives you time to reflect because you’re doing it bit by bit, whereas live action is all from the gut because there is no time to think.²² Nevertheless, even the most sophisticated software remains inevitably trapped in the infinitesimal maze of all the in-between micro-motions that are always interpolatable between two points or bits, without ever reaching the ultimate goal of a totally continuous or realistic motion. The continuity of the in-between (or the infinity of the real) is motion capture’s main techno-ontological problem. Technology seeking that which is always still missing or non-reproducible, what refuses to appear, neither an identity nor a body, but simply an ultimate point: it is movement itself that escapes the techno-eye, and disappears, replaced by dots and lines. The main incapacity of the motion capture apparatus, therefore, goes even beyond its problematic relation with racial identity and its effacement, as it is as an incapacity to capture movement itself. Some of the most recent motion capture systems do avoid the use of markers, trying to extract the dancer’s whole silhouette from the background; but they still have to calculate all the joint angles through a subsequent application of mathematical models to the silhouette. In any case, the disappearance of movement’s infinitesimal composition from the technological picture remains the main problematic.

Like Savion, Jones had to have a number of markers applied to his body (this time directly taped to his skin), so he asked with perplexity how a couple of sensors could possibly capture all his motion. And here, he added another interesting comment, specifying that his dance was not so ‘angular’ as that of Merce Cunningham, not so dependent on the skeleton and the angles it takes, but made of undulations and quivering of liquid muscle. An incomputable muscular movement, as opposed to a more skeletal, machine-readable one. A stylistic difference coinciding, by chance, with a racial one. After saying this, Jones glanced down at the xeroxed photos they’d placed on the floor, and then he improvised sequences connecting one pose to the next. Six times he ran through the series, each improvisation freer and more fluid than the last. As his exuberance took over, the sweat poured out of him and some of the markers popped off of him. His dance did ripple in waves through his body as his weight kept shifting, and it was true that some of his motion would be near impossible to capture.²³ A sweating and exuberant black body, whose dance was more intensive than geometrical, and therefore impossible to capture.

Nothing more happened in the studio that is worth mentioning; so, after a short run, I safely arrived in a library. I took out an essay on clinical nutrition, and found many supposedly plausible explanations for the black/white movement style differential, in the biological

differences of human body compositions. I read that, in general, blacks have a greater bone mineral density and body protein content than do whites, resulting in a greater fat-free body density. Additionally, there are racial differences in the distribution of subcutaneous fat and the length of the limbs relative to the trunk.²⁴ Could corporeal attributes of density and length be the source for the liquidity of a black dancer's movement? After pondering a bit on such rigorous scientific data, I took out a cultural analysis of black performance history, and learnt that body types are to be considered as cultural artifacts, at least as much as they are natural givens; and also that one of the two types in question above had for a long time been assumed as normative and normal in the history of the human species, being held in the highest esteem; and I finally learnt that a physical incompatibility had often been presupposed to exist between black bodies and a respectable, trackable and understandable form of movement such as ballet.²⁵ One type could therefore escape the digital trap of the motion capture, more easily than the other.

INTERLUDE.

This critical edition of the journal *Computational Culture* focuses on the relation between different modes of computation (as well as different theoretical discourses about them), and on the different anatomical or bodily systems (skeletal, muscular, nerve, etc.) that constitute their experiential basis. To what extent, the editors Nicolas Salazar Sutil, Sita Papat and Scott deLaHunta ask, does corporeal computing contribute to certain bodily systems (or perhaps even body types) becoming the key agents of action in such contexts? To what extent are computational paradigms still dominated by spatial, extensive and quantitative determinations (i.e. the tracking of skeleton, body as a geometric system, kinematic shapes, etc.) that hide other, more intensive, modes of corporeality? Can we respond to privileged systems (the skeletal, the muscular) and body types (so called 'normal bodies') in a critical way?²⁶ Coming back to the more specific example of optical marker-based motion capture, it can be argued that this technological system pre-supposes a quantitatively definable form of movement as a trackable line composed of points, and a simultaneous failure to grasp qualitative pitches or more intensive modes of corporeality. For this reason, dancers sometimes do hate motion capture, and find it extremely embarrassing to dance around in a tight hypertechnological suit that will inevitably miss something of their motion. Not to speak of the privilege of particular body types, and of the biocultural association of black movement with a particular intensity. In such case, the technological failure cannot but be considered as even more remarkable. But what does it really mean, for a dance step, to be black?

CAPTAIN EHEGEL.

In fact, that day at the studio, even Jones could see that the moving dots on the computer screen had caught some sort of essence. ... In other words, there was no one there, but there was someone there.²⁷ The mystery of the disappearing black movement was now becoming one of spectral presence: who, or what, was still alive in the animated ghost of Jones' (and, by consequence, of Savion's) dance? Was this ghost black?

