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Photographic Scale

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> *However often it is used, [scale] is seldom questioned.*
>
> – Philippe Boudon
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> *What is important in the play of scales, in effect, is not the privilege granted to the choice of some scale so much as the very principle of a variation in scale.*
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> – Paul Ricoeur [1]

A Scalar Delirium and the Derangement of Scale

The fact that there are more photographs produced and disseminated than ever before in our era of networked digital imaging is often remarked and conventionally signalled with reference to the more than two hundred million photographs now uploaded to

Facebook on a daily basis.[2] Disseminated globally and at ever-greater frequency, this unprecedented circulation of images is characterised by instantaneity, simultaneity, speed of exchange and changeability in both appearance and context.[3] This is an image ecology in which a certain literal experience of scale is foregrounded and presents obvious and pressing issues.

In light of this situation, I set out to develop a critical and theoretical interpretation of what scale means in and for photography, an investigation that is provoked by the expansive character of photography in the context of networked digital culture but that also involves questions relating to historical practices and theorisations of photography. Scale has very many different meanings in these contexts, whether technical, phenomenological, economic or geographical for example. These scales of the photographic are normally addressed separately in specialised discursive frameworks. Below, I explore an alternative, namely, that it is the relations pertaining between these diverse elements, which gives the clue to what scale means for photography. I will project a concept of "photographic scale" to delineate the relational form of scale as a concern for photography and argue that it is of ontological significance for photography. This concept denotes a ubiquitous, variegated and compound play between differing but necessarily associated scales that inform the spatiotemporality of photography, that allow for its sense as a form of visual representation, that structure its modes of materialisation and that describe key aspects of its determination as a global geo-political form.

There are few things more familiar in photography than the fact that photographs scale things up and down and that they come in different sizes. It is only slightly less obvious to note that they are made and reproduced according to techniques entailing and governing their scaling and rescaling, that they result from the use of formats infused with differently scaled values, that the photographic image can be useful as a tool of measurement but also grants a tendentious sense of omnipotence over otherwise unseen and distant things and, overall, that cameras and photographs take on a range of material scales to act within global circuits of social and economic exchange so that, somewhere down the line, a surplus of profit can be abstracted from their use. Even on the basis of this cursory list, it is clear that a wide variety of scalar operations, scaled phenomenon and forms of scaling are central to both specific photographic practices and to photography in general.

These different scales of photography operate within the contemporary image ecology in ways that temper and redispose the experiences and behaviours associated with photography. Modes of bodily comportment involved in taking up a device to make photographs have come to hinge on equipment increasingly evenly keyed into the horizon of networked global dissemination involving, for instance, expansive postures in which both eyes range over a screen held at arms length. This is a generalised mode of comportment between body and apparatus that compounds global commercial imperatives with only apparently immediate modes of perception. Such screens have tended, for example, to increase in size relative to the body of the device housing them, making perceptually emphatic the collapse of differences between what is viewed before the moment of capture, the resulting image and its unprecedented openness to publication.[4] But the economic and technical imperatives that inform changes in this immediate seeming mode of experience also saturate it with laboriously prepared external interests, setting up the body and apparatus as elements of a performance that unfolds within globally scaled processes.

The act of looking at photographs is also recast. It is set in rhythmic and mobile relationship to other images and a host of other viewers that challenge investments that might be maintained in the face of a single photograph. And much of what's important here occurs beneath the level of visual perception. As Mika Elo pointed out recently, the metadata that accompanies a digital image inflects its circulation with automatic linkages that 'go beyond visual mastery of spatiotemporal relations'.[5] This leads him to remark: 'Photographic interfaces, i.e., the ways in which photography faces the body, provide something like an "aesthetic horizon" for the experience of digital culture by engaging the contradictions of our time at the level of the senses.'[6] One might go as far to say that these contradictions take the form of a massively determined "face-off" between images and their users, a situation structured at and by various spatial and temporal scales.

