Life Remade: Critical Animation in the Digital Age

Esther Leslie

Birkbeck, University of London

Joel McKim

Birkbeck, University of London

Animation and contemporary life are enmeshed like never before. A growing number of the media images we consume are in animated form (from fully animated features to CGI laden blockbusters and advertisements); recourse to common animation software and aesthetic approaches significantly blur the lines between previously distinct artistic and design practices (from video games, to special effects, to architecture and contemporary art); and through techniques of computational modelling and visualization, animation is increasingly fundamental to processes of knowledge production and the creation of various modes or elements of life. This appears therefore to be a particularly 'critical' moment to ponder animation's expanded cultural and political role. This special issue also provides an opportunity to consider animation's own powers of critique – the ways in which the digital animated image is increasingly being deployed explicitly as a means of intervening in social and political arenas ranging from human rights advocacy to ecological activism. And finally, we hope this collection of essays serves to further the already rich examination of the politics of more traditional forms of animation in the current digital age. This special issue thus builds upon recent scholarship that has already begun to contend with animation's expanded presence and its inherent political and critical significance, including Suzanne Buchan's insightful explorations of the contemporary 'pervasiveness' of animation (2013), Karen Beckman's call to finally bring animation out of the 'margins' of film theory (2014), and last year's excellent special

issue of this journal edited by Eric Herhuth addressing 'The Politics of Animation' (2016), from labour conditions to national identity formation.

The claim that the current ubiquity of digital technologies is largely responsible for animation's elevation in status from a somewhat marginal aesthetic tradition (associated primarily with children's entertainment or experimental film) to arguably the dominant contemporary media form is by now a familiar one. Paul Wells notes that in the digital era 'the dividing line between live action and animation is essentially effaced' (2007: 12); Lev Manovich asserts that 'the new media of 3D computer animation has 'eaten up' the dominant media of the industrial age – lens based photo, film and video recording' (2013: 294); and Alan Cholodenko views this situation as the confirmation of animation's position as the 'paradigm of all forms of cinema' (2014: 99), to take but three prominent examples. These commentators quite rightly, and often presciently, draw attention to digital animation's gradual expansion into numerous previously distinct moving image domains. What is perhaps less often emphasized or elucidated is animation's particularly privileged relationship to computational information – its position as one of the primary or default modes of visually representing digital data. German media philosopher Friedrich Kittler provocatively suggested over thirty years ago that the general digitization of information and the expansion of computer to computer communication would reduce human-oriented interfaces of sound and image to mere 'surface effects' or 'eyewash' (1999: 1) – a theme that current theorists such as Mark B. N. Hansen (2015) and Bernard Stiegler (2016) have developed further. Yet while we acknowledge that computational data (the binary code processed by machines) is in fundamental ways unreadable or unavailable to human senses, this only serves to highlight the role that animation often plays in translating this digital information into human-oriented visual forms – literally bringing data to life by allowing it to enter into the realm of human experience. It's this function of mediating between the digital and the human senses that pushes animation into the epistemic and design realms of data visualization, modelling, simulation and rendering – forms of contemporary representation with enormous political and social resonances.

In order to take critical account of how the rise of the digital has both transformed existing practices of animation and produced entirely new domains of animated image work requires that animation studies engage to a greater degree with new scholarship emerging from digital media studies, as well as contemporary political theory. We hope that the contributions to this special issue will help further this already developing exchange. While it's difficult to imagine an area of animation that has not been touched by the shift towards the digital, we've highlighted five areas of exploration for this special issue: the expansion of animation into new non-entertainment oriented domains; the emergence of digital animation as a key aesthetic technique within contemporary art; the impact of the digital on traditional spheres of animation; the importance of material considerations of animation infrastructure and interfaces; and the critical histories and futures being made possible by digital animation. Many of the contributions to this special issue do not fit neatly or exclusively within any one of these categories, but speak instead to issues that range across these areas of investigation.

