The *'Truth of Sound'*: Exploring the effects of an immersive location sound recording methodology, within Realist filmmaking.

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The art of location-based Sound Recording specifically, has been a neglected area of academic research. I seek to address this by drawing critical attention to the intricacies and skills involved in location Sound Recording within Realist filmmaking – both scripted and unscripted. I show how this art continues to be central to the creative process of production, in driving the narrative and shaping the text's influence, within the pro-filmic space.

I hypothesise that the Realist Sound Recordist's role has an authorial voice and a creative agency. I seek to reimagine and develop an ontological re-definition of location Sound Recording by proposing that a reinvigoration of the Realist genre - unscripted in particular - can be achieved by connecting the story-telling skills in Recording for single camera, with the new opportunities afforded by the emerging technologies of immersive field Sound Recording – ambisonics being a vital part of that development.

I argue that deploying an ambisonic-centred location Sound Recording methodology, fused with the existing art of recording actuality Sound, will offer new creative opportunities for Realist makers and audiences, now presented with an exciting ability to experience a sense of the geographical place and physical event that immersive audio delivers.

Scholarly study of sound in film has so far focused primarily on music and post-production sound-design in fiction narrative cinema (Weis and Belton, 1985; Altman, 1992; Beck 2008; Sonnenschein, 2001). The function of sound in documentaries has been a relatively under-researched area in academia as well as being largely overlooked by film critics and often lacking the recognition it deserves within the industry. As veteran documentary-maker and founding board member of UK broadcaster Channel 4, Roger Graef, observed in an interview with the author recently *"Ah, Sound - the Cinderella part of documentary filmmaking."* [1] Graef's many programs include the seminal series: 'Police' - a BBC TV documentary television series and 1982 BAFTA-winning for Best Factual Series.

Indeed, it is often the Director that is credited as the sole author of a film and if critical discussion recognises the role of crew at all, it is usually around Cinematography: rarely Sound. Outside of the realms of music and post-production, the role of the Sound Recordist in Realist film production, and its part in shaping the authorial voice and creative agency of the film text, has rarely been studied.[2] In part this is a result of the historical dominancy of auteur theory, which tended to ascribe authorship to the individual vision of the film's Director.

Yet even when the collective authorship of the filmic text is recognised by scholars, the role of the Sound Recordist remains ambiguous. For example, in arguing for a collective approach to authorship, Paul Sellors has commented:

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[1] R. Graef. 2020. Online interview with author: 22Sep, 2020.

[2] One exception is Chesler's illuminating analysis of the work of sound in Fred Wiseman's observational documentaries. Chesler, Giovanna. 2012. "Truth in the mix: Frederick Wiseman's construction of the observational microphone". Last modified Autumn, 2012. Last modified Autumn, 2012. http://www.ejumpcut.org/archive/jc54.2012/CheslerDocyAudio/

"Is the sound recordist a member of a film's collective authorship? This is not so simple to determine. Some sound recordists will count as authors under a notion of collective filmic authorship while others will not. It will depend on the recordist's contribution to the filmic utterance... we need to understand this person's role in producing not just the material film, but also its utterance." (2007: 269).

Illustrating this authorial ambiguity, Sellors further observes that '*Auteurists have tried to explain a film's coherency by overvaluing the authorial control and artistic aptitude of an individual'* (Sellors, 2007, 268). Gaut, as quoted by Sellors, argues that the authorial should in fact be "*multiply classified: by actors, cameramen, editors, composers, and so on."* (ibid, 267). As Sellors summarises this perspective: "*Gaut, instead, looks at the function of a collective to get from individual contributions to a completed text*." (ibid, 268).

This paper ventures a position that seeks to draw critical attention to the intricacies and skills involved in the art of the Location Sound Recordist and to render visible its 'utterance', to borrow Sellors term; to show how this art continues to be central to the creative process of production in driving the narrative and shaping the text's influence.

I focus specifically on the role of Sound Recording within the inter-related sub-genres of Realist filmmaking: Social Realism (scripted) and Observational Documentary (un-scripted), where, as I will seek to show, sound carries a significant indexical value to the film text's assertion about its relationship to reality. Although there are fundamental differences between Social Realist fiction films (scripted, using actors) and observational documentaries (unscripted, using social 'actors'), the two genres and their often-hybridised forms, share a similar approach to the depiction of the pro-filmic event - scripted or unscripted.