Thus, issues of scale in photography cannot be limited to the visual forms and relative dimensions of things represented in photographs, though these too are inherently scaled.[7] Scale is a broader condition of all encounters with photographs, tactile and kinaesthetic as well as visual. Whether we come across them in print, hung or projected on walls or view them on screens, one faces photographs, also, as a reader accustomed to shifting scales: moving habitually

between the scale of a momentary event, situation, life, history or era, as well as being bound up with a particular detail, feature, body, locale, nation or as having global scope and reach. And, though it might seem strange to say so, photography – in the form of its apparatuses and the images that result from them – might be said to "read" those who use it in much the same way. Photographic equipment is designed around processes of scaling, as in the application of engineered ratios of aperture and focus that contribute to governing the composite process that is the making of a photograph. And these ratios take on social, aesthetic and affective scales as they take on meaning in their use, as they scale the world's visual registers in the act of registration. Cameras stand, one might say, as "anticipations of perception" and as answers to questions that the desire to make photographs has not yet asked, which places them, their users and those who view the results at the centre of a knot of scalar operations.

Each photograph, at whatever scale it is made, encountered or addressed, harbours within it a plethora of other scaled relations and material facts of scale that, so to speak, spiral upwards and down-wards, inwards and outwards, to enable and to impinge upon what the image is and how it can be used. Thus it is that a generalised body of individuals is inscribed in photography's technical and social process. In his essay, 'Nous Autres', Jean-Luc Nancy projects an inter-subjective account of photography inflected with just such a sense of scale:

> Each "subject" in the photo refers tacitly, obstinately, to all the others, to this prodigious universe of photos in(to) which we all take ourselves and one another, at some time or other, this colossal and labyrinthine phototheque in whose depths there stalks – like a Minotaur – the monster, the monstration, and the prodigious image of our strangeness.[8]

As noted above, the explosion of production, dissemination and consumption provoked by photography's networked digital condition encourages its description at engorged statistical scales. The 'colossal and labyrinthine phototheque' is metastasizing and with it the social uses and meanings of photography mutate. This has exciting and troubling implications, not least because photographs act within this sphere as ubiquitous vehicles for assumed human values whilst also undercutting what might ground these values. In *Being Singular Plural*, Nancy confronts expectations of sense conventionally ascribed

to the scale of the human with the infinitely scalable horizon of number, a confrontation that might be used here to inflect the familiarity of the human scale – as an expectation of photography – with questions arising at other registers:

> Man as the measure of all things has taken on a new, excessive meaning: far removed from every relation to the human as some mediocre standard and also far removed from its remnants, this meaning relates humans themselves to an immensity of responsibility.[9]

This statistical and ethical extension of Nancy's explicit theorisation of the photographic might be taken to figure the photographic, as such, in terms of its potential for sublimity. But it has also to be noted that other senses of scale are also at work in each instance and every event of photography. These combine to structure the enormity in which photography's appearances and their subjects are lodged. The task of theorising the intersubjective form and ethical horizon of this massive economy of images is not exhausted by reference to its potential for sublimity. When such issues of scale arise in photographic discourse, there is a tendency to reach a little too hastily for the category of the sublime, which, with no little irony, comes to function as a familiar and reassuring conceptual reflex. Whilst, from certain perspectives the category of the sublime might offer theoretical traction on photography's experiential registers of complexity and import, it also tends to short-circuit and to displace interrogation of photographic specificities, their contexts of mediation and how these combine in complex ways to constitute the photographic as such.[10]

At the outset, then, one might think scale separately according to the terms of one of its useful discursive frameworks, one might assume it to be an issue delimited by conventions of relative size or one might take it to invoke a sense of the sublimity of the photographic in general. But none of these assumptions exhaust the specific meanings of the term, nor do they help us to understand its general importance for photography. So how might one go about this?

The Principle of Variation in Photography's Play of Scales

The epigraph from Philippe Boudon above highlights the relatively unexamined concept of scale. The quotation from Paul Ricoeur marks the centrality of this concept to his theorisation of history, memory

and forgetting. But it serves here as a heuristic device to suggest how one might address scale as a question for photography, given that scale means so many different things in this sphere: its semantic diversity gives the clue to what the concept of scale means for photography. Indeed, I argue that the variation of its senses of scale – and not any one particular fact, phenomenon, technique, order or discourse of scale alone – have ontological significance for photography. The task is, then, to develop the implications of these suggestions by exploring what it means to conceptualise scale in this context, at this particular historical conjuncture and according to the "very principle of a variation" at work in photography's "play of scales".

