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Interactive documentary as relational media: exploring an Actor-Network Theory approach

This paper explores Actor-Network Theory (ANT) as a framework for understanding interactive documentary. It examines Adrian Miles's work in this area, where he uses ANT as a way of conceptualising interactive documentary as socio-technical media assemblages and consequently to question the relationship between human and non-human agency as understood within the field. After introducing ANT and reviewing Miles's position, the paper engages in a detailed discussion of ANT's key concepts in the context of specific interactive documentaries showing how these concepts operate and examining the insights they provide. This discussion supports and extends Miles's position while also broadening and deepening interactive documentary's engagement with ANT through a more detailed and systematic engagement with its concepts than has been attempted previously. The paper concludes by raising issues concerning the adaption of ANT's concepts to the field, including the question of whether they offer a complete theoretical framework for understanding interactive documentary and by suggesting future lines of enquiry to address these issues.

Keywords: interactive documentary; new materialism; actor–network theory; documentary studies

Introduction

This paper accepts Adrian Miles's invitation to think about interactive documentary as 'relational media' and 'to take seriously the practical and theoretical implications of new materialism and actor-network theory' for this documentary form (Miles et al. 2018, 305). The term 'interactive documentary', as used here, refers to 'any project that starts with an intention to document the "real" and that uses digital interactive technology to realize this intention' (Aston and Gaudenzi 2012, 125). Working within this broad definition, many scholars and practitioners in the field have looked to reimagine traditional principles of narrative and storytelling using this new documentary form. They have done this by engaging with the various affordances of interactive technology, such as its multilinearity

(discussed below), multimediality and open-endedness (Aston and Gaudenzi 2012, Gifreu-Castells et al. 2016a). Miles's approach proposes an alternative focus to that of narrative and story by conceiving of interactive documentaries as socio-technical assemblages of human and non-human components and foregrounding the dynamic relationships between these components. While Miles's approach was not fully developed at the time of his passing, his various works in the area sketch out a coherent position that draws upon aspects of Actor-Network Theory (ANT).

ANT began to emerge as a theory in 1981 and has its origins in the need for a social theory that was compatible with science and technology studies (Latour 2005, 10). It is a theory that concerns itself with associations. This includes not only associations that form between humans but also those that include non-humans (such as technological artefacts) as its seminal works make clear (Callon and Latour 1981, Law 1986, Callon 1986, Latour 1988a). The theoretical framework section of this paper begins with a brief introduction to ANT to orientate the reader and then provides an outline of Miles's position. The analysis section then engages in a discussion of ANT's most central concepts. It illustrates how they operate within the context of interactive documentary through a detailed application of them to different examples of this non-fictional form while also exploring the utility of this approach to understanding these examples. This discussion provides a fuller and more systematic application of ANT to interactive documentary than Miles attempts thereby broadening and deepening interactive documentary's engagement with ANT. This analysis will be shown to support and extend Miles's position that interactive documentaries can be conceptualised as deeply entangled socio-technical media assemblages. It will also support and extend his view that a consequence of conceptualising them in this way is an account of agency that provides an alternative to anthropocentric understandings of it within the field. This detailed application of ANT furthers the contextualisation of a materialist conceptual

language within the field, which will assist further research in the area. The paper concludes however by arguing that more work needs to be done before ANT can provide a comprehensive theoretical framework for the field. This work involves both unravelling some of ANT's polysemic concepts within the context of interactive documentary and also assessing whether ANT needs to be supplemented by concepts from other materialist approaches.

Theoretical framework

It is important to note at the outset that ANT is not a single, unified theory. It is instead a collection of tools, concepts and sensibilities that have changed over time as they have been adapted and interpreted in different ways by various scholars (Law 2009, 141-2; Latour 2005, 10; Mol 2010, 265). This brief introduction should therefore be understood as one perspective on ANT, albeit one that draws upon seminal formulations of its most central concepts by some of its leading scholars, such as Bruno Latour, John Law and Michel Callon. Beginning with the concept of an 'actor', Law and Mol (2008, 58) state that 'an entity counts as an actor if it makes a perceptible difference' and that actors 'make a difference to each other … they enact each other'. Similarly, Latour (1998, Section 3) argues that an actor 'can literally be anything provided it is granted to be the source of an action'. One limiting principle however is that 'an actor does not act alone [but] in relation to other actors, lined up with them' and 'relationally linked with one another in webs' (Law and Mol 2008, 58).