In both cases, the aspiration is to use filmic devices to construct for the viewer a sense of 'being there' [3] to minimise the inherent mediation of a reality created by the camera and Sound Recordist. Kuhn and Westwell et al define the *profilmic space* as "*The space created within the film frame as opposed to the space of the real world"* or the world the lens sees. The 'authenticity' of the sound that is recorded in the pro-filmic event, or what I would term 'The Truth of Sound', is an essential component to achieve the aspiration in creating the sense of 'being there'.

Fred Wiseman, one of America's most prominent directors of documentary who, along with contemporaries, the Maysles brothers, Don Pennebaker and Richard Leacock, helped establish the American Direct Cinema tradition of the 1960s, in an interview with David Winn for The National Academy of Television Arts and Sciences, observed that:

Observational cinema somehow seems to suggest that you just turn the camera on and let things happen in front of you, when in fact all aspects of movies are the result of thousands of choices. (emmyonline.org, 2014).

It is these choices that define the Observational Documentary genre, but Wiseman's comments also highlight the tension imposed by the ambition of Observational Documentary filmmakers to minimise the mediation of reality and so to aspire to present to the viewers a sense of 'being there' with Wiseman's own comment that *"The notion that cinema is the truth,*

[3] A defining term used by the veteran Direct Cinema documentary filmmaker Richard Leacock: A Search for the Feeling of Being There, Leacock, Richard. 1997.

or that anything is the truth is preposterous… Everything is subjective, and everything represents a choice." (ibid. 2014).

Those thousands of unscripted choices within the Observational Documentary production process, pose questions around the authorial voice too, not only because of the inherent tension Wiseman identifies between a film grammar that seemingly presents to the viewer 'reality' unfolding 'as it is' and the constructive nature of filmmaking, but also around the particular production context of the genre.

Observational Documentary does not just exist in spectatorship; crucially, it also exists in the actual: in the physical event-space. This involves literally sharing 'slices of life' with protagonists and being part of unscripted events, thus requiring a 'reactive' approach relying in many ways on the relationships forged within the making process: inter-protagonist; inter-spatial and inter-makers.

This "inter" classification seeks to identify the choreographic interactions that exist between *makers* (crew); between *makers and protagonists*, and between *makers and the extra pro filmic event space*: none of which can be identified within the axiomatic definition of '*filmmakers'*; indeed, *protagonists* and *space* cannot be correctly indexed as '*filmmakers'*, and yet their 'contribution' is central.

I now consider the inter-makers choreography, beyond the *pro-filmic space*, to a specific 'Action-space', demonstrating how the camera operator and the Sound Recordist perform collaborative, yet individualised and autonomous roles. The makers' choreography requires an equivalence of cross-craft empathy in facilitating the creation of each's own independent narrative, opting to privilege accordingly - both contributing to the 'audio-visual scenography' which Chion defines as: *'Everything in the conjunction of sounds and images that concerns the constructing of a fantasmatic diegetic "scenic space"* (2009: 469), with meaning deriving from 'live' juxtaposition – or some of the *'thousands of choices'* that Wiseman identified.

The Sound Recordist's agency centres around choices made in the event along with specific pre-emptive selections of audio equipment; chosen and deployed explicitly to gather 'audio signs' so as to contribute to 'meaning' and questions around the film's text and its reception. Paul Sellors et al identify this authorial contribution as '*utterance'* (ibid, 268), which he defines further as being the "*collective authorship through theories of collective intentions".* (ibid, 268). Perhaps in a Venn diagram of 'thinking' (analysis) and 'hands on' (technical) elements, the Observational Documentary Location Sound Recordist's utterance situates in that overlap.

