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THE VIDEO PRODUCTION OF SPACE: HOW DIFFERENT RECORDING PRACTICES MATTER

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Abstract

This paper examines how video recording practices effect the ways in which an organizational phenomenon – in our case organizational space - becomes available for analysis and understanding. Building on a performative and praxeological approach, we argue that the practical and material ways of conducting video-based research have a performative effect on the object of inquiry and do not simply record it. Focusing in particular on configurations of camera angle and movement – forming what we call the Panoramic View, the American-objective View, the Roving Point-of-view and the Infra-subjective View – we find that these apparatuses privilege different spatial understandings both by orienting our gaze towards different analytical elements and by qualifying these elements in different ways. Our findings advance the methodological reflections on video-based research by emphasizing that while video has a number of general affordances, the research practices with which we use it matter and have an impact both on the analytical process and the researcher’s findings.

Space matters in our efforts of organizing, both as a symbolic and aesthetic carrier of meaning (Hatch, 1990; Van Marrewijk, 2009) and through its material affordances (Dale & Burrell, 2008; de Vaujany & Mitev, 2013). Spatiality sustains identity making processes (Dale & Burrell, 2008; Rosen, 1990), concurs to establish and reinforce power differentials (Dale & Burrell, 2008), and specific spatial arrangements contribute to enhance or inhibit (interdisciplinary) interaction (Hatch, 1990; Iedema, Long, & Carroll, 2010), learning (Beyes & Michels, 2011), creativity (Hillier, 1996), or even safety (Hor, Iedema, & Manias, 2014).

While the growing attention to space in organizational studies (for a review, see: Taylor & Spicer, 2007) may be fuelled by practical managerial concerns such as the need for flexible and mobile work arrangements or the blending of home and workspaces (Richardson & McKenna, 2014), it is also informed by the recent material turn in organization studies (de Vaujany & Mitev, 2013; Orlikowski & Scott, 2011). From the latter we learn that space is more than a stable, neutral, physical container (Kornberger & Clegg, 2004) “waiting to be filled” with organizational activities, processes, and artefacts independent from it (Lefebvre, 1991, p. 170). Instead, organizational scholars are coming to realize that spatiality and organizing are tightly entangled (Barad, 2001) as space is both “a social product and a generative force” of practices of organizing (Beyes & Steyaert, 2012, p. 48). Into the production of space go complex processes not only of conceiving, but also of inhabiting and practicing space (Lefebvre, 1991). Flexworkers, for example, have not simply spaces of work or of home, but engage – through their daily practices - in an “ongoing reordering” of these spaces in view of their specific needs (Richardson & McKenna, 2014, p. 734). We are thus asked to reconceptualise space as “spacing” and to account for the practiced, processual, rhythmic, lived and even affective qualities of space (Beyes & Steyaert, 2012; Jones, McLean, & Quattrone, 2004; Simonsen, 2007; Vásquez & Cooren, 2013).

Meeting this recent call of organizational space scholars confronts us, however, with important methodological challenges. The empirical study of space is difficult, in general, as spaces do not announce themselves “through verbal language”. Because of this, space is “more easily rendered ‘neutral’ for academic practice” and tends “to remain beyond the analytical gaze” (Yanow, 2010, p. 139). Video-based research seems to be well equipped to bring space to the analytical fore, both because of its visual quality and its focus on setting (Iedema et al., 2010; Knoblauch, Baer, Laurier, Petschke, & Schnettler, 2008). Beyond this generic acknowledgement

that video is well suited to study space, we know very little on how video-methodological practices inform our understanding of organizational space. This in spite of the fact that video-based research practices, like all other research practices, introduce specific biases and limitations in our understanding of spatial matters both during filming, editing and analysis (Mondada, 2006).

In this paper, we will focus on such video-based practices, and show, in particular, that the predominant video recording practices go hand in hand with the still prevailing geometric, static and closed understanding of organizational space (Taylor & Spicer, 2007). We will argue that by combining traditional video-recording practices and a geometric analytical sensitivity ends up privileging an understanding of space as an inert and pre-existing background or a container of organizational activities. This, in turn, prevents us from developing alternative ways of making sense of organizational space, for example understanding space as processually constituted and lived; or appreciate the entanglement of the spatial, affective and material dimensions of organizing (Beyes & Steyaert, 2012; Clegg & Kornberger, 2006; Lefebvre, 1991). In order to advance the understanding of space in organizational matters we need to become fully aware of the performative effects that traditional and new modes of conducting video-research bring to bear in the process of inquiry. Only in this way can we choose video-methods that respond to and reflect our theoretical sensitivities and paradigmatic beliefs rather than be chosen by them.

We address the issue of the performative role of video-based research practices by investigating how different combinations of camera angle and movement (which we call video apparatuses) contribute to different forms of spatial understanding, orient the analysis and foreground different dimensions of spatiality. We discuss, in particular, two common camera angles that video-researchers have imported from cinematography: the steady wide-angle (Panoramic) and the American-objective views, to which we add newer, emerging views, namely the hand-held moving or roving shot (known from the Blair Witch Project or from Dogma films) and the head mounted camera (as it is used in action videography and extreme sports). In the paper we ask what type of spatial understanding each of these views privilege and what aspects they background or render difficult to appreciate.

Our argument builds on a performative sensitivity which posits a) that space and spatiality are “social and cultural, as well as quasi-material productions” (Merriman et al., 2012, p. 4); and b) that video is not a mere “resource” or “methodological tool”, but constitutes rather a

“praxeology of seeing with a camera” (Mondada, 2006, p.53, quoting Macbeth, 1999, p.151). The effort is to move beyond a discussion of generic video affordances and explore instead how these affordances are obtained in practice through the deployment of four different modalities of collecting video data. Our study joins a still rather small body of literature acknowledging that, in video research, technical issues often assume methodological relevance, which is why addressing questions of “perspective making” through camera angles and movement is critical (Laurier, 2014; Luff & Heath, 2012; Mondada, 2003, 2006; Pink, 2007, p. 60; Smets, Burke, Jarzabkowski, & Spee, 2014). Our aim is to explore the affordances of the four video recording practices to provide some guidance to organizational researchers interested in organizational space and beyond.

Understanding spatiality in organizing: From a geometric space of a separate, stable container to the practice of spacing

Scholars recognizing the role of space for understanding organizational phenomena have argued against the idea that space is a neutral, relatively fixed and independent container within which organizational activities and processes unfold (Clegg & Kornberger, 2006; Lefebvre, 1991). Instead, space can be seen as a social space with values, power relations, and aesthetics built into it. Organizational spaces are thereby not only what people make them into, but have their own material agency, which led – in particular critical management scholars (Dale & Burrell, 2008; Taylor & Spicer, 2007) – to inquire “what buildings do” (Gieryn, 2002) and to study how spaces exert structuring forces on organizational practice and shape and control it (Dale & Burrell, 2008; Taylor & Spicer, 2007; Tyler & Cohen, 2010).

In their review on the organizational space literature, Taylor and Spicer (2007) take up on these notions and suggest - informed by Henri Lefebvre’s famous distinction of conceived, perceived and lived space (Lefebvre, 1991) – that there are three general understandings of space that inform the way organizational scholars research spatiality. The first approach conceives space in a geometrical sense as a container defined through the distance between points (Taylor & Spicer, 2007). Spatiality is addressed in terms of proximity and distance and attention is directed foremost to the geographical distribution of activities and people; to the implication that such distribution has on social relationships and on the outcomes of the

organizing processes. Topics of research include, for example, how layout have an effect on communication or how clustering dynamics occur around resources. The second approach treats space as the materialization of power relations (Taylor & Spicer, 2007). Architecture, layout and work environments are considered critical to the exercise of control, the establishment of power differentials and the maintenance of domination relationships (Sewell & Wilkinson, 1992). Attention is therefore on how space regulates employment relationships or facilitates surveillance. Finally, a third approach treats space as a lived experience (Taylor & Spicer, 2007). In this understanding, perception and experience give space its animation. Space acquires a symbolic status with a specific aesthetic, such that interpretations generate different appreciations of space (Van Marrewijk & Yanow, 2010).