The concept of 'translation' is the process whereby actors become relationally linked and it is formulated in various ways within the literature. For example, Callon states that it 'involves creating convergences and homologies by relating things that were previously different … [it is] the expression of a shared desire to arrive at the same result' (1980, 211). In a similar vein, one of Latour's (2005, 108) formulations of translation describes it as a

process that causes two actors to 'coexist'. A successful translation process brings new actors into the actor-network and these new actors are said to have been 'enrolled' within it by the process (see for example Callon and Law 1982).

Finally in this brief introduction we examine the distinction ANT draws between what it calls 'mediators' and 'intermediaries'. This distinction not only provides additional detail concerning what counts as an actor but also goes to the heart of Latour's definition of an actor-network. For him, an intermediary is something that faithfully and predictably 'transports meaning or force without transformation: defining its inputs is enough to define its outputs' (Latour 2005, 39). While an intermediary may be something very complex, like a web hosting service or a regional electrical network, its reliability and predictability means its complexity can generally be ignored. It can instead be treated as a single entity, a 'black box', when providing an ANT account of the situation it is a part. In fact, the intermediary itself can simply be part of the background information of the account or indeed be neglected altogether. Mediators, on the other hand, are at the centre of ANT accounts and in fact the full version of Latour's (2005, 108) formulation of translation discussed above is 'a relation that … induces two mediators into coexisting'. Unlike intermediaries, mediators 'transform, translate, distort, and modify the meaning or the elements they are supposed to carry … their input is never a good predictor of their output; their specificity has to be taken into account every time' (Latour 2005, 39). It is the 'flow' of these translations, as Latour (2005, 132) puts it, that the term 'actor-network' designates.

Miles's use of ANT to conceptualise interactive documentary

Miles states that interactive documentary as a field of study has inherited the idea of story as a central concept from film and documentary studies (Miles et al. 2018, 301-2). While he acknowledges its usefulness, he proposes an alternative conceptualisation that draws upon

new materialist frameworks and moves beyond the discipline's focus on 'audiences, texts and institutions' (Miles 2017a, 104). For him, 'interactive documentary … has less in common with documentary than might first appear and … can be better understood as constituting … idiosyncratic media assemblages' (Miles 2018b, 25). These assemblages are socio-technical in nature and involve 'technical media, computation, a network or networks, and documentation practices'. They are 'a collection of media fragments that has things done to it computationally [and] therefore relies upon numerous technical protocols and standards that make for deeply entangled material ecologies'[1]. Miles argues that these ecologies are mostly 'below the screen … where the mechanics of being networked and online happen [and] … where the mechanics of interactivity are situated or at the very least enabled' (2018b, 28) by software languages, scripts and protocols. The computational actions 'performed upon these media fragments are qualitatively different in the socio-technical assemblages of an interactive documentary from a documentary' (Miles 2018b, 30). For Miles, then, conceptualising interactive documentary as socio-technical assemblages of 'computational, procedural, and networked media … challenges our documentary and cinematic literacies and invites an understanding premised on parts, relations, and relays' (2018b, 29).

Miles draws upon ANT as a way of conceptualising these 'parts, relations, and relays' and more generally as a way to think about interactive documentary as 'relational media' (Miles et al. 2018, 303), since:

> For ANT, the world is made up of things that are constituted by, and
> rely upon, their relations. The structure of an interactive documentary,
> when considered from the point of view of ANT, is already a collection
> of things and relations, and so can already describe the world without
> recourse to story or narrative. (Miles et al. 2018, 305)