Out of the library, I ran into a second lining parade snaking down the streets of the city and leaving it echoing with its loud aural mark of collective playing and dancing.²⁸ It was one of those grey and gloomy mornings of early autumn, and with a fair wind of sound the parade went rushing through the neighborhood, following a vindicative sort of leaping and a joyful rhythm. As I mounted the central monument stairs at the call of the forenoon watch, and as I levelled my glance to have a better view of the parade, shivers ran over me: there was Captain Ehegel standing in the middle of the street, facing the approaching human snake with contemptuous and defiant eyes. "Black vernacular dance – he was shouting – is the inevitable expression of a natural ability or a natural rhythm that belongs to the dancers' racial identity, and escapes appropriation."²⁹ To the African Americans who composed the parade, the idea of a 'natural rhythm' in fact gave a sense of true belonging, and a sense of exclusion of all those who were not of the same race and who, therefore, did not possess the same rhythmic sensitivity. But upon hearing such words, Tyree Smith, one of the best second liners, came out of the crowd and, with a certain unassured, deprecating humorousness, hinted that "if Captain Ehegel looks better, he will see that the movements of them performers cannot be so easily dismissed as something that comes 'naturally' to them; and that the connection between blackness and naturalness only contributes to the construction of black people as primitive and, therefore, as less than human and closer to nature." In the discourse of white supremacy, he added, the stereotype of natural rhythm has always endured, together with the image of Black people as oversexualized, immoral, and intellectually and culturally underdeveloped savages who know how to dance.³⁰ And yet, while it was clear to Smith that the Captain's assumptions about African instincts reinscribed racist oppression, self-identification as 'natural dancers' was for many others a way to resist that same oppression. Suddenly, a group of South-American youths joined the parade. They tried to imitate the dancers, moving in awkward shapes that, despite their evident virtuosity, did not manage to match the rhythms of the second liners. "How," they asked, "is such a dance to be done?" Everything is OK, second liners replied with a sneer, do watcha wanna!

The morning after the parade, Smith approached me. "Since to understand something in the Western sense, that is transparently and clearly, means to perform an act of cognitive aggression by constructing that thing as an object of knowledge, refusing to be known becomes for us a resistant tactic. The mask of an incomprehensible rhythmic naturalness becomes a tactic. But in fact, our apparently spontaneous steps are not so natural after all. In order to unveil this myth of African naturalness, it is first of all important to recognize the labor and histories that crystallize in each footwork step." He then went on giving me a detailed description of the learning, practicing and coaching involved in second lining rituals, and also of the effects of repeated study and rehearsal on dance.³¹ "Rehearsal is often anathema for second liners; and yet, it is done: dancers pick up footwork from each other, and then refine the moves. A popular method is that of observing others' movements, imitating them, and then altering them to create your own unique style. That's where I came from. That's what created me. From everybody else. It's always basically stealing. That's all you're doing, is stealing different moves."³² Stealing was the first step in the dance practice; the second step was that of tailoring the stolen moves to make them fit one's style. Hours of exercise were devoted to this styling, and moment-to-moment artistic choices were made in time with the rhythms, in order to choreograph carefully crafted footwork with precision, speed, fluidity, until it 'looked' original and natural. The 'someone' in Jones' motion-captured ghost, the 'blackness' in Savion's tap steps, the quality of their movements, was therefore revealing itself not as a natural gift but as an already collective process: a ghost animated by a whole crowd. "So," Smith left me wondering, "What do you think of that now, Mumble? Ain't there a small drop of queerness about human dance, eh? Not only black or white, but also natural or artificial. Spontaneous or trained. Improvised or choreographed. Quality or quantity. Individual or collective."

THE EXILE.

In the meanwhile, I should not omit to say that my adventure among the humans had not really started after my own decision, but was more the outcome of an exile: because of my weird dancing skills, I had been distanced from the collectivity of penguins. At first, I was determined to take this exile as a voyage of redemption that could teach me the true potential of dancing, and how to make it repeatable, imitable, and even usable as an efficacious tool to communicate (not only with my mates, but perhaps with humans too, inducing them to give us back our fish). But, I have to confess, I was now starting to feel quite lost in the unshored, harbourless, mysterious immensity of movement. So, for now, and before continuing with the narration of my peripeties, it is but well to attend to a matter almost indispensable for a thorough appreciative understanding of the revelations which are to follow. I will therefore give my reader some

systematized account of human movement, or of the way in which I was getting to know it through a meticulous study of its anatomical and radically material aspects. Yet, this is no easy task: the classification of the components of a chaos, nothing less, is here essayed.

Movement is not a random event but an organized succession of interdependent steps, say Stephane Dray, Manuela Royer-Carenzi and Clement Calenge, AD 2010.³³ And yet, despite all their precision, movement studies actually know nothing and say nothing about rhythm, that quality of movement which is different from meter, and which gives to a succession of steps its capacity to always differentiate itself. All the different milieus of a moving body (the osteo-articular milieu, the muscular milieu, the perceptual milieu) are constituted by periodic sequences of basic components (such as the sequence of molecules and cells ordered in linear succession to compose skeleton, muscles, organs etc, but also the sequences of coordinated gestures and steps): in Gilles Deleuze and Felix Guattari's terms, "Every milieu is vibratory, in other words, a block of space-time constituted by the periodic repetition of the component."