More recently, and further developing especially on Lefebvre's notions of practiced and lived space, it has been suggested that space is more fluid, not a stable structure circumscribing organizational practice, but itself practiced and this often in different ways than it has been conceived or planned (Beyes & Steyaert, 2012; Petani & Mengis, 2016). Iedema et al. (2010), for example, have shown that the corridor in an outpatient clinic was used in practice not simply to pass between functional rooms. Rather, in the liminal space of the corridor, clinicians temporarily suspended professional distances and engaged in cross-boundary collaborations and "reflection-on/-in action". The materiality of the spatial configuration was thereby important as the physical bulge of the corridor (the widening of the walls) and its clinical non-specificity created its particular interactive affordance and made the reflective practice possible. Such recent inquiries into spacing (Beyes & Steyaert, 2012; Jones et al., 2004; Vásquez & Cooren, 2013) and practiced space (de Vaujany & Vaast, 2013) suggests a rethinking "of space as processual and performative, open-ended and multiple, practiced and of the everyday" (Beyes & Steyaert, 2012, p. 47). As such it is always "produced" not only by how it has been planned, but also by our daily practices and ways of imagining and representing space (Lefebvre, 1991). In these practices, affective forces are central and a lived and practiced space is always affectively connoted and invested (Beyes & Steyaert, 2012; Pile, 2010). This requires paying attention, not least, to the different ways in which affect manifests in and through space including, for example, sounds and atmospheric clues, or to the affective aspects of spacing activities (e.g. getting closer) (Beyes & Steyaert, 2012).

INSERT TABLE 1 ABOUT HERE

A summary of these multiple understandings of organizational space can be found in Table 1. While the first three understandings of organizational space shown in Table 1 have received most attention by organizational space scholars (Taylor & Spicer, 2007), how space is practiced and affectively invested is still less explored (Beyes & Steyaert, 2012). As we will argue in the rest of the paper, this is partly due to the performative effect of the methods used to study space.

Video-methodological practice as apparatus

What organizational space is and what aspects of space are foregrounded and backgrounded go hand in hand with the methods that are used to study space. In other words, the different understandings of space summarised in Table 1 stem, in part, from “different methodological preconceptions that shape key analytical concepts and protocols of data collection” (Taylor & Spicer, 2007, p. 327). Because of this, for the study of organizational space, we “need fuller understandings of the kinds of methods that are best suited to such studies, as well as a greater awareness of their methodological implications” (Van Marrewijk & Yanow, 2010, p. 7).

The inseparability of “what is observed from the practice of observation” (Orlikowski & Scott, 2014, p. 873) is particularly important in video-based research (Hultman & Lenz Taguchi, 2010). Video-based research in fact is much more than a mere “methodological tool” which captures things as they are – what is often called the ‘myths of transparency’ of video (Bell & Davison, 2013, p. 175). On the contrary, video-research should be seen as a “praxeology of seeing with a camera” where the nature of the phenomenon cannot be separated from the process of production, editing and ways of viewing/analyzing video images (Mondada, 2006, p.53, quoting Macbeth, 1999, p.151).

While the point has been made before, most authors in the video-research community limited their attention to the affordances of video in general rather than exploring in detail the effects of specific ways of seeing with a camera. This is true also of authors who used video to explore organizational space. For example, Knoblauch et al. (2008) observed that video-based

research is “characterised by a strong focus on setting” (p.2). Similarly, Carroll et al. (2008) suggest that while participant observation orients towards the “sayings”, video foregrounds the “doings” and renders noticeable the complex set of bodily presences and absences, movements in the space, material details, colours, sounds and rhythms that happen on the scene. Video can thus direct attention to the silent, taken-for-granted (Iedema et al., 2009) aspects of the scene - such as space - which progressively emerge in more detail through the repeated playback of the recording. Video can also bring the “lifeworld” closer by “presencing” it in a new way (Carroll et al., 2008, p. 388). Conversely, it may distance the viewer by representing the site of practice, of which the researcher was an integral part, on a two-dimensional screen, thus placing the researcher outside the “structure of feeling” of the lifeworld of the organizational members (Carroll et al., 2008, p. 388).

While such indications are very useful, their underlying assumption is that video as such has such a set of affordances and limitations. Accordingly, there is a dearth of studies which explore how these affordances are obtained through the deployment of a specific set of video methodological practices and what constraints and biases are implicit in each of them. In the rest of the paper, we address this gap by focusing on how specific apparatuses for conducting video-based research matter for how we can research and understand organizational space. We borrow the concept of apparatus from the work of Barad who defines it as the set of “material-discursive practices (...) with which we engage with the world” and which are “productive of (and part of) the phenomena” we study (Barad, 2003, p. 819). An apparatus is not a passive observing instrument and measuring device, but has a productive force and is consequential for how a phenomena materializes in the practice of inquiry. This in turn foregrounds the everyday work that is required to carry out a particular methodological approach and points to the “the material specificities of the apparatuses” (Barad, 2007, p. 27). How we position and handle the camera therefore actively contributes to delineate the object of inquiry and constitutes a “configuring device”, which “structure[s] and arrange[s] the very data of the analysis, shape[s] them, give[s] them a particular orderliness and meaning” (Mondada, 2006, p. 2).

In the next section, we present four of these apparatuses that we suggest are typical of different established and emerging ways of collecting data through video, and draw on insights not only from video-based research, but also from cinematography.

Camera angles and movements as apparatuses to study spatiality

While collecting usable video data depends on a number of factors (e.g. type of lenses, light conditions etc.), several authors suggest that camera angle and movement are particularly critical as they can significantly influence our capacity of “seeing with a camera” (Heath, Hindmarsh, & Luff, 2010, p. 2; Laurier, 2014; Luff & Heath, 2012; Mondada, 2006; Pink, 2007; Smets et al., 2014). Camera angles can generally be of three types: objective, subjective and, what in cinematography is called, ‘point-of-view’. The ‘objective angle’ is considered detached and is defined as a way to orient the camera so that “[the] audience views the scene through the eyes of an unseen observer (..) [and not from] anyone within the scene” (Mascelli, 1965, p. 14). The ‘subjective angle’, instead, places the viewer in the picture and sees the scene through the eyes of the actor the camera embodies. The impression is that of seeing the world from a personal viewpoint. Finally, the point-of-view angle is as close as an objective shot can get to a subjective view. The camera is positioned at the side of a player - whose viewpoint is being depicted - so that the audience is given the impression they are standing cheek-to-cheek with the off-screen player (Mascelli, 1965). These three angles require decisions on subject size (long, medium and close-up shot), subject angle (e.g. three-quarter angle vs. flat angle to provide more three-dimensional depth) and camera height (e.g. the low angle, which places the camera below the subject, provides a sense of authority) (Brown, 2013; Mascelli, 1965).

Methodological reflections on recording practices have mainly focused on issues of subject size. For example, it has been argued that the wide-angle view is useful for capturing features of the environment, for analysing both talk and visual conduct of all the participants involved in an activity (Heath et al., 2010; Luff & Heath, 2012). The medium shot, instead, can uncover *how* actions are accomplished through interactions (Luff & Heath, 2012) allowing for a sequential analysis of talk and of the shifting attentions and orientations of participants. The close-up angle, instead, is useful for focusing on the facial expressions and other non-verbal aspects of interpersonal interaction (Luff & Heath, 2012), but also on objects and material actors participating in activities.

We further know from cinematography that long shots are used to establish the scene as they provide a sense of the place, the people and the objects involved in it. They have the tendency to “play up the size of the setting” and to “dwarf the players” (Brown, 2013; Mascelli, 1965, pp.

26-27). Instead, the medium-shot is ideal for foregrounding the interactional space, showing entire dialogues between people without needing to change the angle. This way of recording became popular in Hollywood in the 30s and 40s – which is why it is often referred to as the ‘American shot’ – when the advent of sound gave prominence to dialogues among characters. ‘American shots’ are considered both objective and expressive as they show how people “use body language to indicate their relationship with others” (Katz, 1991).

Next to reflections on camera angles and subject size, the video-methodological literature has focused more recently on the issue of camera movement. Conversation analysts generally prefer recordings with a fixed camera. The fixed camera allows for a consistent view of the stream of action that makes it possible to follow the sequential unfolding of the interaction from the beginning to the end without the need to anticipate events (Laurier & Philo, 2006; Luff & Heath, 2012; MacBeth, 1999). Another advantage is that the researcher remains relatively unobtrusive and can leave the scene during the recording (Barbash & Taylor, 1997; Heath et al., 2010).

