

Response to Sam Plagerson's Slo-Mo Presentation - November 2018

I would like to start off by reflecting upon the appearance of the 3D image-model as it is experienced as both a digital display and as a 3D model, in order to see what this might reveal to us about the nature of photogrammetry in particular. In so doing, I will attempt to remain within the space opened up by this dichotomy between photography and sculpture as Sam has set it up here, one of Sam's principal arguments being that photogrammetric 3D image-models oscillate between "between a sculptural transformation and their referential photographic moment". Yet, it is important to underline the fact that these image-models also present their own unique style which resists being reduced to either of these two forms.

When we view photogrammetric image-models, one of the qualities that stands out most immediately perhaps is their absolute luminosity or shadowlessness. This "starkness" is most notable when the image is viewed on screen, and all the more prominent when the image is of a human subject. The effect is produced because when the sitter takes their place within the light stage, three flashes of light engulf the subject from all angles at once. This occurs over the course of a roughly four-second capture. The luminosity of the photogrammetric situation provides each camera with the clearest possible view from all possible angles, and when the resulting image-model is viewed later on, these conditions have become sedimented in the very surface of the image-model itself.

In *Phenomenology of Perception*, Maurice Merleau-Ponty remarks that lighting in photography is "badly reproduced" because it is transformed by the photograph into a object. The light of a lamp or candle is no longer seen through as "an immaterial entity exploring the darkness and picking out objects", but rather, "it becomes solidified and can no longer display to us the object at its far end".¹ Photogrammetry could not represent light in this way, for a torch's beam would be reduced to the

¹ Maurice Merleau-Ponty, *Phenomenology of Perception*, (London, New York: Routledge Classics, 1945/2002),, 302 - 303.

glare of its bulb from within the absolute luminosity of the photogrammetric situation. Nevertheless, Merleau-Ponty's comments do draw our attention to how the photographic foundations of the process will objectify light's presence in the space and imbue it with a quality resembling material form. The light coalesces with the sitter's skin, clothes and hair, and this gives rise to a distinctly photogrammetric surface. The starkness of the image-model before us should be regarded as an expression of the photogrammetric situation itself therefore.

Of course, this effect is less evident when the image is then printed out as a 3D model, for when it is put on display, most lighting situations would give rise to shadows being cast over some part of the model's surface. This does not necessarily mean, however, that the model is then relieved of its starkness altogether. For this luminosity persists beneath the shadow cast upon it as an intrinsic feature or inherent quality of the model-image, just as it does when it is viewed on screen. In much the same way as shadows in photographs persist even when the photograph is well lit in a gallery, so any shadow that falls upon the model's surface in a similar situation will only ever be cast upon an inherently shadowless and luminous surface.

For we tend to see the qualities of an object through or in spite of shadows. They do not undergo the same transformation as occurs to light in the photograph. As Merleau-Ponty remarks elsewhere in *Phenomenology of Perception*, when two sheets of white paper lie flat on a desk, one under the light of a lamp and the other under a shadow, each appear to retain an equal whiteness for the person sitting at the desk, in spite of their contrasting situations, which do in fact distinguish them in terms of their appearance.² However, we only really come to recognise their shades as being distinct when we adopt an "analytic attitude" in relation to them.³ This occurs when we take a step back from the world and towards the gaze itself, in order to ask ourselves precisely what it is that we see. The analytic attitude separates "the region under scrutiny from the rest of the field" and

² Merleau-Ponty, *Phenomenology of Perception*, 262.

³ *Phenomenology of Perception*, 262.

interrupts the “total life of the spectacle”.⁴ The qualities registered by the analytic attitude represent more “the peculiar product of an attitude of curiosity or observation”.⁵ The analytic attitude’s thirst for detail and access to the concrete order of things is quenched by photography in so much as it holds the capacity to reveal the everyday world anew, and capture much of what tends to be overlooked by everyday, lived perception.

Susan Sontag remarks towards the end of *On Photography* that “the force of photographic images comes from their being material realities in their own right, richly informative deposits left in the wake of whatever emitted them, potent means for turning the tables on reality—for turning it into a shadow.”⁶ This revealing that is realised through the photographic process harbours both an informative and aesthetic potential, informative in so much as the facticity of the photograph can lend itself to the sciences as evidence, and aesthetic in so much as it makes objects of the qualities of things.