Expansion of Animation

One of the most dramatic impacts of the shift towards the digital has been the expansion of animation into considerably more facets and areas of contemporary life. As a primary means of representing computational information, digital animation has moved from aesthetic and cultural contexts into the sphere of knowledge production and visual argumentation. As a rhetorical tool, a data visualization technique and a means of information exchange, animation is now employed in such diverse disciplines as life sciences, engineering and law. Within these various technical fields of application, digital animation is often a method of making visible phenomena and temporal processes that would otherwise be unrepresentable. In this special issue, for example, the

anthropologist Natasha Myers describes how protein modellers produce digital animations of nano-scale molecular structures invisible to human sight. Scientists employ digital animations to visualize climate simulations involving complex variables and extended time scales (Doyle, 2011) and forensic animations are mobilized within the courtroom as evidentiary re-enactments of past events (Ma, Zheng and Lallie, 2010). These emerging moving image forms animate digital information, bringing computational data into the realm of human understanding and discussion. While the use of animated moving image in non-entertainment or epistemic contexts extends back much further in time,[1] the expansion of animation into the domain of 'technical images' (Bredekamp, Dunkel and Schneider, 2015) has certainly intensified in the digital age.

In their contributions to this special issue, both Pasi Väliaho and Thomas Elsaesser discuss the US military's use of animation and computer-generated images for both training and therapeutic purposes, referencing Harun Farocki's sustained investigation of these and other 'operational' images used to shape contemporary human physic life. Valiaho inserts these practices into a much longer media archaeological trajectory of animation's 'power over the plasticity of our minds.' Elsaesser suggests that the computer generated animations of digital post-production shift the logic of cinema from a visual capturing of reality to a 'harvesting, extraction, and manipulation' of reality akin to the genetic or molecular management of bio-engineering. Digital animation, in other words, does not capture an already existing reality, it produces, cultivates or 'grows' its own. Joel McKim's contribution to this issue explores the emergence of digital animation in contexts ranging from architectural design to post-conflict human rights investigations. In the hands of certain artists and designers, McKim argues that digital animation 'makes possible new responses to the present moment of urban crisis.'

Animation in the Art World

It is not uncommon for contemporary artists to use animation as their medium. The use of animation specifically as a medium is not quite synonymous with the production of art animation or experimental animated films. Artists who use animation today where they might once have used paint or bronze are frequently fascinated by the long history of animation as the contrary of art, a 'lowbrow' form to which a kitsch quality adheres. Animating artists play with this history – for example, in the way Mark Leckey has by returning repeatedly to the character Felix the Cat, who appears as a sign of beginnings of merchandising, of media fascination and of the original moment of TV broadcast (a revolving maquette of Felix was a test broadcast in the US). But, artists are also enticed by how a cartoon character, such as Felix, in his shape-shifting abilities, proposes a tantalising form that undermines the very notion of form, poses posing at its very core, revealing the constructedness of all things, their artifice and contingency. Alex Charnley's essay in this collection considers a contemporary artist who has made several animated artworks which deal with self-enstaging, the adoption of typecasting, the prevalence of stock imagery and faking it. Charnley's analysis of Jordan Wolfson explores the ways in which Wolfson's recent use of the animated medium – replete with stereotypes, pratfalls and incongruities - lends itself to a complex reconstruction of the shadowy underbelly of present-day popular culture, specifically the current mobilisation of nasty humour in the guise of the cartoonic in current neo-Rightist online culture. Animation is shown here as a locus for exploring the curious side-shoots of contemporary US political discourse, which are effervescent in the wake of Trump. Esther Leslie's essay explores the significance of the cloud as a frequently recurring image (or even character) within CGI-based art work. Although an aesthetic preoccupation dating back to Constable's paintings and further still, the clouds now appearing in everything from Studio AKA advertisements to the post-pop productions of

the artist group FriendsWithYou all have The Cloud, the figure of our omnipresent contemporary digital surround, looming behind them.