The term "photographic scale" might thus be reserved to denote a dynamic nexus of operations, phenomena and forms through which this variegated play of scale takes on material form and might find its principle. The scope of the concept testifies to photography's profound ability to touch upon and be informed by other forms, practices and discourses. It therefore incorporates, but cannot be delimited by the explicit concerns for scale that have come to inform recent debates about different aspects of photography, such as those focusing on the imposing scale of the photographic tableau as a genre of artwork,[11] histories of the instrumental applications of various scales of measure in, to and with photographs;[12] or the global scope of networked digital photography.[13]

Within the variegated field denoted by photographic scale, three aspects stand out as predominant. Firstly, that all of photography's productions set space and time together and to scale in the form of an image. Secondly, all forms of photography necessarily find some kind of material form, however attenuated or dispersed, and do so in taking on scale. Thirdly, that photography not only has, so to speak, a weighty geo-political scale but that its geo-political import is grounded in and through the scaling operations and processes it operates within and serves to facilitate.

Photography's representational character as a visual image form, questions of the materiality and/or immateriality of the photographic image and photography's expanding and increasingly intensified roles in the global order of contemporary capitalism are bound up with one another in ways that invite conceptualisation as modes of photography's variegated scale. The visual character of photographic representation, phenomenological encounters with things photographic and the fact that photography's representations and its phenomenologies unfold within capitalism's global order of abstract

exchange, threaten to remain partial unless thought of in terms of the play that structures their variegation at and as scale.

These claims need, however, to be qualified. Perhaps most importantly it should be noted that recent attempts to theorise photography as a social form in relation to capitalism are, I think, right to establish parallels between the forms of social abstraction determining of social life and those characterizing the digital condition of photographic images. A compelling example is Peter Osborne's theorisation of the social ontology of the photographic according to its intrinsic historical-technical character and shifting cultural formations. He distinguishes between the "event of capture" and the "event of visualisation" to mark the distinctiveness of the digital image, including photography as one of its most important modes, and to reveal its relation to the forms of abstraction and exchange central to capitalism. Thus, in the digital image: 'the infinite possibilities for social exchange generated by the abstraction of value from use finds an equivalent visual form'.[14] And this form is one in which the "post-capture" life of inherently de- and re-realizable technical-image visualisations are opened up to the vagaries of infinite exchangeability:

> Via the multiplicity of visualizations, digitalization draws attention to the essentially de-realized character of the image. It is this de-realized image – supported in each instance by specific material processes – that strangely "corresponds" to the ontological status of the value-form.[15]

This enables him to project a determining parallel between image and exchange-form in the context of the social abstraction of value. But it also provokes questions as to what mediating forms, processes and experiences might flesh out the space between abstraction and exchange, on the one hand, and the specific uses and meanings of photographic images, on the other hand. What relates the general correspondence between image and value-form to the many different ways in which 'each instance' of the photographic is 'supported by specific material processes'? The concept of photographic scale articulated here is projected to elucidate this gap.

Scales of Scaling in Photography

One can step back briefly so as to set these claims in the context of related discourses on scale and its existing uses in and for photography. In general, scale denotes relative magnitude, extent, degree or propor-tion and the application of some standard of calculation. This always entails setting things at some level in relation to each other and often also the establishment of hierarchies between them. Scale refers to apparatuses or systems used for measuring: the graduated marks on a line or rule used to measure distances and ascertain relative dimensions; the equally divided grid-lines on the surface of a map, chart or plan that enable ratios of area and distance to be established; the ratio pertaining between a model and the reality it represents or projects.

Geography teaches that scale is a socially produced dimension of spatiality and that scales emerge from unevenly distributed and politically conflicted processes: 'geographical scales are both the realm and the outcome of the struggle for control over social space.'[16] Debates about the geo-politics of scale have seen many critical modulations of the concept, from scales that appear nested one in the next – from body to family, locale to nation, region and globe – to those moments at which social actors might "jump" between existing scales of social organisation, to arguments about whether it is an appropriate tool for investigation of contemporary social life at all.[17] These critical developments inform understanding of photography's globalised form and its social processes. But other photographic aspects of scale militate against taking geographical scale to exhaust the term in this context.

The labile relative dimensions of things encountered in embodied perception can also be thought in terms of scale. Things emerge from the depths of one's surroundings in sensible experience in ways that are organised according to what Maurice Merleau-Ponty named "spatial levels" of engagement and significance.[18] These phenomenological dimensions are inflected by the technical processes, forms and uses characteristic of photography, as it fills social space, impacts upon everyday experience and inscribes bodily comportment into globally networked contexts. Remarking this highlights the tension between scale as calculable abstraction and the idea that, ultimately, scaled phenomena find their sense in an axiomatic reference to the capacities and values of the human body.[19] But noting the phenomenological resonance of this fact does not simply return the notion of scale in photography to a defining homology between

visual perception and the representational functions granted to photographic images. Rather, it inverts the axiomatic reference to the scale of human embodiment, revealing it in, so to speak, eviscerated form as the condition of dispersed embodied experience in the age of the networked digital photograph.