That utterance clearly affirms the importance of sound's indexical relation to the authenticity of the realist text, whether scripted or unscripted. Realist Director Ken Loach for example, observed in an interview with the author that "*the sound is true when it reflects the real experience of being in a location… if the sound is not true, then the whole authenticity of the film is undermined*" [4]. Similarly, Loach-collaborator (Editor) Jonathan Morrison [5] reflected that "t*he authentic sound that we get from* [the Recordist] *is all important …The Realism of the Sound. …what we make is Social Realism, so the sound has to be real.*" Loach-collaborator (Sound Recordist) Ray Beckett [6] refers to his approach to recording sound as Direct Sound,

[4] Loach. K. 2000. Online interview the author. 19Aug 2020.
[5] Morrison. 2000. Online interview the author. 31Aug 2020.
[6] Beckett. 2000. Online interview the author. 17Aug 2020.

"*capturing the moment in front of the camera "* which is identical whether he works on documentary or fiction social realist film. It is an approach which is akin to what Robinson described as a commitment to '*jishizhuyi'* [translated as "record-ism"], a kind of 'on-the-spot realism' [translated as "document-ism"]. (Luku. 2002, 1-30).

Robinson elaborates:
In the context of documentary practice, this entails the realisation of 'a spontaneous and unscripted quality that is a fundamental and defining characteristic distinguishing [jishizhuyi]… (ibid. 1).

Technological filmmaking advancements have been an historic enabler of content innovation, transforming how makers have utilised, developed, and deployed those innovations to explore new opportunities in developing genre-specific film languages, for example: the change from 35mm film cameras to16mm film cameras; separate Sound (Nagra); Timecode; zoom lenses; radio mics and so on. As Leacock observed after shooting documentary on 35mm film cameras:

This experience gave me a goal with clearly defined standards. I needed a camera that I could hand hold, that would run on battery power; that was silent, you can't film a symphony orchestra rehearsing with a noisy camera; a recorder as portable as the camera, battery powered, with no cable connecting it to the camera, that would give us quality sound; synchronous, not just with one camera but with all cameras. What we call in physics, a general solution. (Leacock. 1993).

Indeed, as Barnouw in Robinson recognises of Fred Wiseman:

'This tradition emerged in the wake of specific technological developments – most obviously the disaggregation of camera, microphones and tape recorder, enabling synchronised sound shoots for the first time.' (Robinson, 1993, 11).

It sometimes goes unnoticed that as well as Editing and de facto Directing, Fred Wiseman was and also still is, the Sound Recordist on his films.

This technological enabling process continues to evolve storytelling possibilities and choices, and to open new markets, requiring a continued evolution of those defined 'soft skills' underpinning the Recordist's utterance. The investigation of the role and creative agency of the Sound Recordist becomes even more complex yet relevant in the currently transforming landscape of film production, with the recent emergence of consumer accessible VR and 360-degree immersive technologies and their vibrant, cross-platform experimentation. The aspiration for immersion, interactivity and viscerality, in other words creating a sense of 'being there', is central to these new technologies, and they afford the potential to enhance this experience for the viewers in ways that previous technologies could not. Many filmmakers are experimenting with these new technologies within the documentary form, which stem from a similar aspiration to that of the Observational Documentary genre - to put the viewer 'within' the film space, or, to create a sense that "*…there's no separation between the audience watching the film and the events in the film*." (Wiseman in Atkins. 1976. 43). But these new experiments, as before, focus predominantly on the visual, relying largely on 360-degree cameras and XR visual designs to create a sense of visceral immersion.

I seek to address this by exploring the potential contribution and effects of an immersive location Sound Recording methodology on the prevailing, classic single camera, '2D' filming methodology, and how this might then contribute to the reinvigoration or reimagining of the Realist/ Observational Documentary genre, in an age of immersive media. The hypothesis that guides this is that this positioning would widen the understanding of how visceral immersion can be achieved - specifically suggesting that ambisonic audio would contribute to this.

What is ambisonics? Robjohns in 'Sound On Sound' explains that:

'Ambisonics was conceived in the late 1960s as a complete recording and reproduction system capable of recreating accurate three-dimensional sound stages...' (Robjohns, 2001).

Ambisonics was the brainchild of a small group of British academics, notably Michael Gerzon of the Mathematical Institute in Oxford, and Professor P B Fellgett of the University of Reading. Recent developments in software encoding have positioned Ambisonics as an increasingly useful, as demand for surround source material for immersive platforms such as VR (virtual reality), rises.