Miles believes that a key question for the field is identifying these things but that we are only at the beginning of understanding what they might be. Nonetheless he provides a preliminary

list while acknowledging it could probably be added to indefinitely: 'camera, lens, CCD, web browsers, bandwidth, codecs, coding languages, screen gamma, data rates, weather, technical media, microphones, hard drives, SSDs, servers, electricity, batteries, people, and algorithms' (Miles 2017b, 9). According to Miles, these things, which he conceptualises as 'actors' following the terminology of ANT, form relations with each other through their facets: 'Since all things have aspects that offer themselves as affordances to other things and their respective aspects, things are able to "notice" these facets of each other. It is via these facets that relations occur and networks form'. For Miles, then, interactive documentaries are relational media networks that 'are realized between their media objects, code, protocols, people, and a variety of socio-technical assemblages' through the interaction of their various facets (Miles et al. 2018, 306). Interactive documentary is therefore 'about the assembling, enabling, discovery, and choreography of these relations through making these facets available and visible' (Miles et al. 2018, 314).

Miles also highlights ANT's focus on description rather than explanation, meaning and interpretation:

> It considers the actions of things through the thick and intimate description of the traces and records that actors necessarily make, and leave, as they act. This emphasis on description is a shift from concentrating on what things mean to what they do. (Miles et al. 2018, 306)

A concern with what things do relationally rather than with what they mean is crucial for Miles's argument for the efficacy of ANT as a theoretical framework for understanding interactive documentary. For him, ANT allows us to conceptualise interactive documentary as 'a set of practices involving human and nonhuman actors that obliges us to recognise and accept the affordances and agency of the computational'. Accepting the agency of the computational does not mean ignoring human agency however but rather understanding agency with respect to interactive documentary as something that is distributed between producers, users and computational machines (Miles 2018b, 30). It is something that this

'variable and loose coalition of things … is able to exercise … through its relations' (Miles et al. 2018, 314). This account of agency is at the heart of Miles's case for ANT: For him, story is 'one of the ways we colonize the world' and is a 'prosthesis in response to the anxiety that without its organizing role, the parts will be unordered noise' (Miles et al. 2018, 313, 316). ANT, on the other hand, provides a relational ontology that enables us to think about interactive documentary in a different way. It does this by requiring us to 'surrender some of our agency to their particular networks and let the world colonize them' (Miles et al. 2018, 316). Put another way, if nonhuman actors are allowed to retain their own agency – their capacity to do things (Miles 2017b, 10) – within interactive documentary, 'then we have a nonfiction practice and form that adopts, at least to some extent, the points of view of the world' (Miles et al. 2018, 312). It is then a practice and form that 'might let us address the messy complexity of what is, rather than corralling it into the shapes demanded of our stories' (Miles 2018a, 81).

Thinking about an interactive documentary as an actor-network means thinking about the concept of multilinearity in terms of the relationality between its parts that are 'enabled to find and form multiple relations amongst themselves' (Miles et al. 2018, 312). Miles offers this conceptualization of multilinearity as an alternative to those that frame it in terms of 'users, narrative, and choice'(Miles et al. 2018, 312-4).[2] Here he is refering to the different 'lines' users can trace through an interactive documentary as they make various choices of how to navigate their way through its content and the different narrative experiences they have while doing this.

Multilinearity understood in this way emphasises both the 'open-ended and associative' work of interactive documentary and the relations emerging from this work that the parts have greater agency to perform freed from the narrative and authorial teleology of stories (Miles et al. 2018, 312-4).[3] For Miles, the fact that the actors within an interactive

documentary have greater agency 'to find and form multiple relations amongst themselves' means that as actor-networks they have a dense and intrinsically complex relationality (Miles et al. 2018, 312). Thinking about interactive documentary in this way means 'we can seek emergence, autopoiesis, and productive and elegantly entangled relations' rather than 'rely upon our species' bias for story and representation … as the architectural or epistemological backbone for nonfiction' (Miles et al. 2018, 315). Interactive documentary then is a relational practice for creating nonfictional works 'of, with, and about this [relational] world, all the while avoiding our species' desire to remake these relations and worlds into only avatars of ourselves' (Miles 2017b, 18).

Miles's invitation to think about interactive documentary as relational media within new materialist frameworks, and within ANT in particular, is a novel one. Before moving on to the next section's detailed application of ANT to some specific interactive documentaries it is important to note, however, that these frameworks have been successfully applied to other types of interactive digital media. This has been done in many academic studies (see Hondros 2018, 44, 54-5 for a discussion of examples) and these therefore indirectly support Mile's contention concerning the potential fruitfulness of this approach.