³⁴ This corporeal and performative linearity is cut across by the emerging of rhythm, a 'differentiator' that throbs beneath the surface: the composition of bones and muscles and their coordinated motions are rhythmicized by a continuous passage of electrical energy which provokes microscopic variations. Along the spatial displacements allowed by a body's anatomical organization (the osteo-articular and muscular system as an architectural frame sustaining and shaping the autocorrelated moving body), a proliferation of myriads of synapses (as critical points of the nervous system) galvanizes the body before consciousness. Under the superficial level of its steps, the body is run through by this energy, myriads of excited molecules as the sites of a microscopic rhythm transferred to the macroscopic movement of arms, neck, torso, legs.

Kinetic competence (or the skill to walk, run, dance) is acquired by a moving body through learning, practice, and an automated acquisition of repeated habits (the 'habitation' of movement). As argued by Henri Bergson, habit is a memory lived and acted in the present: no-one forgets how to walk.³⁵ In the routine steps of a habitual everyday march, improvisations or random movements are not enough to create a difference (as a non-determined emerging of novelty), because their possibilistic appearance derives from an instantaneous choice that has been made among a limited set of behavioural conventions.³⁶ Jerking or slouching oneself does not really generate novelty in opposition to motor habits, as no human body will ever be able to turn its head in a 360 degrees rotation. In this sense, the 'unknown' side of movement is not equivalent to surprise; rather, it appears as a glimpse at every step, either programmed or improvised. The meter of regular, automated behavioural repetitions that shapes human performances is in fact the container of a molecular instability. The very possibility of a carefully crafted choreographic organization (such as second lining) is always immanent to a destabilizing rhythm of microscopic electrical connections between nerves and muscles, while the unity of structure and performance generated by practice is continuously threatened by the disorienting effect of these inter-cellular events.

Deleuze and Guattari's concept of a material 'plane of immanence' defines this co-existence of particles and affects (i.e. the kinetic and dynamic properties, the material meter and the energetic rhythm) of all bodies as a diagram: the repetition of difference, or the combination of repetitive patterns and unpredictable events, attractors and bifurcations, extensive movements and intensive sensations, abstract energetic potentials and the forces vectorializing (i.e. giving a directionality) and qualitatively actualizing them.³⁷ Gilbert Simondon also considered every individual body (for us, a human dancing body) as immanent to the diagrammatic system of its own individuation.³⁸ Drawing on Deleuze and Guattari's plane of immanence, and on Simondon's ontogenetic theory of individuation, we could re-conceptualize a dancing body as a continuously self-individuating system, rather than an already individualized subject. Under this light, the static nature of a notion such as that of 'identity' already finds itself projected in a situation of continuous shift, being always out of phase with a continuous rhythmic variation. And in this sense, the electrical energy that forms the rhythm of a movement or a dance cannot be represented by a whole bodily image (such as the missing persona in Savion's dance), but only articulated through expressive qualities (such as speed), each quality constituting a series that is not sequential (like the meter of steps) but converges towards a limit (for example, the infinite degrees of speed in a tap dance). The expressive gradation of qualities generates a sort of 'experiential calculus'. A branch of mathematics introduced in the 17th century by Leibniz and Newton, calculus in fact deals with the gradations of the material world, incorporating them into approximate quantities. We could thus say that speed is 'calculated', not in a choreographic but in a corporeal sense. In other words, a speed can never be delimited as a definite quantity (or defined as a circumscribable attribute) but is always expressed by an infinitesimal cipher contained between two variables. This is nothing else than a scientific definition of feeling, which amplifies the technically and humanly limited understanding of experience as a mere elaboration of data (steps as 'objects of conscious perception and knowledge'), by putting the data in relation to events (the shifting infinitesimal or the differential of speed, in the relation between the two variables of velocity and acceleration, cannot but be felt). Speed is first of all a feeling or, as Alfred N. Whitehead would put it, the passage of infinitesimal degrees or quanta of energy between bodies (between instrument and air, between sound and dancer, between dancer and audience), in a sort of immediate reciprocal calculus.³⁹ This qualitative mediation between bodies is a very different concept from the epistemological mediation of objective perception conceived by Friedrich Hegel as a way to look for recognizable 'personifications'. It is, in fact, a mediation which ultimately does not mediate between preexisting entities (faces, bodies, id/entities) but 'immediates' their constitution: the 'immediation' of speed as the energetic metamorphosis, mutation or modulation, the molecular shift in feeling, that creates the dancer as an occasion of experience. From this point of view, the question that still remains to be asked is whether the notion of speed as an immediating feeling in dance, can also generate a calculus (rather than a representation) of race. Can a racial belonging of dance steps be made to coincide with a qualitative feeling such as speed? This question, it seems, could be better approached by addressing once more the perceptual power of digital machines.