Politics of Traditional Animation in the Digital Age

Patrick Crogan's essay is directed more towards mainstream US culture, seeking at the core of animation's technical procedures, including the deep structure of contemporary software, a clue as to why the medium, as deployed in the Hollywood blockbusters, quite against its historical orientation towards potential, is imbricated in spectacular visions of destruction and the cauterising of any future other than that of capitalist consumerism. The sophisticated integrations of such a consumerist future, still imperfectly employed but open to adaptation, are spelt out vividly in Marc Steinberg's contribution on media mix and the fascistic 'total mobilization' of all areas of economy, technology and desire in anime designed for children. Crogan's essay also considers what happens when two modes – the analogical and the digital – meet. Similarly Annabelle Honess Roe explores a long relationship between animated sections and live action film, specifically in order to consider how this translates into the contemporary environment of mainly digital film making. At issue here is how the codes of Realism are buffeted or supported in the digital epoch through the evocation of animated styles familiar from analogue animation. Animation, the animation that distances itself from photorealism or other 'connective' strategies, retains a power to disrupt, to introduce a critical or political note into the unfurling of documentary film with its illusions of conveying the truth of the world. How might such deployments of interjecting animation, of the digital in the guise of the analogue even, marry with Thomas Elsaesser's observation here that 'the digital image is now the primary reference point for all kinds of images, including analogue images, in just the way that

gramophone records have had to be relabelled 'vinyl', because they are hence¬forth seen from the implied perspective of the CD or the mp3 download.'

Digital Infrastructures

Despite its growing pervasiveness, the production of digital animation remains, for the most part, extremely capital and resource-intensive. In a media moment partly characterized by democratized access to media production and cheap reality television, feature-length animation represents an expensive, technologically demanding and labour-heavy counterpoint to these trends (see for example Herhuth, 2017). Emphasizing the material and infrastructural networks that underpin the apparently 'ephemeral' and 'wireless' computational technologies we have come to take for granted has been one of the most dynamic areas of contemporary digital scholarship. Considerations of current animation production, with its server banks, post-production studios and render-farms, would do well to draw from these material investigations of the data centres (Hu, 2015 and Holt and Vonderau, 2015) and fibre-optic cable systems (Starosielski, 2015) that support our digital culture. Media scholars have also crucially highlighted the significant ecological impact of the technological devices used to both produce and view digital animation (Cubitt, 2016), tracing their life cycle from the geological extraction of rare minerals and precious metals required to construct them (Parikka, 2015) to their eventual transformation into toxic e-waste residing in landfills and dumping sites in the developing world (Gabrys, 2011). A material consideration of digital animation might also take into account the tools, interfaces and techniques inextricably bound up in its process of production and consumption, an area of study that has been productively development by both animation scholars and digital theorists more widely. Rather than engage in textual media analysis, these scholars seek to better understand the software – from Flash (Salter

and Murray, 2014) to Autodesk (Wood, 2015) – codecs (Cubitt, 2014), composting techniques (Lamarre, 2009) and platforms (Gillespie, 2010 and Bratton, 2015) that enable the creation and distribution of contemporary digital media.

In this issue Sean Cubitt considers the implications of the constellation of material objects, infrastructures and formats that must come together (from vector graphics to data servers) to create a digital character like Gore Verbinski's animated chameleon Rango. Our encounter with Rango's world, he claims, is an 'ethical compact' in which, 'We have the responsibility as audience to oversee the material conditions of its existence.' Leslie's aforementioned contribution explores both the material and metaphorical implications of The Cloud, with global cloud computing emerging as an economic and technological necessity for large scale animation. 'The cloud . . . has implications for animation,' she argues, 'which is now peculiarly susceptible to the rapid technological changes in computing.'