Analysis: Extending interactive documentary's engagement with ANT through a discussion of key concepts in context

In proposing his approach to interactive documentary, Miles advocates 'critical intimacy'. This requires us to address in detail 'the specificity of what is near and ready to hand' and to 'wonder about the relational, active, agential, and relational complexity of real things in actual contexts' (Miles et al. 2018, 308-9). It is an approach that is 'situated, specific, individual, detailed, a haecceity that is possibly obsessive' and in stark contrast to the 'critical distance' scholars typically maintain from their subjects, where we 'conduct theory as if from afar'. This sensibility toward theory echoes in many respects the stance of Latour, ANT's

most prominent scholar, for whom the sociological 'stories' we tell should be 'tailor-made' to their specific, local context. They should always tend to more detail rather than less and eschew conforming these details to an abstract theoretical framework or 'getting at the general trend' (Latour 1988b, 174). This section accepts Miles's call for critical intimacy, along with his invitation from the previous one to use ANT as a way of conceptualising the parts and relationships that make up interactive documentaries. In doing so, it will engage with ANT's concepts within the context of a discussion of five specific interactive documentaries and use the language of ANT to provide a detailed description of the dynamic relationality of their different parts. This section's detailed and systematic use of ANT's concepts will deepen and broaden interactive documentary's engagement with ANT as it elaborates upon and extends Mile's work in the area.

As mentioned at the beginning of the previous section, ANT is not a unified theory. The discussion that follows should therefore be understood as one possible ANT reading of these documentaries, albeit one that draws upon seminal formulations of its most central concepts by some of its leading scholars, such as Latour, Law and Callon. It should also be noted that the following is not an exhaustive ANT analysis of the documentaries discussed, but rather simply a selection of aspects that illustrate how ANT's concepts can be used to examine this subject matter. While no claims are made here concerning the representativeness of the five interactive documentaries discussed below with respect to the genre in general, they were selected so as to provide some variety in the cases examined. As a result they vary with respect to subject matter, funding models (self-funded and externally funded), producer status (professional and amateur), centres of production (UK, Holland, Spain, US), and general approach. The data used in the discussion was gathered from interviews with their producers, directors and developers, an examination of the

documentaries themselves, in addition to my own experiences producing one of the documentaries.

[Table 1 goes here]

Table 1. Interactive documentary case studies.

The first ANT concept to be examined in context is that of 'translation'. This was introduced in the previous section and as we saw there is a process that creates convergences between actors allowing them to relate to each other and coexist within an actor-network. We can see one example of this process in operation in the interactive documentary *Good Luck Soup* (Hashiguchi, 2016), which concerned the experiences of Japanese-American communities around the time of World War 2. Some of the experiences it presented were the result of interviews conducted by the documentary's producer, while others were directly contributed by members of these communities. The direct contributions were done via a template that allowed members of the public to upload text and still images of their experiences to the MySQL server database of the documentary's website. The template mediated between the communities' contributions and the website in such a way that allowed them to coexist. It did this by being designed to be simple to use, which facilitated the ingestion of the content into the database since the producer estimated that the contributors may have limited technical capabilities. It also did this by standardising the presentation of the content (by, for example, resizing images and positioning text and images in a uniform way) so that it conformed to the interactive documentary's design standards.

The interactive documentary *Come/In/Doc* (Gifreu-Castells et al., 2016b) provides another example of the translation process. This was a complex website that took interactive documentary itself as its subject matter. It consisted of three main sections with one of these

sections being a multimedia platform built using WordPress. This section was designed to educate the user about interactive documentary and was a complex arrangement of component parts - menu structures, navigational elements, images, videos, text, hyperlinks, amongst other things - arranged, automated and choreographed in various ways. When conceiving and planning out this section the producer decided that WordPress would be the appropriate platform for what he intended. He quickly realised, however, that the complexity of the task meant that it was not practical for him or the project's graphic designer to complete in an acceptable time, to the quality that they desired, with their existing skill set. The producer therefore hired a web developer skilled in WordPress to complete this task. Here we see a series of translations where different actors enrol other actors into the actor-network of the interactive documentary: The producer, the work offer and money are actors that translate the developer's interests so that he and the producer have 'a shared desire to arrive at the same result' (Callon 1980, 211), namely the implementation of WordPress within the documentary's website. The developer then used WordPress, another actor, to induce the various component parts, yet more actors, to coexist with WordPress and with each other.