A single ambisonic microphone source gives 4 channels of audio recorded in the field. Software in post-production converts these channels so it is possible to recreate the effect of any conventional microphone polar pattern, pointed in any direction within the 360-degree audio soundscape. Furthermore, as ambisonics is 'speaker agnostic', a mix can then be transcoded to any transmission/ consumption format, from mono to full 360-degree immersive stereo, with height information (see Binaural later). Although flawed, an analogy for ambisonics is of an 'audio lens' which can be zoomed, focused, panned and tilted to fine-tune the overall sound pick-up, post event, meaning that some audio 'focus' decisions can be made later - software can then steer a 'virtual hyper-cardioid mic' towards a sound source, offering more options in post. Google has recently adopted ambisonics as the audio format of choice for VR (virtual reality) and audio companies are now marketing ambisonic-capable location microphones and recorders.

'The potential of the ambisonics mic is limitless and we're only just starting to see what content producers can really achieve with it now.' Rode, Australia (makers of ambisonic microphones) in an interview with the author, July 2019.

In terms of defining a field recording methodology, the ambisonic microphone movement around 'action' is not the classic reactive mono shotgun 'point at action/ speech' mode: it can be moved to allow action to take place around it meaning that some audio 'focus' decisions can be made later where software can steer a 'virtual shotgun mic' towards a sound source. Crucially, in an interview with the author, February 2019, long-standing practitioner of location ambisonic recordings for international Theatre Sound Design, John Leonard advises: *"...if you're a distance away from the person talking, you can zoom-in [in post] … but it's like having a hyper cardioid pattern that's too far away…*" Although *point of audition* decisions can be made post event to an extent, microphone(s) placement and choreography within the pro filmic event space are still vital: new tech; established skills.

In the same way that other technical innovations have affected developing languages adding choice; so ambisonics. This 360-degree audio 'action' recording provides an improved sense of space and place, bringing the location sound to bear - perfect for the visceral and authentic

aspiration to put the Observational Documentary viewer 'there'. So how might the prevailing '2D' shooting methodologies change for ambisonic-centred location sound recording, foregrounding 'extreme naturalness' or 'being there', within the two main filmmaking scenarios?

The first is *Separate Sound*: individual Camera and Sound operators: a classic single camera narrative methodology, typified with a 'multi mono' approach: radio mics; shotgun mic; placement mics - augmented by a series of location-specific ambisonic atmosphere/ place recordings. An ambisonic approach could utilise the ambisonic microphone as the main 'action' microphone, augmented with mono sources for example, radio mics.

The second is *Sound On Camera:* a 'single operator' methodology. This now established approach utilises an on-camera mono microphone which effectively 'looks' wherever the lens is pointing. But, to pick-up 'on mic' sound, the camera must point at and/or move towards the sound source otherwise it is 'off mic', or to use radio microphones but with a resulting increase in complexity for the single person operator. Again, an ambisonic approach would replace the on-board mono mic with an ambisonic microphone as the main 'action' microphone, embracing its 360-degree audio 'action' capability.

With both methodologies, the camera is then liberated from needing to 'aim' at the sound source, and can now concentrate on shooting for the lens, thereby facilitating a more fluid camera response, now no longer dependent on inherent restrictions; particularly within the 'single operator' methodology. Profound aesthetic and practical questions arise, impacting on opportunities to examine and enhance the development of the form. Although the location audio can be embellished at the post-production stage, what remains crucial is the bridge between viewer and event space: being able to experience through one of the senses, an un-mediated 'reality'. As Chesler summarised of Wiseman's Field Sound Recording strategies:

'Ambient sound, typically picked up through an omnidirectional microphone, captures the whole of a sonic environment without privileging a specific sound source in a scene. These ambiences defy logics of listening practice as all sounds within a space are captured within a 360-degree area.'

Leonard comments on his methodological approach to recording in the format and makes a crucial observation:

'Ambisonics gives me surround which is what I want, but it doesn't give me surround in such a way that it's distracting, which is also what I want… what it does have is extreme naturalness.'