Reversely, visual ethnographers (Knoblauch et al., 2008; Laurier & Philo, 2006; MacBeth, 1999; Pink, 2001, 2007) have suggested to visually follow activities through a mobile, also called “roving” camera, a practice originally proposed by Gregory Bateson (see: Hockings, 1995 [1974]). The roving camera can grasp the material and rhythmic unfolding of a practice and follow it in space. Pink (2007) argues that by “walking with the video” alongside the practitioner and physically engaging in his movements, the researcher does a sort of “sensory apprenticeship” (p. 244), empathizing with practitioners and experiencing their activities and the places they inhabit through their own body. Through this sensory experience, researchers engage in a “place-making practice” (Pink, 2007, p. 247). Before her, Gray (2003) had pointed to the practice of walking as a place-making exercise, yet Pink insists that “walking *with video*” creates place differently.

A relatively new and radical way of grasping the embodied experiences of practitioners from within and giving up control, is to follow them with a video camera not simply by walking next to them (a point-of-view angle), but by attaching the head camera on the practitioner’s front (a subjective angle) (Laurier, 2014).

Taking these considerations together, we can combine the choices on angle types (objective, subjective, point-of-view), subject size (long, medium, and close-up shot) and camera movement

(fixed and roving) to form four recording apparatuses through which we can study organizational space: The long-angle fixed camera (the ‘Panoramic View’), the medium shot fixed camera (the ‘American-objective View’), the roving camera led by the researcher following the collective practice (the ‘Roving Point-of-view’), and the roving camera following the movements of the practitioner being placed on his/her forehead (the ‘Infra-subjective View’) (see Table 2).

INSERT TABLE 2 ABOUT HERE

Table 2 does not aim to be a comprehensive typology of all possible video recording apparatuses, but combines some well-known and emergent choices with regards to camera angle and movement, leaving other typical cinematographic choices of video recording unattended, such as the aforementioned subject angle or the camera height. In explanation of Table 2, we want to underline that the roving camera – led either by the researcher (the Roving Point-of-view) or “automatically” by the movements of the practitioner (the Infra-subjective View) – brings about changes in subject size and the moving image can frequently switch between a long angle, close-up and medium angle shot. While stable long and medium shots might be interesting for analysing organizational space, a close-up angle might be less telling, which is why in Table 2 the cell combining the objective with the close-up angle remains empty.

In the following, we will show through two empirical studies how the four apparatuses that we chose as examples, perform specific cuts on organizational space and how we are able to study them. In particular, we will ask questions of both ontological, epistemological and methodological relevance, such as: in which ways do the four apparatuses contribute to produce a specific understanding of organizational space and what apparatuses are better equipped to account for the still relatively poorly researched qualities of organizational space, such as its practiced, processual, affective, and lived dimensions?

Research Context and Methodology

Context of the research

We draw on two video-ethnographic studies conducted in healthcare settings. The first study aimed at understanding inter-professional coordination practices in the emergency department of a regional hospital in Switzerland; the second study aimed at understanding interaction practices between patients and practitioners at a dental outpatient clinic in Northern Italy. Both studies relied on multiple methods, involving observations, video recording and qualitative interviews and included also an element of practitioners' involvement. The latter enabled practitioners to enhance their practical reflexivity (Gorli, Nicolini, & Scaratti, 2015; Ripamonti, Galuppo, Gorli, Scaratti, & Cunliffe, 2016), reflecting on their own practices based on excerpts of video-recordings of their work, a method also referred to as “video-reflexive ethnography” (Carroll et al., 2008).

A journey of discovery: the origins of our empirical puzzle

During the initial months of the ethnographic observations of the first study, we closely observed the conversational and material work through which the clinical team coordinated. The analytical attention rarely focused on the spatial arrangements of the resuscitation bay. Instead, when viewing the video material, which resulted from a camera positioned in the corner of the resuscitation bay providing an overview on the scene of practice, space surged to the analytical foreground. It appeared that the members of the clinical team, together with the many movable objects, machines, and flexible spatial arrangements performed like a spatial choreography around the patient lying on the stretcher.

In view of this unexpected event, we inquired how the foregrounding of space was related to us video-recording (rather than observing) and compared the recordings of the first study with those of the second. To our surprise, space, as it had emerged in the first case, did not do so in the second as our analytical gaze remained orientated towards the interactions between the practitioners and the patient. How could these contrasting results be explained? There was something more to the story than the general indication in the video-methodological literature

that the visual nature of the video method would help foregrounding space (cp. Luff & Heath, 2012; Pink, 2006).

Given our background in performativity-oriented practice theory (Feldman & Orlikowski, 2011; Jarzabkowski, Balogun, & Seidl, 2007; Nicolini, 2013) and given that both studies were comparable in terms of the movement of people and objects, but different in terms of the camera angles of the recordings (i.e. wide-angle vs. medium-shot), the following working proposition emerged: camera angles may be consequential not only for seeing or not seeing space, but also for *how* space “announces itself” (Yanow, 2010, p. 39).

Addressing the puzzle systematically

To address this research puzzle we followed an established tradition of research that Yanow (2010) calls “abductive” where one starts from a tension between expectations and experience to systematically reflect what elements could make the empirical puzzle less a surprise (p. 144). In this endeavour, we followed Luff and Heath’s (2012) distinctions on the frequently used camera angles and decided to collect some further video recordings with a steady camera, both wide-angle and mid shot angle. In addition, we wanted to experiment with the roving camera less commonly used in video-based research (Laurier, 2014; MacBeth, 1999; Pink, 2007) and followed the mobile action of practitioners both by walking next to them and by attaching the head camera on the practitioner’s forehead (cp. Laurier, 2014). We thus experimented, with the four video recording apparatuses described above: the Panoramic View, the American-objective View, the Roving Point-of-view, the Infra-subjective View.

Overall, we conducted over 120 hours of recordings with these chosen four apparatuses in the ethically less sensitive study, the dental outpatient clinic, as both the steady medium shot and the roving camera modalities would have been too intrusive in the emergency bay’s resuscitation room (cp. Barbash & Taylor, 1997).

Obtaining access

Getting approval for videotaping in sensitive medical situations is never easy. In the more sensitive context of the emergency department, the opportunity to video record had become

possible after a full year of ethnography, even though it had been approved by the regional ethics commission prior to the study when signing the detailed research protocol. A particularly strong familiarisation with personnel was necessary, also to grant them a series of concessions (e.g. encrypting the video recording so that clinicians or the patient could still veto it after the intervention was concluded, placing the camera in the farthest angle of the resuscitation bay).

In the second context, an easier access to the use of video was possible given that the organizational board engaged in a collaborative research with the researchers. In fact, the research was intended to serve as an opportunity to bring support to professionals, helping in the redefinition of more effective work practices. For this reason, all professionals involved took great care in gaining informed consent from each patient. Given these conditions, we could more freely experiment with more novel (and more intrusive) uses of video recording.

Data Analysis

During data analysis we shifted from an abductive (Locke, Golden-Biddle, & Feldman, 2008; Yanow, 2010) to a more deductive register (Bitektine, 2008) continuing to move back and forth between data and theory. We soon realised that to give some systematic order to data we needed to code our rich findings against some existing categories. We proceeded as follows.

In a first round of analysis, two of the authors reviewed collaboratively excerpts of five minutes for each apparatus and had conversations on how space presented itself in the various recordings. We then produced detailed narratives of what happened every 20 seconds during the excerpt and reported the verbatim exchange of the verbal interaction. Given our focus on space, we aimed not to turn visual data transparent during transcription, thus translated video frames also into visual representations. We did not standardize these visual translations upfront and elaborated different visual renderings for the various recording apparatuses. From the recordings of the Panoramic View, we produced a series of schematic representations of the spatial arrangement similar to an architectonic plan to grasp the movements of the objects and people in space and the continuous reconfiguration of the space (see Figure 1, Frame 1.2). In the case of the Roving Point-of-view, we lacked a stable vantage point, which is why we could not produce abstract schemas of the entire site of practice. Instead, we made a series of sketches from within the practitioners' space that show their orientations and movements in space (see Figure 4,

Frame 4.2). These various graphical representations (Becker & Burke, 2012) helped us to orient the analysis of our empirical data (Piekkari, Welch, & Paavilainen, 2009). The production of these graphical representations also increasingly alerted us to the fact that certain apparatuses made it extremely difficult for processual and fluid understandings of space to announce themselves.