Critical Histories and Futures

The final question that this special issue explores is the forms of critical temporality made possible by digital animation –the ability of animation to introduce new or alternative histories and futures. In our current situation there is a general feeling, we suggest, that politics enacted in the present often appears to arrive too late. There is a sense, in other words, that the conditions of present action have in some ways already been predetermined by those with the means to shape the future – via systems and technologies of modelling, simulation, prediction and speculation (Amoore, 2013 and Berns and Rouvroy, 2013). It as if by the time we arrive at what we hoped would be a better future, we find that it has long since been developed, partitioned and monetized. In this political context of temporal-colonization, animation remains a crucial access point to the future.

Digital animation allows for future worlds or alternative versions of this world to be both envision and argued for.

But animation has also become a very important way to connect with or 're-animate' the past. Through the animated image we recreate past events or bring to life otherwise unavailable histories, often with an explicitly political dimension.[2] Increasingly, the critical imperatives we face also involved time scales that extend beyond human lifespans and challenge the human political imagination. With an issue such as climate change, for example, we struggle to comprehend notions of deep time that extend backwards to geological eras prior to human impact (Haraway, 2016 and Hamilton, 2017) and forwards to the possibility of a time after human existence (Danowski and de Castro, 2016 and Paglen, 2012). Timothy Morton uses the term 'hyperobjects' to describe 'things that are massively distributed in time and space relative to humans' (2013: 1). A difficult to conceive phenomena like global warming are hyperobjects, according to Morton, but so are Styrofoam cups and plastic bags, disposable items that will long outlast there human manufacturers. Morton points to the work of animation artist Marina Zurkow (whose two ecologically themed *Mesocosm* pieces each have a duration of over 146 hours) as one example of how aesthetic interventions may help us to begin to engage with the fundamental incomprehensibility of hyperobjects. Digital animation has undoubtedly played a central role in the attempt to visualize and apprehend the extend timescale events that make up our current climate crisis. To take but one example from August of this year, Anti Lipponen, a research at the Finnish Meteorological Institute, tweeted a visually simple, but rhetorically devastating animated gif depicting the escalating number of temperature anomalies in 100 countries from 1900 to 2016. This one visualization indicates the potentially powerful political relationship between digital data and animation.

Roe's aforementioned contribution to this issue identifies the critical and 'disruptive' capacities of animated interjections into live action documentary films, highlighting the respective low-tech and Victorian styles of *Bowling for Columbine*'s sardonically violent 'History of America' digital segment and the animated account of a disastrous colonial 'War for Resources' in the climate

themed *The Age of Stupid*. She argues that increasingly available digital technologies are allowing live-action documentary filmmakers to avail themselves of the 'rhetorical potential' and 'critical, political possibilities of animation' in relation to both the past and the impending future. Väliaho's already mentioned contribution provides a Seigfried Zielinski-like deep time archaeology of animated media that runs from Ignatius of Loyola to Athanasius Kircher to Sergie Eisenstein. And the previously introduced contribution by McKim highlights the use of digital animation in both historical urban reconstructions and speculative designs of possible urban futures.

The genesis of this special issue was a two-day symposium held at Birkbeck, University of London in June of 2015, entitled: Life Remade: The Politics and Aesthetics of Animation, Simulation and Rendering. We would like to thank all of the participants of that symposium, many of which are present in this issue either as writers or references. They are: Erika Balsom, Suzanne Buchan, Sean Cubitt, Thomas Elsaesser, Anselm Franke, Kitano Keisuke, Gillian Rose, Susan Schuppli, Richard Squires, Hito Steyerl, Toshiya Ueno, Pasi Väliaho, Eyal Weizman and Liam Young. We would also like to thank the Birkbeck Institute for the Humanities for sponsoring that symposium and Suzanne Buchan for editorial guidance on this special issue.

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[1] Oliver Gaycken, for example, examines the historical trajectory of 'the practice of modelling, which provides a rich vein of overlap between scientific visualization and animation techniques' (2014: 68).

[2] As Esther Leslie argues elsewhere, 'Animation does to history what it does to nature. Animation evokes history, plays with it, undermines it, subverts it, but it does not have it, just as it does not have nature. It has second nature. Or different nature. It has different history. It models the possibility of possibility' (2014: 35).