Loach observes: [7] *"…if it's about Truth, and Truth in the sense of authenticity, then you have to observe the natural rules of sound - of the experience of being there in terms of the sound…"*

How might Realist/ Scripted and Realist/ Observational Documentary filming methodologies change for ambisonic-centred location sound recording, so as to foreground the truth of

[7] Loach, K. 2020. Online interview with author: 19Aug 2020.

'*extreme naturalness'* and the authenticity of *'being there'?* Makers; protagonists; viewers are all placed in a common sound space – but might this be too visceral a viewer experience?

In the *profilmic space*, the audio's equivalent of the camera's 'lens' is the microphone pick-up pattern. 360-degree location audio can facilitate audience engagement in a newly-defined profilmic space paradigm – not just what is visually in front of, but crucially, now *around* the lens. Might a shifting of received priorities require a commensurate academic re-definition of the term: '*profilmic'*? Or indeed, a new additional classification, for example, the '*extra-profilmic event-space'* now describing the new recorded 360-degrees situation-specific world?

With location 360-audio comes choice for what Chion categorises as the *audio-viewer* (ibid, 2009. 468) to aurally focus on sound elements happening outside of the 'profilmic event' and then to effectively be able to select and interpret from their own 'point of audition' (ibid. 2009. 485) - the spatial position Chion defines from where we hear a sound. How then do the storytellers deal with an audience's ability to process audio information (sub/ consciously) from out of vision: for example, choosing their own points of audition according to distance; clarity; dynamic; trajectory; movement; power, etc; the world which Schaeffer defines as the 'acousmatic'. (Schaeffer. 1966. 91). Understanding Chion's observation that unlike visuals there is no equivalent auditory frame of sounds (ibid. 2009. 470), I contend that the Realist/ Observational Documentary story-telling space has now become authentically immersive, effectively contributing to the audio-visual scenography of what Chion identifies as an *"in-the-wings effect"* as sound being located in "'*absolute offscreen'* space*…* to create the impression that the screen has a contiguous space." (ibid. 478).

Camera 'coverage' is profoundly impacted. Would the immersive location audio principle within the 'single person, single camera' acquisition practise, benefit from a re-discovering of the 'fixed, prime lens' aesthetic, so that the camera movement itself does the 'zooming' and not the lens? As Loach observes, zoom lenses in Realist operations distort the vision-to-audio *"…perspective of the sound, so the wide shot doesn't have close-up sound on it...in general, it just devalues the Truth of the Sound because if you're a long way away from someone, you don't hear what they are saying."* [8]

So, perhaps a new visual methodology is required; one which is analogous to the audio's 'natural' 360-degree coverage, where the audio 'frame' now matches the visual frame and hence, promotes a 'naturalising' perspective, thereby contributing to the visceral experience of the immersive Audio-Visual content, within the pro-filmic event space?

Chion identifies the audio-visual scenography as being further broadened "*...through the use of entrances to, and exits from, the auditory field…* (ibid. 2009. 469*).* How might the immersive location audio principle, then affect film narrative language? For example, a person enters through a door but is not in shot. In a '2-Dimensional' audio world, the door sound would intrude as it would appear unexplained 'on top' of the diegetic audio, but in a '3-Dimensional' immersive audio world, the audio-viewer sub/ consciously 'auditions' the sound of the door and rationalises accordingly, placing the sound within a natural, experiential 'world mix'. The camera, now no longer needing to explain this out-of-vision sound with a cut-away of the door or a re-frame, is now liberated and can act as a purely pictorial storyteller.

[8] Loach, K. 2020. Online interview with author: 19Feb 2020.

Weis and Belton observe in Johnson, that *"What the soundtrack seeks to duplicate is the sound of the image, not that of the world."* (Johnson. 1985, 4). They describe a Post-production response normalising 'natural' as a 'construct', based around a typical 'scripted' filmmaking methodology, but again, in Realist Filmmaking, questions immediately arise around authenticity: *"…the idea of an actor recreating a performance in a studio, a dead studio, is completely against capturing the Truth of the Moment… There's heightened sound effects... they're there to get an effect. But you get the effect at the expensive of Truth." (Loach [9]).* Ambisonics also already centralises '*extreme naturalness' so perhaps* the Weis and Belton quote should then be re-worked: *'What the soundtrack seeks to duplicate is the* ***sound of the world****, **not** that of* ***the image****',* with an attendant academic re-framing and re-siting away from Sound as construct, to the Truth of Sound?