We became more systematic in our analysis by going back to the existing theory on organizational space, identifying a number of analytical elements that inform different understandings of space as in Table 1. We coded, compared and contrasted the video materials from the two empirical contexts according to these analytical categories following the principles of “template analysis” (King, 2012). We thus advanced a priori themes derived from the literature (e.g. understandings of space, analytical elements for different understandings of space, affordances of video), went back to the video excerpts, reflexively compared them with our visual and verbal translations to learn what was foregrounded and how, in the various recordings. To this end, we constructed comparative tables for the various recordings to better understand in which analytical dimensions the recordings were similar/different; we then went back again to theory in a continuous cyclical interaction between concepts highlighted by the literature, data, and translations of data.

Here following, we will outline the findings and present the four apparatuses and the performative effects they have, in combination with the triggered analytical process, on our understanding of organizational space.

Findings

Overall, our analysis suggests that each video recording apparatus privileges specific spatial understandings both by orienting our gaze towards different analytical elements (e.g. focus on the architectural elements of space as physical extension vs. focus on spatial coordination of people in space as practiced) and by qualifying these elements differently (e.g. focus on how architectural elements shape interaction vs. focus on the symbolic value of architectural elements). This is the case because each apparatus foregrounds certain elements and dimensions of spatiality discussed above while relegating others (which do not disappear from the frame but become less readily available for analysis) to the background. The apparatus does not do this

work on its own, but acts in concert with the analytical process on which, however, it also maintains an agency. Moreover, the two video apparatuses most commonly used in organizational research (the Panoramic and the American-objective views) do not favour a processual understanding of space as spacing, rather contribute to perpetuate an understanding of space as the container or the inert background of social activity.

We will examine each apparatus in turn. Firstly we describe first the concrete recording practices of the apparatus and what the empirical context of the recording is. We then illustrate the performative effect of each apparatus, showing which understandings of space they privilege by bringing specific analytical elements to the fore.

The Panoramic View – Space as Physical Extension and as Materialization of Power

The first apparatus – the Panoramic View – refers to the recording practice where a fixed camera is positioned on a stand at the periphery of the site of practice (in our case at the corner of a resuscitation bay). The camera shows through a stable long angle the whole scene of action. We find that the Panoramic View privileges an understanding of space both as physical extension and as the materialization of power. Space as physical extension emerges by foregrounding the objective position of objects and people in space, architectural elements, the proximity and distance between elements, and the changes and movements of collectives of objects and people over time. Instead, space as the materialization of power is performed through the apparatus' foregrounding of how spaces are joined, divided and populated.

Consider Figure 1, which provides a series of still images from a 5-minute video excerpt in the resuscitation bay of an emergency room. The video documents the examination of a relatively young man who suffered multiple injuries in a motorcycle accident. Frame 1.1 picks up the examination about 6 minutes into the scene after the assistant surgeon has already checked the patient's airways, breathing and blood circulation. Blood samples were taken and the patient was attached to the heart monitor and drips. The frame shows that while the nurses and surgeon continue to work on the patient, the radiologist technician brings in a big X-ray machine. After performing two scans, the radiologist takes out the film, while the surgeon still attends to the head injury (Frame 1.2). In Frame 1.3, the doctor is still with the patient while nearby a male

nurse prepares the bars to perform the delicate procedure of examining the patient's back for potential cord injuries (Frame 1.4). Throughout the scene, other doctors converse in the background while other professionals come and go, moving in and out between objects and machinery. The intervention is concluded in 18 minutes and the patient is transferred to the surgical ward.

INSERT FIGURE 1 ABOUT HERE

How does space announce itself through this particular recording? The Panoramic View guides us to note the position of people, objects, instruments and furniture and how their spatial arrangements change over time. We enjoy an overview of most of the room; the emergency intervention is taking place in one half of the chamber with clinicians working side by side around the stretcher of the critically-ill patient. The rest of the room is dynamically populated by machines, artefacts and humans moving in and out of the resuscitation bay and that compose the enfolding background of the action by virtue of being a few steps back from the stretcher. The focus on the position of things and people in space and how they change over time can be seen, for example, when considering the mobile tools table (compare Frame 1.1 with 1.4), the X-ray machine moving in and out of the scene (compare Frame 1.1 with 1.3) or the healthcare professionals filling and a moment later emptying the space (Frames 1.1 and 1.3).

Further insights on the tendency of the Panoramic View to attract attention on space as physical extension, pointing to architectural elements and the position of objects and people in space, can be derived if we pause to consider reflexively about how we as researchers first attempted to analyse the video stills of this particular apparatus. The series of abstract maps we produced for this apparatus (see Frame 1.2 and methods section for details) trace the objective position and the movements of objects and people in space. Similar to architectonic plans for conceiving space (cp. 'conceived space' Lefebvre, 1991) they show architectural elements, machinery, furniture, objects and people (indicated in letters) as they populate the place. These maps, produced for analytical purposes, talk in an objective, abstract language and invite one to measure the relative distance/proximity of these various elements in space (Taylor & Spicer, 2007). Both the video and our visual translation suggests that in the Panoramic View space announces itself mostly as physical extension, populated and created by physical things and

people *in* space. In other words, space emerges as a functional container of organizational work and can be flexibly rearranged, filled and emptied according to the needs of the practitioners.

What further becomes evident is that the Panoramic View makes it possible to trace movement in space only at the level of collective practice. The long angle camera tends to background the work of individual clinicians (cp. Luff & Heath, 2012). Space comes to the fore, for example, in the alternation between motionless moments of concentration around the center, when the whole team is co-oriented around the patient lying on the stretcher (see Frame 1.4), and other frenetic moments of spatial dispersion, when all actors move in a de-centered fashion (see Frame 1.1), or moments of swarming out (e.g. when performing a scan) followed by storming back in around the patient again. This spatial patterning is generated by the collective activity that appears like a choreography, in which also objects like the stretcher or the bars play a central part.

The focus on collective movements in space suggests that the Panoramic View privileges not only an objective understanding of space as physical extension, but also points to its political dimension as the materialization of inequalities, power differentials and conflict. In Frame 1.4, for example, while nurses gather closely around the patient and his stretcher, doctors remain at the periphery of the activity, making sense of the patient's clinical situation in conversation while overseeing the patient's status and the work of the nurses. Spatial relationships clearly differ between various professional groups and both reflect and perform hierarchies.

There is another sense in which the Panoramic View engenders a spatial understanding that is already politically and ideologically charged. The long angle shots of this apparatus produce in fact a detached panoptical view which in itself had profound political implications on the process of organizing (Kornberger & Clegg, 2004, drawing on: Foucault, 1975). Consider again the frames in Figure 1. Clinicians appear as figures or puppets performing a routine (in a theatrical sense) or dance; the video reveals little about the skilled bodily effort that goes into accomplishing the work. The gaze remains both physically and emotionally removed, appearing almost a de-humanized view from nowhere; in particular, this view is instrumental in paving the way of the modern idea of management as a rational and technocratic endeavour (Kornberger & Clegg, 2004). The wide-angle view fails to convey the "affective space" (Simonsen, 2007) as the emotional aspect of this particularly tragic case hardly announces itself through this vista, something that contrasts with the experience of the ethnographic observer and, as we shall see,

with other apparatuses. Notes from the field observation suggest that a sense of dismay affected occasionally the clinicians and surfaced both verbally and non-verbally during their rare “solitary” moments with the patient. Consider Frame 1.3, when the assistant surgeon suddenly finds himself in an (almost) empty space working ‘alone’ on the patient. The recording does not allow us to sense the subtle change of atmosphere where the patient on the stretcher no longer is a body needing immediate attendance, but appears instead like a fragile human being. The gaze remains at a cold distance and the capacity of space to affect the doctor is hardly registered by the apparatus. We are invited to peep through the opening of a box where people move almost automatically and without physical or emotional involvement. Through this apparatus human beings come to be understood as anonymous organizational actors that can be subject to a managerial logic of formal rationality and search for efficiency. While this understanding is not deterministically produced by the apparatus, the practice of seeing with the camera and the ideological and political view that underpin it must be seen as entangled and supporting each other.