Every digital machine, be it a CCTV camera, a flying drone, or a motion capture software, in its turn is a body with a particular vision of the world, a vision that follows the logic of a precise algorithm, as a simplified version of the real acquired through calculation: a body with a digital style, whose eye is guided by a mathematical idea.⁴⁰ The abstract but very peculiar potentiality that lies behind the materiality of every computer, is simply the idea to cut or discretize events into numerable entities (bits, pixels, points or dots) and to recombine them, ad infinitum. In fact (as Leibniz already thought), in order to simplify things everything can be represented as binary mathematical information: building one of the first computing machines in history, he dealt through it with issues of complexity and casuality, transducing them into a digital algorithm. But can the rhythmic complexity of a dancing body that is actually imageless (because it has been motion captured, but also because of its own electrical unrepresentability), and can also the mystery of the disappearing blackness of that same body, become a number?

THE HOLD (OR THE CORE).

It was during the most pleasant weather, that my own capture happened. One day, I was lying asleep, sunbathing on a warm southern beach of the human land, when I suddenly found myself awake and tied in a huge truck, together with dozens of lions, chimpanzees, koalas and tapirs. I was then quickly transferred, this time all alone, into a magnificent cold cage, one in which the immense view of the antarctic landscape that seemed to delimit the refrigerated space, did not actually lead to any vast openness of ice, but only made me bump my forehead against the hard surface of a holographic wall. I was soon to find out that the cage was nothing else than a ship's

hold. As Moten and Harney write, there are flights of fantasy in the hold.⁴¹ And so it was that I was left in/on the hold, in the break, in the place where feelings are generated: my own identity was being put on hold. As I began to madly dance in order to express my fear and rage, a little baby-human who had lost herself in the hold of that giant cruise ship saw me, her eyes full of wonder, and timidly called, "Oh, the penguin's dancing!"... From that moment on, I had the whole human world's eyes on me. In order to understand what I was trying to do or say, experiments of motion capture were performed on me, this time not in order to make a film out of them, but to decipher the captured data and understand their meaning or sense.

While being on hold, therefore, I started to better understand this system of motion capture, both through study and through direct experience. The sensors placed on my body transformed the articulation points of my movements into sets of binary digits, afterwards allowing for infinitesimal algorithmic operations to be launched from the same numerical matrix (which is the way movement itself works anatomically). This numerical calculation of the machine was transduced to human perception as a particular feeling, when their eyes perceived the trembling and 'jittering' effect due to the capture of the microscopic details of movement by the hyper-sensitive motion capture apparatus. In this way, the imperfect representation of my movement could reveal the machine's potential to grasp the illusory character of the linearity of that movement, and its composition by myriads of other tiny movements happening at the same time under the surface, as little germination points of possible parallel motions. Rhythm, as a continuous overflowing of parallel lines of movement from a unique route, was at least, if not totally captured and shown, given a chance to be intuitively perceived. Extracting a clear zone from a noisy and chaotic background, the machine operated, in cyborgian symbiosis with human perception, a passage of feeling from one level of reality to another: from the micro to the macro (and back again).

An interesting theoretical clarification on the effects of digital machines was offered by Patricia Clough's article 'Rethinking Race. Calculation, Quantification and Measure'; in this essay, which I was able to read during my long voyage, Clough argues that the current regime of calculation facilitated by twenty first century media calls into question assumptions about human experience, consciousness and bodily perception, as well as agency, historicity, system and structure. The article quotes Mark Hansen, who notes that twenty first century media no longer store human experience as such; rather, they store the bits of data that "register molecular increments of behavior" that are never an expression of lived human experience. (...) [A]s such, twenty first century media have shifted from "addressing humans first and foremost" to registering "the environmentality of the world itself," providing a "worldly sensibility" that is prior to human consciousness and bodily based perception and re-embeds "consciousness in a far richer context of the causally efficacious lineages that have produced it. (...) The datafication of twenty-first-century media shows that consciousness and bodily-based perception are accomplishments that involve "the coexistence of multiple experiential presents – multiple, partially overlapping presents from different time frames and scales."⁴² Another article, written by Jennifer González, in its turn argues that a desire for racial neutrality transpires from Hansen's molecular disinterest for human experiences and identities, which leads to the repression of all cultural differences. And yet, since, as González also claims, such difference is generally reduced to appearance, or to the domain of visual signs (where the disappearing blackness of Savion Glover becomes more evident), Hansen's notion of a digital registration of experience and of its molecular 'environmentality' could be taken up by Clough, precisely as a way to decouple the discourse of race from vision and the visible, and to undo the power of its oppressive regime. Beyond the invisibility of face and body, racial formations, as González also argues, can be found at a more microscopic level, constituting a sort of 'environmentality of race'. A feeling of race. In the meanwhile, it was the feeling, or the idea, of 'something more', something only molecularly perceptible and explainable, in my dances, that convinced those intelligent creatures, the humans, to pay more attention to my movements, and to understand where they came from. So it was that they gifted me with a nice GPS tracking system, and followed me in my trip back home. This time, I was travelling not in the hold but on the deck.

ME AND KODWO.⁴³

The DJ Set – Farewell from the Humans.