Nevertheless, the photograph does of course have its own limitations, the most obvious being that it is limited by the camera’s point of view upon that which it captures. A second would be its incapacity to capture movement. A third is the fact that the contents of the photographic image lack what might be described as intentional meaning. What is meant by this is the situational relation which binds us to the phenomena that we dwell in the world alongside, which resonates through our engagements with the other people and things present there alongside us. Whereas, as Casey points out, the photograph “allows the thing to become expressly an image: to step forward into an explicitly imagistic format” as Casey says.⁷

Photogrammetry might well be interpreted as an attempt to overcome the first of these limitations.

⁴ *Phenomenology of Perception*, 263.

⁵ *Phenomenology of Perception*, 263.

⁶ Susan Sontag, *On Photography*, (New York: Rosetta Books, 1973/2005), 141.

⁷ Edward Casey, *The World at a Glance*, 393.

This is achieved by software merging clusters of data lifted from across an entire series of photographs as they relate to specific features of the sitter. As a rule, sections of these images are collated and aligned when correspondences are identified on two or more photographs. These clusters are then stitched together by the software to create a “feature-map” of the subject. As such, the 3D image cannot be reduced to a sum of the initial snapshots fed into the software. For once processed, the digital information contained within those snapshots is effectively dissolved into larger reservoir of data for the software to sift its ways through. It might even be argued that these photographs cease to function as photographs in the traditional sense at all, in so much as their inherent representational limitations, such as their fixed point of view as it is anchored within in a clearly marked edge and flat surface, are shed.

With this in mind, we might also question the extent to which the photogrammetric capture can be considered photographic. The luminosity of the situation comes about as a direct consequence of the attempt being made to overcome the physical and perspectival limitations of photography. This requires that an entirely new form of capture be staged which cannot be reduced to the sum of its component parts either. The shift from the traditional portrait capture, whereby the sitter engages with a camera and photographer directly, and where a human relation is cultivated, to a light stage, where the structure has to actually be stepped into by the sitter, is undoubtedly of significance to the image which emerges. Indeed the light stage represents a place of sorts, often with room enough for only one to enter, which cuts the subject off from the world ongoing around it. The three-hundred-and-sixty degree capture dis-orientates the sitter in so much as there is no particular aspect of their figure to which this capture is orientated and no background appears in the final image apart from a certain resonance of the conditions of this situation. Just as the skin of the image-model expresses the luminosity of the situation, so the sitter’s perceived posture and facial expression could be interpreted as an expression of their “implacement” there within this strange new environment. The term “implacement” here refers to the sitter’s embodied presence within this luminous place-like structure, and their being consumed entirely by the gaze of multiple snapshots being triggered around them. For as Benjamin tells us, “it is another nature that speaks to the

camera than to the eye: other in the sense that a space informed by human consciousness gives way to a space informed by the unconscious”, by which he means the “optical unconscious” as is discovered through photography.⁸ This encounter is both culturally and historically sedimented and its pursuit would undoubtedly prove extremely revealing with reference to photogrammetry.

The question of the sitter’s experience and expression from within the light stage leads us back to the other two limitations of photography, that relating to its incapacity to capture movement and its lack of intentional meaning. The feature-map is only possible because the software can recognise correspondences between multiple shots taken from different points of view, and necessarily draws from different moments in the capture-sequence in order to achieve this. This amounts to a “temporal reordering” as Sam has described it. What Sam’s approach also brings to our attention is the fact that because the sequence needs to be re-ordered, certain anomalies will arise as a consequence of the sitter’s movements within the light stage. As a consequence, clusters of data relating to specific features of the sitter won’t fit together. When this movement is significant, to such a degree that the software can no longer correct the dissonances that arise, then the image begins to break down. At its most extreme, the outcome is then a sort of block-like, low-resolution mass or surplus that needn’t cover large areas. What are we presented with here? Is this a photogrammetric expression of movement that we see in these breakdowns of the image? And if we read this movement as expressive, then might we interpret these disturbances on the surface of the image-model as the sitter’s own expressivity breaking through the photographic-like cohesion that photogrammetric process tends towards?