The American-objective View – Space as Experienced and Interpreted

The second apparatus – the ‘*American-objective View*’ – places a steady camera at medium-shot distance and at eye-level camera height, showing practitioners from above the knees (or below the waist). The recording provides a view on the scene of interaction although, unlike in the Panoramic View, we do not get an all-embracing vista of the site of practice.

We find that the American-objective View privileges an understanding of space as experienced and interpreted, foregrounding a) the interpretations of the symbolic and aesthetic dimensions of space, b) the interactions and discourses of humans in space, and c) the participation of body language and material signals in interaction. It also allows for appreciating the affective dimension of space. Yet through this apparatus, spatiality still announces itself as given rather than something constructed as part of the activity. The apparatus scarcely supports a processual understandings of space as active spacing.

Consider Figure 2 that shows three video stills from a recording of a minor dental procedure during which an eight-year-old boy is having a caries repaired. The assistants first performs an X-ray before the dentist provides local anaesthetic and then starts to drill. Frame 2.1 shows the

assistant attaching a lead shield while explaining to the patient what she is doing: “Do you know Iron Man?”, “Yes”, “Nice, isn’t he? With this one you become one”. Frame 2.2 shows the assistant trying to insert the film into the boy’s mouth in preparation for a dental X-ray. The boy is fearful and reluctant to open his mouth and ends up biting the assistant’s finger. The assistant protests jokingly. Once the X-rays are completed, the dentist steps in and consults the scan and then the teeth first hand. Frame 2.3 shows the interaction between the dentist and the boy when the latter is being prepared for the procedure. The boy has brought along a Frisbee as a “special protection shield” and the doctor picks it up, offers it to the boy to calm him and refers to it also when asking her assistant jokingly: “Would you pass me the sword then”?

INSERT FIGURE 2 ABOUT HERE

The above excerpt shows that zooming in with an American-objective View brings about also an analytical zooming-in (Nicolini, 2009) and we start focusing on meaningful interactions. While also the Panoramic View provides a full audio recording, with the American-objective View, we can draw on the details of the clinicians’/patient’s activities that provide additional cues of the meaning of the interaction. For example, we can understand the ironic intention of the doctor’s command to pass the sword by observing her’ gestures, i.e. how she rubs her hand and jokingly looks at the boy while waiting for the tool. Analysing the interaction between these non-verbal and verbal aspects, we can observe how an understanding of experienced space between humans is privileged. In fact, the recording orients us to understand these interactions - supported by objects, bodies and the physical elements of the space - not primarily in functional, but in affective and relational terms. As such, the reference to Iron Man is both an attempt to inform the patient of what is going to happen to him next (lead shield will be attached) and as an effort to manage his fears.

The affective, relational space created in interaction is further supported by physical elements of the room, which the American-objective View invites us to understand on a metaphoric and symbolic dimension. Consider again the frames of Figure 2. With the camera being stable and the interaction unfolding in front of us we get a partial glimpse of the background of the interaction: the furniture (a chair, a wall cabinet), the machinery (the screens, the light), the architectural elements (the window) and the decoration on the wall (the children’s

drawings). The apparatus offers these elements to the analytical gaze and invites us to explore both how the inhabitants and visitors interpret these symbolic and aesthetic aspects of space and what role these play in the local process of organizing. For example, why so many colours on the wall cabinet? Are these an attempt to create a pleasant, joyful atmosphere and facilitate the work of the dentist, in particular her attempt in this scene to put the patient at ease?

We thus find that the American-objective View makes us focus on the experienced and interpreted space, in this case on the relational space created between clinicians and patient. Attention is drawn on the spatial arrangements of the workplace and how they structure the interaction mainly through symbolic and aesthetic registers. Through the American-objective apparatus space thus announces itself in terms of “dyadic sphere”, the co-existence with others in space, a situation in which humans engage in interaction (Sloterdijk, 2011). One of the reasons why the American-objective View privileges an understanding of space mainly oriented on the action of competent humans may be due to the continuity of the shot. The camera is fixed and we see the place where the (almost) entire interaction with the patient unfolds. The continuity of the shot creates a continuity of place and time suggesting a sense of a coherent scene to which we have access from the beginning to the end and from which we can thus draw a meaningful conclusion (and a morale). The apparatus does not interrupt the scene by a moving camera, chasing practitioners’ orientations, attentions or activities (as the above mentioned work with X-ray machines or instrument tables). Though the continuity of the shot, the space is constructed as a meaningful scene that becomes inhabited by dialogic interactions, words, pauses, bodily movements, relations, and sounds that alter each other and intersect.

Finally, Figure 2 can clarify why we call the apparatus *American-objective*. In Frame 2.3, while we may be moved to see the boy clutching the Frisbee (such as we can be moved by a love scene in a Hollywood movie), we remain outside his emotional or interactional sphere. The apparatus of the American-objective View positions us as onlookers, witnesses of something that unfolds in front of our eyes and thus still performs a space that is objective in character. It generates objects and subjects as distinct entities, a strategy which reflects not only the traditional composition of naturalistic iconography, but also puts us into the position of traditional ethnographic observers.

The Roving Point-of-view – Space as Practiced

The Roving Point-of-view is produced with a handheld camera when the researcher traces the activities of a collective practice following one practitioner at a time as if looking over his/her shoulder (what we above called point-of-view angle). The focus is on the person carrying out the focal activity (the person drilling the tooth, or giving an injection); when some sort of ‘handover’ takes place (e.g. through passing an object, making a request, or a bodily signal) the camera turns towards the next person and follows the activity until the next ‘handover’ takes place. As a result, the points of view of the camera change repeatedly, providing multiple perspectives of the same object of work.

INSERT FIGURE 3 ABOUT HERE

We find that the Roving Point-of-view privileges an understanding of space as practiced, foregrounding the interaction and relationship of people and artefacts, the rhythm and sequence of activities, and the directionalities and orientations of objects, bodies, and activities within space, and the spatial coordination of bodies. It further emphasizes the affective dimension of space pointing to the affective aspects associated with spacing activities.

By combining the point-of-view angle and the roving camera into a single apparatus, the Roving Point-of-view takes us inside the collective activity, bringing us particularly close to the space as it is practiced by clinicians. Consider Figure 3. The assistant is rapidly moving her hands to prepare the instruments on the tool table necessary for the procedure (Frame 3.1). The radio can be heard in the background. Meanwhile, the dentist is bent, concentrated, over the patient, injecting the local anaesthetic with a syringe (Frame 3.2). Once she is done she says to the patient: “Well done”, withdraws slightly from the patient with her swivel chair and, from the handpiece holder, draws the drill towards her inserting a specific bit attachment to it (Frame 3.3). Meanwhile, the assistant readjusts the lights above the patient and disentangles the cable of the saliva suction instrument below the ceramic rinsing bowl (Frame 3.4). The dentist informs the patient: “I’ll start cutting the capsule, you will feel a very strong vibration”. A short moment after, both the dentist and the assistant are bent over the patient in silence and almost without

moving. Only the radio can be heard. The assistant has placed the saliva suction instrument in the patient's mouth (Frame 3.5) and the dentist is starting the procedure (Frame 3.6).

A first aspect of how the Roving Point-of-view makes us appreciate space as practiced is by foregrounding the relationality between people and artefacts within the practiced space. Consider Frame 3.1 when the assistant opens and closes drawers to arrange the material for the operation or 3.4 when the assistant is disentangling the cables of the saliva suction instrument. These frames present a dynamic landscape of objects where instruments and artefacts are continuously rearranged, passed to the colleague, readjusted, and worked with during the procedure. In this way, the objects do not announce themselves in isolation, but the Roving Point-of-view allows us to grasp how the multiple artefacts and people interact. The practice of repairing a tooth unfolds like an uninterrupted spatiotemporal sequence, foregrounding the need for dentists to have all their tools ready to hand. In this way, space is perceived as a flow, such that the need to disentangle a cable (see: Frame 3.4) appears almost as a spatial breakdown in the flow of the practice.