The strategies the producers of *Echoes of IS* (Felix and Wolting, Submarine Channel, 2010) employed to attract audiences and maintain their engagement provide another example of the translation process in the interactive documentary context. *Echoes of IS* showcased stories of people whose lives had been impacted by the Islamic State and was a website built using html and JavaScript. The central element of the website was an image carousel whose images linked to an introductory video and twelve video interviews with the impacted people that were hosted on Vimeo.

[figure 1 goes here]

Figure 1. Screenshot of the image carousel from *Echoes of IS* (© Submarine Channel 2010)

The documentary's producers had set up social media accounts for the documentary on Facebook, Twitter and other platforms as a way of directing audiences to the website. One way they did this was by making posts to these accounts which included a video and a link to the documentary's website. These videos were not the video interviews from the interactive documentary, however, but rather videos specifically produced to promote and tease the essence of the documentary. They were edited into a shorter and more accessible format with the purpose of driving traffic from the social media platforms to the interactive documentary via the link in the posts.

Another formulation of the process of translation Latour discusses, which is relevant to this example, concerns the translation of 'interests', where actors can cause other actors to become enrolled within an actor-network by 'channelling' them 'in different directions' (1987, 117). In the situation above, someone coming across a post on the *Echoes of IS* Twitter page, for example, might be sufficiently engaged by the embedded video that they click on the link taking them to the interactive documentary rather than continuing to browse other posts or taking another course of action. Users who clicked on the link were greeted with a full screen background image overlaid by the documentary's title alternating between English and Arabic text and a video play button beneath the title. These were designed to intrigued the user enough so that they click the button rather than leave the website. When the button was pressed the background became the first frame of a short teaser video. This showcased the documentary's content by showing very short clips from some of its different interviews designed to stimulate the users' curiosity and 'channel' them toward the image carousel. Once at the image carousel, users were teased again by a short piece of text over each of the images designed to interest them enough to click the image to play the video. We

see in the above example several actors at work. Some of these enrol users into the documentary, such as the documentary's Twitter account, the Twitter posts, and the embedded promotional interview videos. Others maintain users' enrolment within it, if only temporarily, such as the background image, the title text, teaser video, the image carousel and so on.

ANT emphasises the central role work plays in creating actor-networks (for example, Latour in Gane 2004, 83). We can see this in the above examples where each translation involves actors doing work on other actors as an essential aspect of the enrolment process: a producer creates templates, users upload images, web browsers run JavaScript, servers stream videos, a producer commissions a developer, a developer writes code to customise a platform, and so on. ANT scholars point out however that the connections made between actors by translation processes are not durable but are precarious (as therefore are the actor-networks created by these processes) and require constant maintenance otherwise the actors' enrolments will fail (Law 2003, 3; Latour 2005, 132). One example of this precariousness in the context of interactive documentary was the difficulty the producer of *Good Luck Soup* had in maintaining its presence online in the face of malware attacks. Malicious parties were periodically injecting malware into the database that contained code to serve online advertising and this caused some database files to become corrupted. Since the website was hosted by Bluehost, which had a policy of shutting down websites if malware was detected, the website would go offline to the public in such circumstances until the producer found the corrupted file and then either removed it or fixed it. The task of finding the corrupted file in these circumstances, which could, for example, be one of the documentary's html files or style sheets with a single line of malware code inserted, was very time consuming given the large number of files in the database. Malware therefore caused Bluehost's enrolment within the documentary actor-network to fail periodically. This required the translation process of

enrolling it (which can be understood as the process of inducing Bluehost to coexist with the website through the removal of malware) to be repeated each time and this ongoing maintenance created significant work for the producer.