Photography specifies spatial and temporal relationships between things in constitutively variable frames, the horizons of which are always scaled and, in principle, remain open to being rescaled. Any photographic representation or visual experience is bracketed, one might say structured, by the other possible scales at which it might have been – and still might be – actualized. Photography's mediation of actual size relationships with real things has always been subject to such shifting scalar possibilities and the ways in which they knit together discursive, phenomenological, technical and social processes in and at variable dimensions. It has always also held out the promise and/or levelled the threat that it will render the "natural" character of embodied perceptual experience and the "real" dimensions of things in technically contingent and radically changeable terms. And this aspect of photography is defining of its contribution to that nature and that reality of which it has come to form such a significant part.

Since its inception, photography has harboured scalar promises, for instance, that it might bring small, large, distant and hidden things into the range of human perception. It has also proven open to other uses – equally oriented to establishing the scale of things – that harbour scaled injustices. The development of these interrelated discourses of photomensuration has hinged on the establishment of increasingly expansive, increasingly manipulable and analysable photographically framed viewpoints. Photography also entails the creation of scalable spaces "within" the image. This is common to all photographic representation, but also underpins a wide range of specialised photomensuration strategies. For instance, the many projects that have set out to survey and measure the world photographically – in ethnographical, archaeological, geographical or geological terms – and the representational strategies these have adopted to establish the scale of things – rulers resting on rock formations, local guides standing next to pyramids, subjects of an ethnographical gaze posed against gridded backcloths – scaled abstractions organised according to rules that inscribe the self-evident appearance of photographic measure with discordant meanings harboured in the image but exceeding its representational framework.[21]

Questions about scale, forms of scaling and the application of scales of different kinds are obvious in photography and have been a recurring but notably muted concern for its critical and theoretical discourses. For example, scale is central to Walter Benjamin's influential conception of photographic reproduction, the spatial and temporal expansiveness of the close-up and slow-motion and, especially, the "unconscious optics" introduced by the camera, a notion explicitly characterised as a scale-effect: 'The enlargement of a snapshot does not simply render more precise what in any case was visible, it reveals entirely new structural formations'.[22] Susan Sontag's dour appreciation of the mass form of photography seeks to understand a closely related set of scalar concerns in a way that binds together the material modes, representational functions, aesthetic effects and world spanning cultures of the photograph:

> Photographed images do not seem to be statements about the world so much as pieces of it, miniatures of reality that anyone can make or acquire. Photographs, which fiddle with the scale of the world, themselves get reduced, blown up, cropped, retouched, doctored, tricked out.[23]

What might previously have been thought of as the immutable characteristics of the photograph's fixity and pastness have been rendered yet more unstable by, for instance, recent cameras that enable one to alter picture settings after the event of capture. Explicitly made to be "tricked out" in scalar terms, photography's unconscious optics is thus inflected with possibility to dilate the event and the functions of its pictorial authorship. Benjamin's and Sontag's photographic world is transformed and the site of this transformation is the defining suite of scaling operations built into the camera, reflected in its image and found in their uses.

In phenomenological terms the rhythms of photography's impact upon subjectivity find an enervating scalar outlet in Roland Barthes's *Camera Lucida*. His eidetic reduction of photography's normative use hinges upon a series of embodied acts – little moments of transformative interface between the privacy of affect and the banal enormity of photographic culture – that pivot from acedia to intense affect and, in doing so, project the ecstatic temporality of photography: 'I was leafing through an illustrated magazine. A photograph made me pause' being one such spur.[24] Barthes' subtle binding of affect to photographic temporality still rings true in

many respects, but its resonance in the present is complicated by the loosening of his – always tendentious – radicalisation of photography's realistic visual effects.