Both Filmmaking scenarios open up a set of questions around agency, authorship, and performance. Who is now performing the filming – Camera? Sound Recordist? Director? Or perhaps now a 'New Role'? Does a 'fusion' ethic better fit an emerging model around new audience, new platforms, and new methods of consumption? This would help define an emerging ontological response to a film language suited to 360-degree audio Realist/ observational documentary, a la Fred Wiseman in his multi roles as Sound Recordist/ Director/ Editor, perhaps? Does this liberated methodology now require a new response in terms of skillsets? Are the terms '*Camera person',* '*Sound Recordist'* and '*Director'* now to be merged and re-titled: *Content Acquisition Artist*, or *Maker*, or another?

What is the effect on the agency of the Sound Recordist, now consciously assessing, augmenting, and recording a 360-degree environment, and so telling their 'story' in a new, developing language? With the coincidental liberation of the camera as described, would a resulting shift in hierarchical-based assumptions of authorship/ agency, then align with Gaut's assertion in Allen and Smith that the authorial should be *'multiply classified'* (1997: 149-172), and to provide a definitive response to Sellors' question: *'Is the sound recordist a member of a film's collective authorship*' (ibid), around the Sound Recordist's *utterance,* described above?

In any case, the 'New Role' - *Content Acquisition Artist* / *Maker* - foregrounds Sound story-telling skills but now with a required empathy with the 360-Sound world of the *extra-profilmic event-space*; understanding what is and isn't achievable on location and therefore in post; the ability to understand how *'post-mic-steering'* will work, as well as having visual story-telling skills – now filming for audio, perhaps? Is this approach now 'Sound on Camera' or 'Camera on Sound', or simply 'Audio Visual'?

Although Michel Chion was writing on post-constructed soundscapes, location-recorded ambisonics furthers the *audio-viewer's* '*choice'* principal and adds to the visceral nature of the *audio-visual scenography* that he describes. Can the role of ambisonic-centred Location Sound Recording in the Realist genre, centralise multi-agency and multi-authorial craft/ arts, still aspiring to immerse the audio-viewer in a position closer to the reality that is being observed, so *"there's no separation between the audience watching the film and the events in the film."* (1976. 43) ? This is enhanced with the ability for a speaker-agnostic ambisonic sound mix, to 'mix down' for consumption in any audio format including, crucially, binaural. As described, binaural stereo contains height information ie. immersive audio, meaning 360-

[9] Loach, K. 2020. Online interview with author: 19Feb 2020.

degree audio can be experienced on now ubiquitous devices with ordinary stereo headphones, as well as on domestic ambisonic sound bars.

Indeed, Meta's project: '*Facebook 360 Video'* advises makers that: *"To enable spatial audio within a 360 video, creators will …need to record audio with an ambisonic microphone… Once a 360 video is shared on Facebook, audiences will be able to experience the video with spatial audio through any set of stereo headphones on compatible devices."*

This adoption of the long-standing ambisonics technology as an integral part of the development of the immersive experience in new, mass communication/ consumption platform(s), invigorates the potential for an audience to consume Realist Film, but now in a multi-platform, multi-screen, immersive world. Crucially, it also facilitates the rediscovery of Realist/ Observational Documentary single '*sound/ camera'* story-telling skills. Ambisonics will contribute towards the reinvigoration of a new Realist/ Observational Documentary format for Makers, now no longer tied to the framing of 1-hour specials on terrestrial TV with their speculative and high cost-bases, but now a reimagined version (micro-Realist documentaries for an Oculus Rift generation, perhaps), now being consumed by those *audio-viewers* on their devices, while for instance, travelling on the proverbial (and actual) Clapham Omnibus, but now immersed *''within"* a 360-degree audio film space and now truly experiencing *"…no separation between the audience watching the film and the events in the film."* (ibid. 1976. 43)

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