This example also provides an illustration of the concept of problematization, which is employed by some ANT scholars when analysing translation processes and highlights some aspects of their precariousness. Applying Callon's (1986, 203-11) seminal formulation of the concept to the example, the 'problem' the producer of *Good Luck Soup* was trying to address with the actor-network he was building was to capture and disseminate the experiences of Japanese-Americans. As part of this, he and the developer 'identified' certain other actors, such as html and style sheet files, to be part of this actor-network. They then 'defined' these actors' roles in particular ways within the actor-network to achieve this, namely to display the content related to these experiences in appropriately styled webpages. These files however also belonged to a different problematization, that of the malicious actors. These malicious actors sort to use the documentary's webpages to generate revenue and defined the files as actors whose role it was to be part of the actor-network they created to deliver advertising. Callon (1986, 207) argues that situations where actors with competing problematizations define other actors in conflicting ways can lead to 'trials of strength' between the competing actors. The competing actors involved in these situations use different 'strategies', 'mechanisms', 'tricks' and 'negotiations' to redefine the other actors and cut them off from the competing problematizations. In this example the malicious actors inserted code into the relevant files (the specific mechanisms used were unknown to the producer) redefining them. The producer responded by using various methods to find and remove the code, reverting them to their original definition, and this process was repeated as the competing actors fought to enrol the files within their actor-networks.

Callon (1986, 211-4) points out that these conflicts can be multilateral, as it was in this case, as the files in question also belonged to a third problematization, namely that of the company Bluehost Inc. The company identified user files as a source of revenue by offering to host them in exchange for the user paying a subscription. Bluehost Inc.'s terms of service made it clear that they defined these files as being free of malware as the terms included clauses that stated the user must ensure that their files remain free of malicious code and that it may suspend user accounts if this was not complied with (Bluehost inc. 2020). Bluehost Inc.'s enrolment within *Good Luck Soup*'s actor-network involved a translation where the producer's agreement to these terms of service, in the language of one of the formulations of the translation process discussed above, was 'the expression of a shared desire to arrive at the same result' (Callon 1980, 211). This translation was not only precarious, but occasionally failed, as the definition of the files that it depended on was fought over in the multilateral conflict between the producer, the malicious actors and Bluehost Inc. The producer of *Come/In/Doc* also used Bluehost and was caught up in a similar conflict but his strategy was to enrol another actor, We Watch Your Website, an Internet security company, which continually scanned his website for malware and automatically removed it. While this meant that Bluehost's enrolment within his actor-network was therefore more stable than that of *Good Luck Soup*, it was still precarious as he was considering the possibility of taking *Come/In/Doc* offline. This was because the subscription fee for We Watch Your Website, combined with the Bluehost hosting fee and a Vimeo Pro account fee he was also paying, meant that its maintenance was becoming too costly due to his changing personal financial priorities.

Another example of the precariousness of translations concerns the interactive documentary *The Holy Road* (Blankevoort, Prospektor, 2017), whose subject was the road Route 60 that stretched through the West Bank. The online director had an agreement with a

leading newspaper to distribute the documentary via links to it embedded in the newspaper's website. This agreement, however, was broken just before launch because of the newspaper's perception that changing political circumstances meant the documentary was too controversial for them to be associated with. Because the newspaper's website was intended to be the main distribution point for the documentary the online director believed that its loss meant that the documentary ultimately did not reach the intended audience and that this severely undermined the project's success. She in fact described the broken agreement as a 'betrayal', which is a term sometimes used within ANT when theorising precariousness: 'The idea that translation is also a betrayal is built into … actor-network theory … . It was always said that actor-networks may unwind as the entities that make them up go native' (Law 2003, 6).[4]

While space precludes a detailed examination of other examples, they include upgrades to third-party browser software that stopped web pages loading on some devices, changes to video hosting platforms' policies that resulted in certain kinds of videos no longer being hosted, and the closing down of a third-party platform due to financial problems. While failed translations can be overcome by performing new translations such as finding another distribution partner, updating code, and moving content to a new platform, this maintenance work takes time and sometimes also money. In some cases this work is trivial but in other cases it is prohibitive and prevents a new translation being performed. An example of the latter case is *Good Luck Soup* where the producer reached the point where he no longer had the time to search for the files corrupted by the malware. He also did not have any budget remaining to pay the developer to find them for him and the developer could no longer perform this work gratis in a timely fashion as he had to spend his time on paid work. In this example, being unable to renew this translation meant that the documentary was eventually abandoned by the producer and went permanently offline. Taken together, these

examples suggest that the precarious of translations in the context of interactive documentary may manifest in a variety of socio-technical forms.