Vilém Flusser's account of photography as the exemplary form of technical image treats the photographic apparatus as a programmed modality of the social production of space. The spatiotemporal scaling operations embedded in cameras structure the interface between photographic apparatus, operator and world: a relationship in which the apparatus, famously, has the upper hand. Mathew Fuller describes this well:

> Here, iterations of multi-scalar relations of causality and interpenetration are compiled layer upon layer. Base and superstructure shot through a kaleidoscope. Programs and metaprograms are never clearly defined as distinct. The relation is simply one of scale, or of order.[25]

The application of technical and scientific concepts predetermine the photographic apparatus as a tool for schematising space and time in symbolic terms. The apparatus delimits individual freedoms and meanings traditionally associated with the making and viewing images. This generates and gives spatiotemporal flesh to Flusser's critique of technical image culture:

> The photographer's gesture as the search for a viewpoint onto a scene takes place within the possibilities offered by the apparatus. The photographer moves within specific categories of space and time regarding the scene: proximity and distance, bird- and worm's-eye views, frontal- and side-views, short or long exposures, etc. The Gestalt of space-time surrounding the scene is prefigured for the photographer by the categories of his camera. These categories are an a priori for him. He must "decide" within them: he must press the trigger.[26]

This might be taken as a signature form of photographic scale: its dissociation between the "human" quotient in imagination and the meaningful experiences taken to be embedded in visual culture. For Flusser, this dissociation is a core truth of the age of technical images and thus the source of critical potentials that might attain critical purchase on their era.

When one approaches the history of photography theory more broadly one finds it to be suffused with a muted concern for scale, which tends to feature merely to set the scene for other questions and problems. There is an implicit truth in this, scale does set the scene for photography's other questions and problems, quite literally. But it does so in more substantive ways than have been acknowledged to date.

Photographic Scale

In light of these implicit and explicit traces of scale in photography and as a starting point for conceptualising photographic scale as a variegated and ubiquitous modality of the photographic, one might observe a truism: There's no photography without it. That is, there is no photography of any kind without their being established a manifold of scalar relations which serve as material, conceptual and phenomenological horizons for the production, dissemination and consumption, as well as the form, appearance and meaning of photographs. There are always, as a matter of fact, multiple, different and overlapping scalar operations and scaled processes at work in each instance and every form of photography. These might be thought of as scalar adumbrations of the photographic that extend across the application of mathematically and scientifically derived technical scales in the design and operation of photographic equipment; the spatial and temporal possibilities held out by the photographic apparatuses so structured and the ways in which this sets the terms for decisions and actions performed in their use; the aesthetic experiences that any resulting photographs might engender; the possibilities of use that photographs as material objects might proffer; and the institutional, commercial and geo-political spheres of interest within which such uses and encounters may or may not unfold.

A range of relatively discreet scalar phenomena, possibilities and contexts are always operative at these different registers and more. Whilst, at any one level, a particular question of scale may appear dominant, others are also operative, albeit in latent form. To put this differently, other senses of scale always haunt the manifest as its supplement. They resonate within the dominant as its under- or overtones. And these relations change and shift from instance to instance, encounter to encounter, transmission to transmission as admixed scales that impinge upon the making and experience of photography at all levels. Photographic scale, it turns out, is modal and compound in form.

The variegated play characteristic of photographic scale reveals it to be a complex and shifting, but nonetheless concrete, matrix of broadly social, phenomenological, and technical modalities of the photographic. One of the distinctive features of this notion of photographic scale is the relationship it foregrounds between specific and general aspects of photography. The variegated admixture of scales that play across each and every moment, event or object of photography do so in ways that pertain to *whichever* form, use or object of photography *may* be in question. And yet, precisely as such, photographic scale is always also concrete in and specific to *that* particular instance of photography which *is* in question. In this manner photographic scale suggests itself as having an ontological status; as being what one might call an ontological modality of the photographic. In contrast to other ontological categories that are conventionally projected onto photography, the generality of photographic scale remains intimately entwined in the detailed specificity of photography's diverse moments and different uses.

At a range of levels, scalar operations and phenomena are central to diverse photographic processes, their uses and the discourses that frame these. But a basic function of all forms of photography is also to register the ostensible spatial and temporal state of things, to fix these together at a certain scale and according to a combination of prefigured and anticipated scales. One significant implication of this is that, in photography, one never encounters "space" or "time" – nor for that matter any place, thing, moment or event – other than through a combination of processes that entail the setting of salient aspects of appearance to scale in the more or less enduring but also changeable form of an image. If to scale in this sense is a basic function of photography – the interior horizon, so to speak, of the photograph as image – photographs of all kinds are also, as a matter of principle, subject to the demands of what one might contrastingly call "exterior horizons" entailing their being scaled and re-scaled. Any actualization of a photograph according to its particular scales is inscribed within a horizon of other scales not, or not yet, taken.