(DJ [ALSO DIRECTOR OF THE CCMS], STANDING, BEFORE HIS DECK, AND BY THE LIGHT OF A GIANT STROBOSCOPE BUSILY SCRATCHING THE TURNTABLES WITH HIS LONG QUICK HANDS. SYNTHESIZERS, ANALOG AND DIGITAL SOUND MACHINES OF ALL KINDS, BUTTONS, SWITCHES, NEEDLES, MICROPHONES, SCREENS, OSCILLOSCOPES, LEVERS AND TOOLS OF ALL SORTS LYING ABOUT. THE FANTA-FUTUR-ASTIC SOUND OF EARLY 2000'S DUBSTEP CAN BE HEARD, WHEN THE DJ IS AT WORK.)

'If you got funk, you got style

You're funk'in' and you're styling all the while

When you got funk, you got class

You're out on the floor movin' your ass'⁴⁴

ME (ADVANCING)

(DURING THE ENSUING SCENE, THE DJ CONTINUES SINGING AT TIMES)

"Well, soundmaker!"

"Just in time, bro! If you please, I will now try out on you my new beat. Let me play it!"

"Makes me move like an animatronic figure! Good. Well, it's not the first time. About it! There; keep your finger on that record. So, so; it does abduct me."

"Oh, bro, I'll tell you why: sound and dance are both synthed out from loads of minuscule dark vibrations. This idea will also help you understand what microscopically happened during that in-famous mocap session.

Your tap dance step was captured and re-appeared in different contexts of the Happy Feet movie. It metamorphosed from a socially unsuitable compulsion to the liberating solo of a penguin, from the blasphemous subcultural entertainment of a youth gang to a contagious social practice involving the whole community of penguins. What the capture really performed was a sort of step science, a machinic apparatus that allowed an isolation of the step, extracting it and making it portable (in the same way in which my breakbeat performs a motion capture of the beat). Synthesizing and virtualizing your human body, capturing its motion, it was possible to grab the electrical potential that is fractally contained by it, severing it from that body, materializing it as a portion that can be repeated. Movement became thus literally granular, a microkineme. Instead of supposedly draining the blood of your life, and instead of leaving your dancing body vivisectioned in analysis, this technological operation intensified sensations, becoming a true science of 'sensory engineering'. The intensification appears every time the spectator allows herself to be captured by those tiny moments of time, by those little quick steps, to be abducted by them, by a sequence that can be only a few seconds long. So if the old idea of a performative norm tells us that head comes before body, and also that vision comes before sensation, narrative before movement, identity before feeling, skeleton before nerves, beats before rhythm (in proper, true, respectable performances), this hierarchization of the body is scrambled and overcome via the kinaesthetic abduction of one electrified step."

"But isn't it still important to be able to define a step as belonging to a communal 'black culture'?"

"Not in the way you imagine! Actually, I propose to let go of the definition of 'black culture' altogether, and instead to think of 'community' in a more freefloating form: to think of the various strange attractors that agglomerate things, various inertia-producing forces that centre,

that attract material to the centre, calcify it, petrify it, solidify it, reterritorialize it, making it into a tradition, or a history. Black culture appears, from this point of view, as a series of materials and techniques that have been agglomerated. You cannot think of a black culture out of which everything comes, because everything is synthesized, drawn together. Instead of talking of black culture, we can talk for example of tap dance as a particular Afro-American trait. Tap steps as a black technology, a black assemblage machine. Which means that it is a movement that produces an identity, and not the other way round: Savion is black, but Mumble is an anima-tronic figure emerging from his movements. And this is exactly the way in which race was borne by the motion capture technology. During the session, the emerging quality and speed of your steps shaped a style. This rhythm, through its appearances and disappearances, delineated a sort of autonomous character. We could say that the series of your steps (the 'motifs' of the dance) 'conquered its own plane', becoming autonomous from both the dramatic action and the active character of the film: "Instead of the motif being tied to a character who appears, the appearance of the motif itself constitutes a rhythmic character."⁴⁵ A stylistic character made of rhythm. Your identity did not disappear, but was simply replaced by this character, who really managed to escape the capture and to emerge across the digital grid. Scrambling the possibility of associating the rhythmic character with a precise 'identity', we can finally open the space of cultural production on to an indefinite zone of creativity that exceeds the interplay of meanings and representations."

"Ok, so I am him and he is me... Alright. Now I clearly see. We're one and the same rhythm. We could say that our movement style is an information pattern travelling between us. But this promiscuity between the real man and the 3D penguin is dangerous, a true denial, a disavowal of the necessity to articulate political demands about race! Your method is too abstract, an approach that is of little use when it comes to the articulation of a pragmatic political answer to racism. As if the question of race had been already dealt with! And, as if this wasn't enough, your words suggest me a sinister attunement to late capitalist enterprise culture and its complicit partaking in neo-liberal versions of multiculturalism, as any clear reference to race seems to progressively liquefy."