A second way in which the practiced space announces itself through the Roving Point-of-view is that the researcher with the camcorder (and the viewer of the video) takes up the paces, interruptions and rhythms of the collaborative practice. By following the doings and sayings of the clinical practice, the recording takes up the rhythm at which the practice is carried out. At times, the movement (of both the practice and the camera) is frenetic (see: Frames 3.1, 3.4) while at others, we stand still for long moments to record the practitioner's almost immobile actions (see: Frame 3.2, 3.3, 3.6). Note also how the researcher with the camcorder responds to the unfolding situation in which she is involved: She zooms out when the doctor is talking to the patient in order not to disturb, 'sympathizes' with the felt concentration of the practitioner by zooming in on her (see: Frame 3.3, 3.6), or adapts to the change of tempo of the action by zooming out and providing the necessary space (see: Frame 3.1). Finally, note how the point of view repeatedly changes between the assistant (frames 3.1, 3.4, 3.5) and the dentist (frames 3.2, 3.3, 3.6) as the researcher with the videocamera tries to follow the focal activity of the collaborative practice. We therefore lack a single objective vantage point, but can appreciate the professional space of the collaborative practice *from within* that, a perspective that remains meaningful despite lacking an objective closure.

INSERT FIGURE 4 ABOUT HERE

A further insight on how the Roving Point-of-view privileges a sense of the practiced space *from within* can be gained if we once again consider reflexively how we first visually represented the recordings of this apparatus for analysis. Figure 4 shows how we translated the video images (Frame 4.1) into analytical sketches (Frame 4.2). Compared to our visual translations of the Panoramic View (Frame 1.2), here, space becomes foregrounded through the directionalities of movements, the orientations of gestures and gazes, which are represented in the lines and arrows of the sketch. For a moment, the assistant and the dentist are co-oriented towards the X-ray projected on the screen, pointing to it and bending slightly forward, while the other assistant is talking to the patient and providing direction through the gestures of her hand. Directions and orientations of bodies, objects and of movements contribute to create the space of the collaborative practice. As these directionalities do not allow for portraying the scene from a fixed vantage point, but are dynamically unfolding orientations from within, the apparatus of the Roving Point-of-view does not produce closure of meaning.

A final way how the practiced space comes to the fore through the Roving Point-of-view is by pointing to how bodies are invested in the practiced space (Shrum, Duque, & Brown, 2005). We can observe the narrowness of space when the assistant squeezes between the dentist and the wall (see: Frame 4.3), when she deals with spatial obstacles or when she and the dentist take spatial turns. These movements are full of the effort it takes to carry them out (e.g. how the assistant sucks in her belly in order to pass). We can even gain a sense of the impatience the practitioner feels when he has to wait his turn to pass as another colleague is occupying this narrow space in order to do her work. In this way, the Roving Point-of-view foregrounds also the affective dimension of space by announcing the affective aspects associated with spacing activities. Space is understood, then, through a bodily choreography (Nicolini, 2013, p. 155) where we are part of the moving - and feeling - bodies as they perform.

To conclude, the Roving Point-of-view privileges an understanding of space as practiced by the intersection of two movements: the movement of the practitioners and the movement of the film-making researcher. By following the flow of action and switching between practitioners (zooming in on the assistant, then turning to the dentist and then focusing on the assistant again)

the apparatus represents the practice as a kaleidoscope of multiple perspectives which enter the scene of action, surfacing both the common object of work but also the different vistas involved. Researchers-with-camera relate to the spatial involvements of practitioners first-hand as they experience the pace, rhythms, and orientations of their movements in space (Pink, 2007). The collective practice and its (co)orienting in space is emerging out of fragments from within, such as it is experienced by skilled agents who interact with others, but whose knowledge about the actions of others remains limited. This practiced space can convey the sentiment of disorientation when one is faced with multiplicity, continuous unfolding and a lack of singular sense. This disquiet is expressed also formally through the almost constantly moving and shaky camera that gives a viewer no chance of fixing a point of view, contemplating and making sense of the whole scene from this point of reference.

The Infra-subjective View – Loss of Meaningful Space

The fourth and final apparatus we are going to examine – the Infra-subjective View – is obtained by attaching a wearable camera on the forehead of the practitioner, in our case the dentist. Although the camera is fixed steadily on the practitioner’s front, the recordings are of a roving type because they follow every movement of the practitioner and make it possible to follow minutely her actions as if we were one with her body.

INSERT FIGURE 5 ABOUT HERE

We find that the Infra-subjective View is problematic in producing a meaningful understanding of space, since it lacks a coherent narrative structure and separates space into a meaningless series of fragments and multiple vistas as we explain in the following paragraphs.

Consider the still frames in Figure 5. The images show the detailed tasks performed by the dentist at the beginning of a procedure. After having conversed with the patient about the procedure (Frame 5.1), the dentist jokes with the patient over her daughter who has accompanied her: "she should not grow any further" [the dentist is short and the daughter relatively tall]. Everyone laughs. During this very brief interaction, the camera traces the minute activities of the dentist; we see him removing the hygiene covers from the drilling instruments, looking for a

place to dispose of them, reclining the chair of the patient (Frame 5.2), moving the light closer (Frame 5.3), fetching his instruments (Frame 5.4) and starting to work on the patient's mouth (Frame 5.5).

While the Infra-subjective View makes us appreciate space as physical extension, it engenders a fragmented view composed of multiple elements and dimensions that makes it hard to construct a meaningful understanding of space. On the one hand, the extreme wide angle – a typical technical feature of wearable cameras – allows for overseeing the whole scene of practice, in our case the intervention room of the dental surgery. On the other, being mounted on the forehead, the view is subjective and often moves very close to objects and people (in our case the patient, in particular her mouth).

The Infra-subjective view makes us thus focus on the minute activities of the practitioner-camera man. We are forced to see his arm stretching and getting the lamp closer (Frame 5.3) or we can see in great detail – finding ourselves almost literary in the mouth of the patient (Frame 5.6) – how he moves the explorer instrument between the patient's teeth to check their health, removing tiny pieces of dirt (Frame 5.5). The extreme close-up tracing of the dentist's work breaks the practice into a series of sequential procedures without offering a narrative understanding of how these sub-tasks are held together and to what they aim at. The same applies to the collaborative dimension of the practice. While we can see the assistant walking into the frame (Frame 5.5) or handling the saliva suction instrument during the procedure, the camera never stays with her work long enough to make sense of her contribution.

The fragmentation and resulting loss of meaning is true not only for the work practices, but also for space. Tracing the single sub-tasks and the dentist's necessary reorientations in space, the recording is constantly moving and produces a great sense of discomfort for the viewer. Every nod and side glance during a conversation, which our selective attention would usually disregard as unimportant, is exaggerated by provoking rather important camera movements. The reorientations in space involve also upside-down views (when the dentist is tilting his head, see frames 5.5, 5.6) and quick alterations between close-up views (Frame 5.6) and long shot views of the room (Frame 5.1). Space thereby becomes composed of a disjointed sequence of movements and orientations. It is as if the dentist is chasing one object after the other, taking it from some place and – shortly after – placing it elsewhere without allowing viewers to get a sense of the site of practice, of where these objects are actually placed and what the spatial relationships between

objects, people and movements are. The result is a space of automatisms, as if our view was guided by a machine.

Although this scene may resemble the one we have described in the Roving Point-of-view of Figure 3 (i.e. shaky shots) the difference is striking. The Roving Point-of-view still contained a narrative structure brought by the video-maker, who translates this understanding of the practice into a selection of shots following someone. His/her attribution of meaning may be contested, but it was necessary in order to create a meaning out of the fragmented view. In the infra-subjective view, this narrative understanding is absent and the apparent objectivity of the technological recording produces raw data without offering signification. The understanding of space thus privileged is a non-human space, built of a meaningless sequence of orientations, of fragmented, microscopic attentions to detail incapable of grasping a meaningful organizational space.