However much scale might be said to be central to photography, it cannot simply take over the theoretical roles ascribed to other categories of which similar generality is also claimed, for instance, photographic temporality and the persistent convention which tells us, after Barthes, that time as such is photography's *eidos*. Having remarked this, however, it is also important to note that photographic scale is not reducible to the contingent form of an empirical given. In

the form outlined above, it is always a feature of all modalities of the photographic, and necessarily so.

On the one hand, scale is integral to photography and the photograph but not in the manner of an essence, whether surreptitiously projected or made explicit. On the other hand, photographic scale allows for but is not contained by the self-evident empirical horizons of specific photographs. This latter horizon has often been central to claims on photography's role in the construction of place and its entanglements at the scale of individual experience.[27] But, just as every compelling claim on the generality of "the Photograph" as a paradoxical temporal ecstasy has emerged from a particular encounter with one or other variation on the range of photography's possible scaled materialisations (however attenuated its material form and singular its affective force), similarly, and without exception, all uses of photographs taken to enable meaningful engagements in and with particular places arise from an encounter with one or other scaled variation on photography's very ability to set up such relationships (however strong the attractions and values of the photographic particularities thus presented may be). Yet this does not mean that time or place are denuded of importance, that they are simply displaced by photographic scale as a newly revealed metaphysical principle, or as the actual form of photography's empirical contingency. Photographic scale does not displace these explicitly projected or implicitly assumed ontological categories, nor does it dissolve the strong affects and significant meanings that have been associated with them. Rather, photographic scale is that variegated play of concrete spatiotemporal possibilities through which these categories and particularities take on their form and force.

Notes

1. Philippe Boudon, 'The Point of View of Measurement in Architectural Conception: From the Question of Scale to Scale as a Question', in *Nordic Journal of Architectural Research*, Vol. 12, No. 1, 1999, 7-18. Paul Ricoeur, *Memory, History, Forgetting*, trans. Kathleen Blamey and David Pellaeur, (Chicago and London: University of Chicago Press, 2004).

2. Accounts of contemporary photography very often frame themselves, for good reason, by noting such statistical facts. A recent example is Nathanial Cunningham, *Face Value: An Essay on the Politics of Photography* (New York: Working Group, 2012), 10.

3. For an account of the historical ontology of photography that focuses attention on its determination by Capitalism's modes of abstraction and exchange, see Peter Osborne 'Photography in an Expanding Field: Distributive Unity and Dominant Form', in David Green (ed), *Where is the Photograph*, (Brighton & Maidstone: photoworks & photoforum, 2003), 63-70; and 'Infinite Exchange: The Social Ontology of the Photographic Image', *Philosophy of Photography*, Vol. 1, No. 1, (Spring 2010), 59-68. An interesting account of the economic forces and modes of cultural inertia surrounding the development of digital cameras is Kamal Munir, 'The Social Construction of Events: A Study of Institutional Change in the Photographic Field', *Organization Studies*, Vol. 1, No. 26, (2005), 93-112.

[4.] See Daniel Rubinstein and Katrina Sluis, 'A Life More Photographic: Mapping the Networked Digital Image', *Photographies*, Vol. 1, No. 1, (2008), 9-28. Note their account of screen size relative to the apparatus and questions of its functioning but, perhaps especially, the manner in which their account of the networked digital snapshot accrues scaled meanings that reach well beyond its visual form: 'Through the semantic mechanisms of tagging and metadata, the specificity of each online snapshot is obliterated by the way in which a single hyperlinked keyword can group together thousands of disparate images. Can 4,150,058 photographs tagged with "party" be wrong?', 24.

[5.] Mika Elo, 'Notes on Haptic Realism', *Philosophy of Photography*, Vol. 3, No. 1, (2012), 20-21.

[6.] Ibid., 25.

[7.] This comment marks the difference between the present study and the limited purview of one of the very few other existing theoretical studies of scale in photography, Patrick Maynard, 'Scales of Space and Time in Photography: "Perception Points Two Ways"', in Scott Walden (ed), *Photography and Philosophy: Essays on the Pencil of Nature*, (London: Blackwell, 2008), 187-209.

[8.] Jean-Luc Nancy, 'Nous Autres', in *The Ground of The Image*, trans. Jeff Fort, (New York: Fordham University Press, 2005), 100-07.