"Not quite so. I am not ignoring discrimination, but trying to re-articulate its critique through a different set of concepts. Instead of repeating the story of the black race as victim or object of technology (and of its capturing gaze), we should recuperate the traces of a long tradition of anti-humanism in black culture, complicating the stable frame of 'the human' as interpellative and performative function, exactly through technology. This cyborg fantasy would revert the implications of the status of 'non-human' creatures attached by racism to black people, in order to creatively address blackness in its recombinant character. Since race is a shifty amalgamation of human bodies and their appearance, genetic material, artifacts, landscapes, music, money, language, and states of mind, it is a complex dissipative system, a material interlocking of heterogenous components in turn stabilized in a certain asset, but continuously differentiating through new little connections and flows. Race could therefore be perceived the way complex systems are: starting not from a visible body with an image and an identity, but from their micro-dynamics of organization, their machinic assemblage, for example through dance steps. This 'molecularization', or 'molecular calculus' of race enabled by motion captured steps, was missed by some spectators who, instead, perceived only a 'disappearance' – a denial or disavowal of race. But in fact, we can leave behind the intent to approach the question of race with the aim to fulfill a desire to be visible, to express political resistance by way of a struggle for self-expression and of a desire to speak 'the truth' to a hegemonic power whose main interest lies in strangling the 'subalterns' between the oscillating poles of 'truth bearer' and 'victim'. We can think of subjectivities as being first of all constituted 'energetically': as Elizabeth Grosz says, subjectivities are [...] structured not only by institutions and social networks, but also by impersonal or pre-personal, subhuman, or inhuman forces, forces that may be constructed as competing microagencies rather than as the conflict between singular, unified, self-knowing subjects. Well, I like this idea. I like the idea of race as a molecular technology of vibration and virtuality that structures political micro-agencies. I like the idea of blackness as a 'rate of vibration', as Beatrice Ferrara also says. Blackness as a 'calculated feeling'. Being robbed of one's own identity, being broken down in one's own physicality and reassembled as digital data, is an event that can be strategically reappropriated. There is a particular quality of sound, a particular speed of movement, and, if you take out the identity, this quality 'could' be black. The political point is exactly the impossibility to distinguish a visible body image and its cultural identity."

The humans had decided to release me back to my community, and that is where, after the incredible adventures I have here narrated, I lastly managed to return, under the promise to guide them to our abode through the GPS. What I brought with me, apart from the technology, was the unveiling of a mystery: the same human species had had the capacity to starve us through overfishing, but it was also able to cybernetically connect itself to digital machines in order to amplify its perceptions. So when, after following my path, they arrived to Antarctica, all the penguins, trusting the human ingenuity I had so much praised, started to dance with me, and let themselves be motion captured. And so it was that the humans finally 'felt' what we had to tell them and gave up fishing, restoring our food supply. I even managed to conquer the love of a she-penguin named Gloria, with whom I am still happily married and with 15 children.

EPILOGUE

The drama's done. By assembling and following a parallel movie-plot, the scholar solved the mystery: motion capture did not limit itself to preserving kinetic specificity while covering or e-racing the bodily traits of racial identity (and its discrimination). Savion Glover's body was neither erased nor usurped of its style. Rather, the opposite can be claimed, highlighting the multiple creative potentialities of motion capture as a tool of postracial expression and a differential movement marker, in cooperation with the immediate datum of human perception. It is therefore possible to counteract the cultural or technical racism implicit in the bodily homogenization of most contemporary expressive forms (such as indeed the *Happy Feet* movie) through a new speculative conception (or a 'molecular calculus') of race as a feeling emerging and exceeding the perception of motion captured tap dance steps: from 'it is black', to 'it could be black'. If Kodwo Eshun highlights the potentiality of sounds without sources, and of effects without causes, the same potential can be found in movements without bodies. Such arguments will clearly provoke a certain skepticism, even outrage, not to say (as Eshun in fact says), annoyance, for their dismissal of identifiable subjects. A real irritation, but also a real relief, once we unseize, unclench our sensorium, leaving all that stuff behind, and start again from the pleasure principle, start again from what really gives people pleasure: a tap dance step. As Glover replied to a preoccupied interviewer: "I was just so excited that someone was putting dance in the movie," "I didn't ask any questions. I was just going on the strength of tap-dancing — someone wants tap-dancing." [47]

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Bio:

Stamatia Portanova is a Research Fellow at the Università degli Studi di Napoli 'L'Orientale' (Naples), where she is also a member of the Technocultures Research Unit. Her research focuses on philosophy, digital culture and the aesthetics of movement. She is the author of *Moving without a Body. Digital Philosophy and Choreographic Thoughts* (MIT Press, 'Technologies of Lived Abstraction' series), and of several articles published in books and journals such as *Body and Society*, *Computational Culture*, *Space and Culture*, *Fibreculture*, *Angelaki* and *Inflexions*. She is a member of the Senselab, a Montréal-based interdisciplinary laboratory on research-creation directed by Erin Manning and Brian Massumi, focusing on intersections between philosophy, technology and art through the sensing body in motion.