Discussion and conclusion

In this study we examined how four different configurations of camera angles and movement (Panoramic View, American-objective View, Roving Point-of-view and Infra-subjective View) effect the ways in which organizational space becomes available for analysis in video research. Taken together, we can show that the combinations of camera angle and movement used to collect data (which we call video recording ‘apparatuses’) constitute a configuring device, which have a performative effect on the phenomenon of interest and do not simply record it. In our case, each apparatus privileges different spatial understandings, both by orienting our gaze towards different analytical elements and by qualifying these in different ways. While many of the elements of space are still “in the frame” when we change apparatus, they announce themselves less prominently and tend to remain beyond the analytical gaze. We therefore showed that the apparatus has implications for the analytical process inviting us, in particular, to different visual translations of the video material (e.g. architectonic plan vs. handwritten sketch). Together, apparatus and analysis uncover and recover a specific dimension of spatiality, privileging a specific understanding of space. The type of methodological reflexivity (Prasad & Prasad, 2002) that we advocate here thus requires taking into account - at the same time - the interests and orientation of the researchers, their position in the field and how

the findings are configured by the apparatus they use. The call is thus for a form of reflexivity that is fully socio-material (Barad, 2003).

Table 3 summarises which understandings of space – as we identified them in existing theory – are foregrounded by which apparatus, which others are backgrounded, and which spatial understandings are present, but do not come to the fore in a particularly dominant way.

INSERT TABLE 3 ABOUT HERE

Our analysis suggests that the scarce attention paid to the processual, material and affective dimensions of space and the tendency to conceive organisational space as the inert and pre-existing background or container of organizational activities should be understood in view of the still prevailing use of the Panoramic and American-objective apparatuses. For example, the use of a Panoramic recording apparatus makes it extremely difficult to appreciate space as experienced/interpreted and how inhabitants interpret the symbolic and aesthetic dimensions of space. This, because the discursive practices of humans in space and the social processes of spatial co-orientation and mutual adjustment, are lost. Space here comes to the fore mainly as a movement in space, a result of the paths followed by clinicians, objects and instruments during the course of the activity. The American- objective View recovers some of these dimensions, in particular how sensemaking happens in the interactive space. Yet, what is lost in this case is how spaces are joined, divided and populated and how the division of spaces creates access, boundaries, and control. The American-objective View also desensitises us with regards to the active role of artefacts and architecture in constituting organizational life –given that the focus is mostly on human (inter)action. The prevailing use of these two apparatuses in video research therefore risk perpetuating the existing understanding of spatiality as a structural feature of the organizational context preventing more processual, sociomaterial accounts of space from making inroads.

Appreciating the performative agency of video-methodological practices has concrete implications for how specific research traditions relate to methodological practices. Four of these implications are worth mentioning here.

First, researchers should always reflexively interrogate the fit between their research questions, their theoretical sensitivities, and the video recording practices. For the context of organizational space, our research has shown, that each specific video-recording apparatus privileges certain understandings and explanations of organizational phenomena compared to others. Table 4 summarizes what analytical dimensions of space each apparatus foregrounds, thus contributing to form different understandings of space. Developing on our overall finding that all the various apparatuses are helpful in understanding space, each privileging different understandings, we suppose that this is similarly true for other organizational phenomena. It is not that a specific topic, e.g. leadership, can be best studied through one video recording apparatus, but that each apparatus will encourage a different understanding of leadership and thus may serve certain explanations and theoretical sensitivities better than others (see third column of Table 4). Based on our findings for organizational space, we can make informed speculations of what kinds of explanations each apparatus will favour for organizational phenomena more generally (see: second row of Table 4).

INSERT TABLE 4 ABOUT HERE

Table 4 warns, for example, about the possible unintended consequences of the generalized use of the American-objective View, the apparatus of choice of conversational analysts which ‘fits’ nicely into their longstanding interest for the sequential organization of talk in interaction (Heath et al., 2010; Luff & Heath, 2012). Although this apparatus has a long pedigree, it might become problematic for other uses, for instance when conversation analysts pursue studies on multimodality (Jones & LeBaron, 2002; Mondada, 2011). In fact, our study provides some indications that the American-objective perspective will favour human-centric explanations so that, through this vista, the participation of bodies and material artefacts in interaction will continue to be seen as a support of the human interaction, which remains at the centre. Aiming to further a processual or sociomaterial account of organizational practices (e.g. in strategy), the scholar will be better served by the Roving Point-of-view pointing to the continuous unfolding and relationality of activities, material artefacts, and human actors. Similarly, our study cautions against the unintended consequences of the use of the Panoramic View that may be chosen for pragmatic reasons linked to issues of access (as in our first case study).. It will dwarf the work of

the individual and favour, instead, structural explanations and systemic approaches. The general word of caution is then that methodologically naïve researchers can fall within a tradition against their intention simply because the apparatus they deploy makes them do so.

Table 4 is provisional in that it is largely based on the results of our research and as such reflects both its strengths and limitations. For example, it is necessarily incomplete as other apparatuses could be added. It is also partially speculative as we have limited our empirical investigation to organizational space only and can merely infer from our findings in this context what the performative effects of the video recording apparatuses may be for other organizational phenomena. The table should therefore be conceived as a tool to foster reflexivity rather than as a normative prescription. Also, the idea of “fit” should also be interpreted in a rather loose way as an effort to offer general indications for practice. In our case, the relation between apparatus and spatial understanding was neither causal nor linear. The apparatuses did not conceal or hide spatial features; rather foregrounded some elements and backgrounded, thus privileging certain understandings without excluding others. Also, the work of the apparatus and the interest of the researcher combine in complex and unexpected ways. Accordingly video-researchers can try to counter the work of the apparatus, but our claim is that this is an uphill effort: think for example of the inconclusive work in reconstructing the position of the shooter in the Kennedy assassination based on a mid-angle, moving shot.

Secondly, our study suggests the need to carefully and thoughtfully combine and contrast different apparatuses in a single study. By drawing on more than one apparatus, different dimensions of an organizational phenomenon can be recovered and rendered available for developing different understandings of the phenomenon (see, e.g. Ray & Smith, 2012). By combining a Panoramic and American-objective View, for example, not only do we have analytical advantages by capturing, through multiple cameras, how work is conducted in a distributed fashion and tracing, close-up, each participant’s detailed actions (Luff & Heath, 2012; Smets et al., 2014). By combining apparatuses, we can pursue a diffractive methodology that allows us to juxtapose apparatuses and analyse how the differences between their representations point to the apparatuses themselves and how they perform different objects of inquiry. Barad (2011) describes diffraction as “the practice of reading insights through one another while paying attention to patterns of difference” (Barad, 2011, p. 3; Nicolini & Roe, 2014). For our case of organizational space, this means, for example, to combine a panoramic view with a roving

camera, as we did in one of our emergency room studies not discussed here for reasons of space. The result was that we could plot the intimate portrait of the patient experience and her journey against the geometrical understanding of the usable space in the waiting room. Things that we could not see in either of the two recordings alone, for example the inappropriate location of the television screen and its excessive volume, became forcefully visible when the two were used in combination. Diffractive uses are especially promising in the context of collaborative research and video reflexivity (Carroll et al., 2008), as practitioners can be exposed to contrasting renditions of their organizational practice, which can enhance multiple interpretations, dialogue and more playful experimentations with new organizational arrangements.

Thirdly and strictly related, our study suggests the need to carefully document and discuss the choice and use of camera angle/movement apparatuses in video-based research during the reporting phase. This is especially important when only a few snapshots are provided in the final text. Similarly, publications based on video research should explicitly thematise the implications of the positions of the camera and the rationale for their selection. Given that multiple ways to video record spatial phenomena are equally familiar or plausible the choice of a given one at a given time is highly significant and should be considered when critically appraising the contribution of the study.

Finally, our performative sensitivity suggests that apparatuses do not only have constraints that need to be reflexively addressed. Apparatuses can also become generative and foster innovation. Just as the introduction of the head mounted cameras may allow for recovering a new type of spatial understanding, other opportunities may emerge from new technologies or new apparatuses. A case in point is the work of artist Bill Viola who uses extreme slow motion to amplify the expression of human emotions. While this may be beneficial for the study of a multitude of organizational phenomena, for our case of organizational space, such an apparatus could help to direct attention to the embodied and experiential aspects of performing everyday organizational space (Beyes & Steyaert, 2012). It could allow for reframing space in terms of “intensities, capacities and forces; rhythms, cycles, encounters, events, movement and flows; instincts, affects, atmospheres and auras; relations, knots and assemblages” (p.47), that is “a rethinking of space as processual and performative” (p. 46).