[9.] Jean-Luc Nancy, *Being Singular Plural*, trans. Robert D. Richardson & Anne E. O'Byrne (Stanford CA: Stanford University Press, 2000), 179.

[10.] In this light, the interest of James Elkin's interrogation of scale as an issue for photography is undercut by the manner in which it appeals to sublime artistic effects in order to distinguish it from other modes of imaging. See his, *Six Stories from the end of Representation: Images in Painting, Photography, Astronomy, Microscopy, Physics and Quantum Mechanics, 1980-2000*, (Stanford, CA: Stanford University Press, 2008). An alternative approach to bridging the gap between technical and critical issues in photography is found in Sean Snyder, 'Optics, Compression. Propaganda', *Art & Research: A Journal of Ideas, Contexts and Methods*, Vol. 2, No. 1, (Summer 2008), available at: http://www.artandresearch.org.uk/v2n1/snyder.html [accessed 7 November 2012].

[11.] The central text for debates on the photographic tableau in the context of contemporary art is Michael Fried, *Why Photography Matters as Art as Never Before*, (New Haven and London: Yale University Press, 2008). See my analysis in Andrew Fisher, 'The Involution of Photography', *Radical Philosophy*, No. 157, September/October 2009, 37-46. For a short but incisive critique of Fried on the tableau see, Michael Lobel, 'Scale Models', (*Artforum*, October 2010) 256-60. The Fotomuseum Winterthur's blog *Still Searching* recently hosted an exchange of views between Hilde Van Gelder and David Campany that foregrounded scale as a problematic aspect of such artworks, whilst

also exemplifying the limited terms in which it tends to be addressed: 'What Has Photography Done (31 May 2012), available at: http://blog.fotomuseum.ch/2012/05/part-1-what-has-photography-done/ [accessed 7 November 2012].

[12.] See Marina Benjamin, 'Sliding Scales: Microphotography and the Victorian Obsession with the Miniscule', in Francis Spufford and Jenny Uglow (eds), *Cultural Babbage: Technology, Time and Invention*, (London: Faber and Faber, 1996), 99-122. Lorraine Daston and Peter Galison, *Objectivity*, (New York: Zone Books, 2010). Much attention has been paid to such issues recently in German language research, notably: Thomas Cohnen, *Fotografischer Kosmos: Der Beitrag eines Medium zur visuellen Ordnung der Welt*, (Beilefeld: Transcript Verlag, 2008); Arthur Engelbert, *Global Images: Eine Studie zur Praxis der Bilder*, (Bielefeld: Transcript Verlag, 2011); Ingeborg Reichle and Stefan Siegel (eds.), *Maßlose Bilder: Visuelle Ästhetik der Transgression*, (München: Wilhem Fink Verlag, 2009).

[13.] See Matthew Fuller, *Media Ecologies: Materialist Energies in Art and Technoculture*, (Cambridge MA: MIT Press, 2005).

[14.] Osborne, 'Infinite Exchange', 67.

[15.] Ibid., (emphasis in original).

[16.] Eric Swyngedouw, 'The Mammon Quest: "Glocalisation", Interspatial Competition and the Monetary Order: The Construction of New Scales', in M. Dunford and G. Kafkalas (eds), *Cities and Regions in the New Europe*, (London: Belhaven Press, 1992), 60.

[17.] For example see Neil Smith, *Uneven Development; Nature, Capital and the Production of Space*, (London: Blackwell, 1984); Neil Brenner, 'Between Fixity and Motion: Accumulation, Territorial Organisation, and the Historical Geography of Spatial Scales', *Society and Space*, Vol. 16, No. 4, (1998), 459-81; Eric Shepherd and Robert McMaster (eds), *Scale & Geographic Inquiry: Nature, Society, and Method*, (Malden MA and Oxford: Blackwell, 2004); Andrew Herod, *Scale*, (London and New York: Routledge, 2011); Denis Cosgrove, *Geography and Vision: Seeing, Imagining and Representing the World*, (London: I. B. Taurus, 2008). Explicit studies of the relationship between geography and photography are relatively few. What there is tends to focus on the photographic construction of place as in Joan Schwartz, and James Ryan (eds), *Picturing Place: Photography and the Geographical Imagination*, (London and New York: I. B. Taurus, 2003). By way of contrast, see El Hadi Jazairy (ed), *New Geographies 4: Scales of the Earth*, (Cambridge MA: Harvard University Press, 2011).