The discussion in this section so far has identified many different kinds of actors including producers, users, hackers, servers, style sheets, html files, terms of service, money, online newspapers, social media platforms, videos, and online security services to name some. While Miles believes, as discussed earlier, that we are only at the beginning of identifying what things constitute an interactive documentary from an ANT perspective, various aspects of ANT's definition of 'actor' provide conceptual tools that greatly facilitate that task. First, as discussed in the previous section, although an actor 'can literally be anything provided it is granted to be the source of an action' (Latour 1998, Section 3), this is limited by the observation that it acts together with other actors to which it is linked within an actor-network (Law and Mol 2008, 58). We saw this principle in operation above when discussing the different actors that worked together to enrol and maintain users within *Echoes of IS*, for example.

Second, we saw in the previous section that ANT also draws a distinction between intermediaries and mediators, where mediators are central to ANT accounts while intermediaries can be neglected. It is important to note however that whether a particular thing counts as a mediator or an intermediary depends on its behaviour within a particular ANT sociological study and not on the properties of the thing itself. For example, consider the behaviour of the web hosting service for *Visual Ethnography of Amateur Video Makers* (Hondros, 2014), which was an interactive documentary that looked at how amateur producer groups used the Internet to distribute their videos. An ANT account of this starting from the time the website first went online would only make a passing reference, if any at all, to the details of the hosting service used. This is because it behaved as a dutiful intermediary from that point on doing its job in the background. On the other hand, the behaviour and the

specificity of Bluehost (e.g. terms of service, vulnerability and response to malware, subscription costs, interaction with third-party security services) were important to understanding the precarity of *Good Luck Soup* and *Come/In/Doc* as we saw above. A corollary of this is that something can be a mediator at one point in time and an intermediary at another. For example, enrolling the hosting service of *Visual Ethnography of Amateur Video Makers* within the documentary was a complex translation process involving a variety of actors acting upon and being acted upon by each other. These included the producer, account management software, customer support staff, technical support staff, ftp software, server management software, a home computer, html files, and emails, amongst other things, and it took considerable work before it in fact became a stable intermediary and faded into the background. This process of turning a complex actor-network of mediators into a single intermediary is sometimes referred to by ANT theorists as 'punctualisation' or 'blackboxing' (Callon 1991, 153; Latour 1999, 304; Law 1992, 385). As with all actor-networks however, the results of this process are precarious. A failed translation can mean that the intermediary ceases to function as required and again becomes a complex arrangement of actors that must be worked upon again, as was the case with Bluehost in the examples above.

Conclusions

This paper has explored Miles's proposal that interactive documentary can be understood as relational media and that the relations and interactions between the different parts that make up these media assemblages can be conceptualised using ANT. It has done this through a detailed application of ANT's theoretical framework to a variety of examples showing how its key concepts enable a different account of the medium from those that are centred on audiences, texts and institutions. It drew our attention instead to the variety of human and non-human things that make up interactive documentary, the dynamic and precarious way

these things relate to each other, and how these relations are formed and maintained. These

relations and interactions are the focus of this approach, which signals a shift from the

representational to the performative and to what interactive documentaries do rather than

what they mean.[5] The paper has lent support to Miles's conception of interactive

documentaries as deeply entangled socio-technical media assemblages as the examples

discussed gave a glimpse into the complex interrelatedness of their components. These

examples also suggest that not only might we conceive of interactive documentaries in this

way but we might also see them as entangled within wider media ecologies that include such

things as online newspapers, hackers, and audience members' social media accounts,

amongst others. We also saw that the producers of the interactive documentaries discussed

had little if any control over some of the things that made up their works (including those just

listed above). This is to be expected from an ANT perspective as it conceives of agency as

something distributed throughout an actor-network, rather than residing with any specific

actor or actors (see, for example, Law and Mol 2008, 58). This observation is consistent with

Miles's exhortation discussed above to 'surrender some of our agency … and let the world

colonize them' allowing our documentaries to take 'the points of view of the world', although

within ANT this is a characteristic of actor-networks rather than a choice to be made.