Notes:

1. For a definition of 'identity', see "Merriam-Webster," accessed June 19, 2017, <http://www.merriam->

- webster.com/dictionary/identity/. ←
2. For a definition of style, see “Merriam-Webster,” accessed June 19, 2017, <http://www.merriam-webster.com/dictionary/style/>. ←
 3. For a definition of ‘movie’, see “Merriam-Webster,” accessed June 19, 2017, <http://www.merriam-webster.com/dictionary/movie/>. ←
 4. For a definition of motion capture, see “English. Oxford Living Dictionaries,” accessed June 19, 2017. https://en.oxforddictionaries.com/definition/motion_capture/. ←
 5. For a definition of discrimination, see “Cambridge Dictionary,” accessed June 19, 2017, <http://dictionary.cambridge.org/it/dizionario/inglese/discrimination/>. ←
 6. Tanine Allison, “Blackface, Happy Feet: The Politics of Race in Motion Capture and Animation,” in *Special Effects: New Histories, Theories, Contexts*, ed. Dan North, Bob Rehak and Michael Duffy. (London: CFI, 2015), 201-218. ←
 7. Allison, “Blackface, Happy Feet,” 203. ←
 8. Allison, “Blackface, Happy Feet,” 205-206. ←
 9. Stuart Hall, “Cultural Identity and Cinematic Representation,” in *Black British Cultural Studies. A Reader*, ed. Houston A. Baker Jr., Manthia Diawara and Rith H. Lindeborg (Chicago: The University of Chicago Press, 1996), 210. ←
 10. Stefano Harney and Fred Moten, *The Undercommons. Fugitive Planning and Black Study* (Wivenhoe: Minor Compositions, 2013), 94. ←
 11. Frantz Fanon quoted in: *Simone Browne, Dark Matters. On the Surveillance of Blackness*, (Durham: Duke University Press, 2015), 5. ←
 12. Michael Ralph, “‘Life... in the Midst of Death’: Notes on the Relationship between Slave Insurance, Life Insurance and Disability,” *Disability Studies Quarterly*, 32-3 (2012), accessed June 19, 2017, <http://dsq-sds.org/article/view/3267/3100>. ←
 13. Browne, *Dark Matters*, 16. ←
 14. Franz Fanon, *Black Skin White Masks*, (New York: Grove Press, 2008), 95. ←
 15. As, Allison argues, was the case with *Minnie the Moocher*, an old Betty Boop film, in which Cab Calloway’s racial identity, coinciding with his singing and dancing, was not only represented but made recognisable as an object, and wearable like a costume, through a live action footage of the motion capture. ←
 16. Allison, “Blackface, Happy Feet,” 221. ←
 17. Browne, *Dark Matters*, 20. ←
 18. Such as that of Niv Acosta, on the invisibility of the black in both science fiction and disco. (see Antwaun Sargent, “Sci-Fi And Twerking Explore The Black Body In This Performance Art Series,” *Vice* blog, January 27, 2016, <http://thecreatorsproject.vice.com/blog/niv-acosta-discotropic/>) In the opening scene of a recent performance of *Discotropic* at the Performance Space 122’s *Coil* performance festival, the artist and a series of dancers begin to “twerk” and then go on for 15 minutes. The artist claims: “We are using ‘twerking’ not just as a meditative practice but also as a way to effectively throw at the audience the notion of ‘twerking’ as a movement owned by the black folks in the space.” ←
 19. Harney and Moten, *The Undercommons*, 17. ←
 20. Browne, *Dark Matters*, 9. ←
 21. The motion capture of Bill T. Jones by the Openended Group for the performance of *Ghostcatching* is a real event, and the facts reported here were extrapolated from the artists account of the event in: “Steps,” Paul Kaiser, accessed June 19, 2017, <http://openendedgroup.com/writings/steps.html/>. ←
 22. Bill Desowitz, “Getting Animated Over Happy Feet,” *Animation World Network Blog*, November 17, 2006, <http://www.awn.com/animationworld/getting-animated-over-happy-feet>. ←
 23. See “Steps”. ←
 24. Dale R. Wagner and Vivian H. Heyward, “Measures of Body Composition in Blacks and Whites: a Comparative Review,” *The American Journal of Clinical Nutrition* 71-6 (2000): 1392-1402, accessed June 19, 2017, <http://ajcn.nutrition.org/content/71/6/1392.full/>. ←
 25. Lynne Fauley Emery, *Black Dance, from 1619 to Today*, (Princeton: Princeton Book Company, 1989). ←
 26. The call for papers of this issue can be found at “Computational Culture.” Accessed June 19, 2017. <http://computationalculture.net/cfps-events/> ←
 27. See “Steps.” ←
 28. For a definition of second-lining, see *Wikipedia*, accessed June 19, 2017, [https://en.wikipedia.org/wiki/Second_line_\(parades\)/](https://en.wikipedia.org/wiki/Second_line_(parades)). ←
 29. Rachel Carrico, “Un/Natural Disaster and Dancing. Hurricane Katrina and Second Lining in New Orleans,” *The Black Scholar. Journal of Black Studies and Research*, 46-1 (2016): 27-36, accessed June 19, 2017, <http://www.tandfonline.com/doi/full/10.1080/00064246.2015.1119636?src=recsys/> ←
 30. In Obama’s speech, it was made clear that the disaster was caused by infrastructural failures with uneven effects determined by racism and structural inequalities. These comments reflect an awareness that natural disasters are unnatural, and that the disaster rhetoric, as well as the spontaneity rhetoric, veils racism. “As is now widely understood, Hurricane Katrina may have been unpredictable, but the fact that black and poor residents suffered more losses than white and wealthier residents was not. The federal, state, and local governments’ systematic neglect of flood protection systems and coastal wetlands disproportionately jeopardized the Gulf Coast’s poor and working-class African Americans.” This was not new in New Orleans’ history, where black residents have always lived on marginal land, flood-prone areas of low property value and substandard public services. Carrico, “Un/natural Disaster.” ←
 31. In the case of New Orleans’ second lining practice, the training and rehearsing occurs in backyards, kitchens, and other spaces, with the encouragement and criticisms of family and friends. Associations hold practices for their members, in order for them to perform enviable footwork and choreographed phrases in precise formations. Carrico, “Un/natural Disaster.” ←
 32. See Carrico, “Un/natural Disaster.” ←
 33. Stéphane Dray, Manuela Royer-Carenzi and Clément Calenge, “The Exploratory Analysis of Autocorrelation in Animal-Movement Studies,” *Ecological Research*, 25-3 (2010): 673-681, accessed June 19, 2017, <http://link.springer.com/article/10.1007/s11284-010-0701-7/>. ←
 34. “Thus the living thing has an exterior milieu of materials, an interior milieu of composing elements and composed substances, an intermediary milieu of membranes and limits, and an annexed milieu of energy sources and actions-perceptions.” Gilles Deleuze and Felix Guattari, *A Thousand Plateaus. Capitalism and Schizophrenia* (London: Continuum, 2002), 313. ←
 35. Henri Bergson, *Matter and Memory* (New York: Zone Books, 1991), 80. ←
 36. “The improvising dancer takes back and forth between the known and the unknown, between the familiar/reliable and the unanticipated/unpredictable.” Ann Cooper Albright and David Gere, *Taken by Surprise. A Dance Improvisation Reader* (New England: Wesleyan University Press, 2003), 3. Dance theory often puts the accent on the notion of unpredictability as related to improvisation as a particular dance style, a genre distinguishing itself among the others for the lack of a pre-existing choreography. Yet, I would like to highlight how improvisation only succeeds to obtain unpredictability of motion at the macroscopic level of what