[18.] See the "working note" entitled 'Scale – ontological significance of this notion', in Maurice Merleau-Ponty, *The Visible and the Invisible*, ed. Claude Lefort, trans. Alphonso Lingis (Evanston: Northwestern University Press, 1964), 226-27. See also Lingis's sensualist articulation of Merleau-Ponty's notion of "perceptual levels" in *The Imperative*, (Bloomington and Indianapolis: Indiana University Press, 1998), 25-40.

[19.] See, for instance, Mary Ann Doane's statement of this view: 'scale as a concept in general can only be understood through its reference to the human body', in 'The Close-up: Scale and Detail in the Cinema', *Differences: A Journal of Feminist Cultural Studies*, Vol. 14, No. 3, Fall 2003, 108.

[20.] Perhaps the most iconic example of a photograph in this vein is Timothy O'Sullivan's *South Side of Inscription Rock*, New Mexico of 1873. See Françoise Heilbrun's 'Around the World: Explorers, Travelers, and Tourists' in Michel Frizot (ed), *A New History of Photography*, (Cologne: Könemann, 1998), 149-173. See also, Mary Warner Marien's discussion of 'Topological Surveys and Photography' in *Photography: A Cultural History*, (London: Laurence Hill Publishing, 2002), 115-131 and the canonical historical framing of such practices in Beaumont Newhall, *The History of Photography from 1839 to the Present*, enlarged and revised edition, (New York: Museum of Modern Art New York & Bullfinch Press/Little Brown and Co., Boston, New York & London, 1982), 85-115. See also Rosalind Krauss, 'Photography's Discursive Spaces' in *The Originality of the Avant-Garde and Other Modernist Myths*, (Cambridge MA: MIT Press, 1985).

[21.] For a survey of the different meanings given to scale in the social sciences see Clark Gibson et al, 'Scaling Issues in the Social Sciences: A Report for the International Human Dimensions Programme (IDHP) on Global Environmental Change', IDHP Working Paper No. 1, (Bloomington, IN: Indiana University, 1998); Darrel G. Jenerette, and Jianguo Wu, 'On the Definition of Scale', *Bulletin of the Ecological Society of America*, Vol. 81, No. 1, 2007, 104-05; J. A. Weins, 'Spatial Scaling in Ecology', *Functional Ecology*, Vol. 3, No. 4, 1989, 385-97. Chunglin Kwa narrates the history of imaging practices prefiguring and partly shaping the development of ecology as a science, with emphasis on its ambivalent relationship to aerial photography in, 'Painting and Photographing Landscapes: Pictorial Conventions and Gestalts', *Configurations*, No. 16, 2008, 57-75.

[22.] Walter Benjamin, 'The Work of Art in the Age of Mechanical Reproduction', in *Illuminations*, ed. Hannah Arendt, trans. Harry Zohn, (New York: Schocken Books, 1969), 236-7.

[23.] Susan Sontag, *On Photography*, (London and New York: Penguin Books 1979), 4.

[24.] Roland Barthes, *Camera Lucida. Reflections on Photography*, trans. Richard Howard (New York:York: Hill and Wang, 1981), 23. See also my analysis of these themes in Andrew Fisher, 'Beyond Barthes: Rethinking the Phenomenology of Photography', in *Radical Philosophy*, No. 148, March/April 2008, 19-29.

[25.] Matthew Fuller, *Media Ecologies*, 2.

[26.] Vilém Flusser, 'Towards a Theory of Techno-Imagination', in *Philosophy of Photography*, Vol. 2, No. 2, 2012, 198.

[27.] With regard to the relationship between scale and place as spatial categories of photography and discourse on landscape, see: Hilde Van Gelder and Helen Westgeest, 'Place and Space in Photography: Positioning Toward Virtual Places in Spatial Objects', in *Photography Theory in Historical Perspective: Case Studies from Contemporary Art*, (Chichester: Wiley-Blackwell, 2011), 112-51. For critical alternatives see, David Cunningham 'The Spectres of Abstraction and the Place of Photography', in *Philosophy of Photography*, Vol. 3, No. 1, Autumn 2012, 195-210; John Roberts, 'Photography, Landscape and the Production of Space', in *Philosophy of Photography*, Vol. 1, No. 2, Autumn 2010), 135-56.