Finally, we saw how ANT provides a theoretical language with which to frame the demise of

Good Luck Soup (and the anxieties of other producers fearing a similar fate). It did this by

drawing our attention to the relations that entangle interactive documentaries with the world,

their distributed agency, and the inherently precarious nature of actor-networks.

While we have sketched out here how ANT can be applied to provide a fruitful

alternative account of interactive documentary its development as an approach within the

field faces challenges. One such challenge derives from the points noted earlier that not only

is ANT not a single, cohesive theory but its different concepts have been adapted and

interpreted in various ways over time. Although this pluralism may have some benefits, not having a unified theory to draw upon could create a challenge for scholars trying to advance this approach within interactive documentary as confusion could arise when the same terms are used in different ways. For example, what actually constitutes an actor-network is presented in different ways within ANT studies. Latour (2005, 128ff) argues that an actor-network is in fact a tool we use to describe things and their relations within our sociological accounts and not the network those things and relations form in the world. This is in fact contrary to how Miles (and many other scholars) appear to use it. Since there is no correct interpretation of ANT, as already noted, the challenge is not to conduct a hermeneutical study of various ANT texts to uncover definitive conceptualisations, but rather to adapt the theory's concepts to the context of interactive documentary. This is a project started by Miles and continued in this paper, but more work needs to be done.

A related challenge is determining whether ANT on its own provides a conceptual language that can comprehensively theorise interactive documentary or whether it needs to be supplemented by other materialist approaches. Miles appears to believe it does require supplementing. We saw he uses the concept of facets, which he derives from Bergson (see Miles 2014a, 75-7), to explain how relations are formed by actors rather than drawing on concepts from the ANT corpus such as translation. The extent, utility and theoretical consequences of engaging with ANT in this way require further investigation. Some support for Miles's position can be gained, however, from Hondros (2018) where the Deleuzian concept of capacities, which is similar to facets, is used to complement ANT accounts of how relations form in interactive media assemblages. Addressing these challenges will advance the development of a relational media approach to interactive documentary by continuing to contextualise, and if necessary continuing to expand, the conceptual tools to further explore interactive documentary's entanglement with the world. This continued exploration will

further our understanding of the theoretical and practical consequences of this approach, particularly in regard to agency.
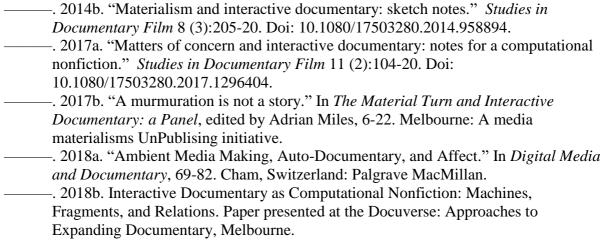
Endnotes

1. Miles's use of the term ecologies, at least in the context of this paper, refers to complex, dynamic assemblages of interdependent and interrelated media objects (see for example Miles 2014b, 205,7).

2. While Miles does not ascribe this position to any scholars in particular, Nash (2012, 199, 201, 203-5) provides a discussion of its key aspects. It should be noted that Miles does not intend his framing of multilinearity to exclude this other interpretation but offers it simply as an additional perspective (Miles et al. 2018, 315).

3. See Miles (2017b, 9) for a discussion of the teleology of stories and their relationship to the materiality of traditional media.

4. The notion of betrayal within ANT extends to both human and non-human actors. See Callon (1986, 221) for a discussion of this.

5. This shift from the representational to the performative and from meaning to doing is not a necessary consequence of using ANT to think about documentary. For example, Gershon and Malitsky (2010) use it to think about meaning, representation and truth in the context of linear documentary.

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