- has already been actualised, escaping the guidelines of choreography but still resulting from bodily acquired habits, capabilities and subsequent decisions. Rather, the virtual unpredictability of every movement, in itself endowing the body with the potential to mutate and pass the threshold of its own anatomical stratification, will be explored here. ↩
37. As Jose' Gil, philosopher and commentator on Deleuze and Guattari's work, argues, forces are individualised, codified and vectorialised energies entering reciprocal relations of attraction and repulsion. These virtual, topological heterogeneities tie up the consistency of rhythm and its machinic functioning, as a tension between limited actualisation and unlimited potential, between matter and actual beings. See José Gil, *Metamorphoses of the Body* (Minnesota University Press, 1998). ↩
 38. Gilbert Simondon, *L'individuazione psichica e collettiva* (Roma: Derive Approdi, 2001). ↩
 39. Alfred North Whitehead, *Process and Reality* (New York: The Free Press, 1985), 116. ↩
 40. Gregory Chaitin, *Meta Math! The Quest for Omega* (New York: Vintage, 2005). ↩
 41. Harney and Moten, *The Undercommons*, 94. ↩
 42. Patricia Ticineto Clough, "Rethinking Race, Calculation, Quantification and Measure," *Cultural Studies, Critical Methodologies*, 16-5 (2016): 435-441, accessed June 19, 2017, <http://csc.sagepub.com/content/early/2016/06/24/1532708616655760.abstract/>. ↩
 43. This dialogue is the result of a combined rewriting of Kodwo Eshun's essay "Motion Capture," published in "Cybernetic Culture Research Unit," accessed June 19, 2017, http://www.ccruc.net/swarm1/1_motion.htm/ and Beatrice Ferrara, "My Measurement of Race is Rate of Vibration": Afrofuturism and the 'Molecularization' of Race," *Dark Matter*, 29 November 2012, accessed June 19, 2017, [http://www.darkmatter101.org/site/2012/11/29/my-measurement-of-race-is-rate-of-vibration"-afrofuturism-and-the-'molecularization'-of-race/](http://www.darkmatter101.org/site/2012/11/29/my-measurement-of-race-is-rate-of-vibration). The decision to leave most of the texts untouched, instead of paraphrasing them, is due to the aim of obtaining a particular stylistic quality of the dialogue between the protagonist and Kodwo Eshun, from the mix of the two essay's own styles. ↩
 44. Funkadelic, *If You Got Funk You Got Style*, produced by George Clinton, 1976. ↩
 45. Deleuze and Guattari, *A Thousand Plateaus*, 318-319. ↩

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