In *Eye and Mind*, Maurice Merleau-Ponty responds to the same conversation between Rodin and Gsell as Sam has already outlined at the beginning of his paper. Merleau-Ponty concurs with Rodin that what the artist produces can be more truthful than the photograph because the artist’s work overcomes the fixedness of the image or thing that they produce by *implying* movement. He says of modern painting that it has “made itself a movement without displacement, a movement by

⁸ Walter Benjamin, “A Short History of Photography”, 243.

vibration or radiation”.⁹ Whereas the photograph petrifies the image, and in so doing, “keeps open the instants which the onrush of time closes up forthwith; [and] destroys the overtaking, overlapping, the “metamorphosis” [Rodin] of time”, painting (although we might also infer sculpture here) makes time’s metamorphosis visible. In agreement with Rodin’s claim that the movement of a body is given when the “the arms, the legs, the trunk, and the head are each taken at a different instant”, Merleau-Ponty asserts that because the painter offers up a series of “appropriately mixed, instantaneous glimpses” of whatever is under observation, condensed into a single image, the painting offers up to the viewer’s eyes “almost the same thing offered [to] them by real movements”.^{10 11} In the case of a living thing, this gives rise to an authentic sense of “attitudes suspended between a before and after”.¹² Indeed the image “makes movement visible” by way of this “internal discordance”, by which it overcomes its own fixedness in space.¹³ The photograph may well be a more accurate portrayal of how the figure presents itself in an instant than painting could possibly achieve. Yet, it is deceitful in so much as “time never stops cold” as Rodin says.¹⁴ As viewer’s we are called upon to explore the painting or sculpture. As Merleau-Ponty writes in the “Indirect Language and the Voices of Silence” essay, the accomplished work of art “invites” the viewer “to take up the gesture which created it”.¹⁵ As such, it has the artist’s intentional relationship with their subject matter sedimented within it. Whereas, the photograph allows the gaze to rest far more readily and linger more comfortably within it. It is most likely with this consideration in mind that Casey, in his work on the glance, insists that we “may glance or gaze at paintings and photographs alike, but *the photograph is more likely to induce a gaze than is a painting.*”¹⁶

⁹ Maurice Merleau-Ponty, *Eye and Mind*, 184.

¹⁰ Maurice Merleau-Ponty, *Eye and Mind*, 185.

¹¹ Maurice Merleau-Ponty, *Eye and Mind*, 184.

¹² Maurice Merleau-Ponty, *Eye and Mind*, 185.

¹³ Maurice Merleau-Ponty, *Eye and Mind*, 185.

¹⁴ Rodin, quoted by Merleau-Ponty in *Eye and Mind*, 186.

¹⁵ Merleau-Ponty, “Indirect Language and the Voices of Silence”, In *Signs*, (Illinois: Northwestern University Press, 1964), 51.

¹⁶ Edward Casey, *The World at a Glance*, 427.

How does Merleau-Ponty's critique of photography apply to photogrammetric capture though? in Merleau-Ponty's reflection on Rodin, the photographic capture appears to be assimilated with what he calls the "glimpse". What it and the photographic capture share in common is instantaneity, a certain fleetingness, and in turn, the petrification of their subject. The difference is that the glimpse as performed by the eye joins up with other glimpses. Vision darts between them, and when it lingers for a while upon whatever happens to have caught the eye, it turns into the gaze. Glimpses are components of our experience of a world that is ongoing, and so they join together as momentary points of view upon the ongoing event or scene. Painting and sculpture elicit precisely this style of response from their audiences because it is this style of vision that goes into them. The different points of view, the rests and returns, are all sedimented within the surface of the work, and thus a sequence of events has become condensed within a work. Whereas, with the photograph, the glimpse that the shutter captures is set apart by its material form. It does not link up with other glimpses in the same way as embodied vision holds them together as aspects of an ongoing event's revealing itself. This is why Merleau-Ponty states that when an athlete caught in-motion within a photograph is "forever frozen", we could "not thaw the athlete out" by simply "multiplying the glimpses".¹⁷ What is intriguing about the photogrammetric process is that it does effectively multiply such glimpses, and yet not in the same way that Merleau-Ponty had in mind. For these glimpses are not presented as a series, but are instead reordered spatially.

¹⁷ Maurice Merleau-Ponty, *Eye and Mind*, 185.