Our study has several limitations that need to be explicitly acknowledged. Firstly, we limited our focus on four camera angles and movements. This four-fold framework can be further

enriched with other apparatuses and combinations of camera angles and movements. In addition, camera angle and movement represent just some of the multiple choices researchers make during video-based data collection. For example, our study indicates that the audio aspect of video recording also contributes to our understandings of space and this dimension should also be systematically explored. Secondly, our four apparatuses did not consider other practices of collecting data with video, e.g. filming techniques (Broth, 2008), or when to film and stop filming. Nor did we address other important phases of video-based studies such as data editing, data transcription and data analysis. Finally, while utilizing Barad's notion of apparatus, we mainly focused on material rather than discursive practices. This contravenes Barad's position that the two are tightly connected and we can only understand the workings of an apparatus by studying how the two interact (Barad, 2003). Future studies will have to address this gap and inquire, more closely, the relationship between apparatuses for video recording and analytical orientations.

Our study is only a first step towards a performative approach to video methods, a perspective that remains largely unexplored and therefore raises more questions that it can answer. Beyond organizational space, on which we here focused, we will need to inquire how organizational phenomena such as coordination, improvisation, leadership or strategy are performed differently by different video-recording apparatuses. More research is necessary to corroborate how video produces space and to identify how this applies in the research practices of many organizational phenomena.. In view of all these open avenues, we hope that the preliminary grammar for studying the performative effects of video research practices we have presented here can prove a useful compass.

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Table 1: Understandings of Space and their Analytical Elements

UNDERSTANDINGS OF SPACE	ANALYTICAL ELEMENTS	RELEVANT STUDIES
<i>Space as physical extension</i>	<ul style="list-style-type: none"> – Objective position of objects (e.g. furniture, machines, tools) and people <i>in</i> space (e.g. workspace layout) – Architectural elements (workspace layout, colour, décor, design) – Proximity vs. distance between elements – Changes and movements of collectives of objects and people over time (e.g. clustering dynamics, patterning) 	(Clegg & Kornberger, 2006; Lefebvre, 1991; Taylor & Spicer, 2007)
<i>Space as materialization of power</i>	<ul style="list-style-type: none"> – How spaces are joined, divided and populated (e.g. work and non-work spaces, division of spaces between professional groups/hierarchies) – Access and control of entry – Control of location of objects and people in space – Resistance to planned space (e.g. deviant uses, use of liminal spaces) 	(Clegg & Kornberger, 2006; Dale & Burrell, 2008; Sewell & Wilkinson, 1992; Taylor & Spicer, 2007)
<i>Space as experienced/interpreted</i>	<ul style="list-style-type: none"> – How people make sense of the spaces they inhabit – Interactions and discursive practices of humans in space – Body language and material signals – (How inhabitants and visitors interpret) the symbolic and aesthetic dimensions of space (cubicles vs. open space; position of the managerial suite) – Stories that spaces tell (e.g. of the identity or history of an organization) 	(Berg & Kreiner, 1990; Gastelaars, 2010; Hatch, 1990; Lefebvre, 1991; Taylor & Spicer, 2007; Van Marrewijk & Yanow, 2010)
<i>Space as practiced (social and material spacing)</i>	<ul style="list-style-type: none"> – Interaction and relationship of people and artefacts – Space as rhythm and sequence – Directionalities and orientations of objects, bodies, activities within space – Spatial coordination of people (e.g. mutual adjustment of bodies) 	(Beyes & Steyaert, 2012; de Vaujany & Vaast, 2014; Jones et al., 2004; Lefebvre, 1991, 2004 [1992])
<i>Affective dimension of spacing</i>	<ul style="list-style-type: none"> – Intensities of spatial relationships generating an affective sphere – Affective aspects associated with spacing activities (e.g. ‘let’s get closer’) – Atmospheric aspects of space perceived through multiple registers of sensation (e.g. soundscape, olfactory quality of space) and their associated affective consequences 	(Beyes & Steyaert, 2012; Elden, 2004; Pile, 2010; Simonsen, 2007; Sloterdijk, 1998; Thrift, 2004; Wasserman & Frenkel, 2011)

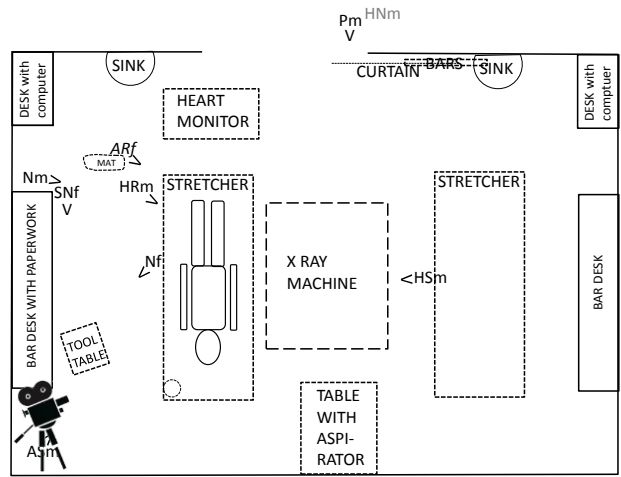
Table 2: Four Apparatuses for Studying Organizational Space Combining Camera Angles, Subject Size and Camera Movements (italics indicating moving/roving camera)

Shots rel. to subject size Camera angles	long	medium	close-up
objective	Panoramic View	American-objective View	
point-of-view	<i>Roving Point-of-view</i>		
subjective	<i>Infra-subjective View</i>		

Figure 1: Space as Physical Extension in the Panoramic View



Frame 1.1: Stabilizing patient, enters x-ray machine



Frame 1.2: Assistant surgeon working on head injury, radiologist taking out films



Frame 1.3: Assistant surgeon controls stability of hip, exits x-ray machine, nurse prepares bars for log roll



Frame 1.4: Performing log roll to control spinal cord

Figure 2: Space as Experienced/Interpreted through the American-objective View

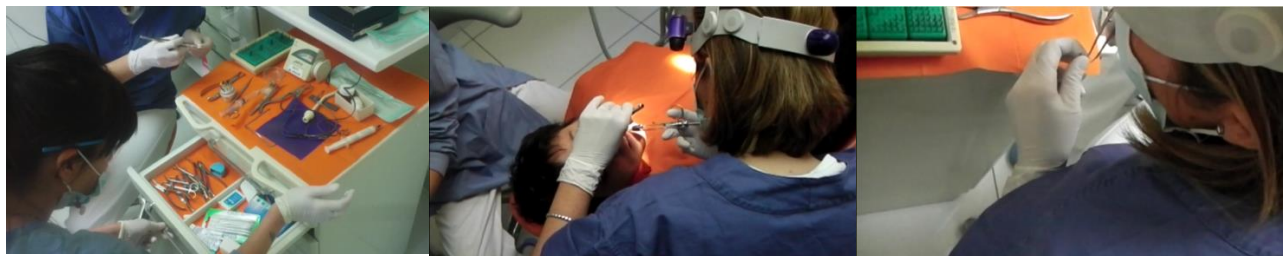


Frame 2.1: Placing the lead shield on patient

Frame 2.2: Preparing to insert the bite-ring with the film for x-ray

Frame 2.3: Interacting through the mediation of a Frisbee-protection shield

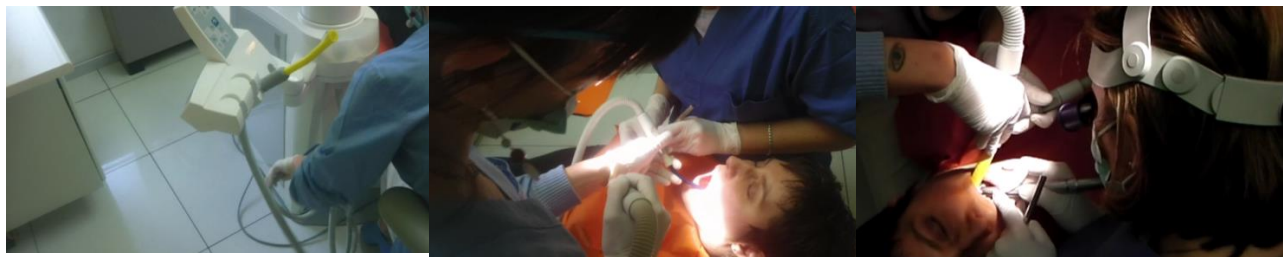
Figure 3: Space as Practiced through the Roving Point-of-view



Frame 3.1: Assistant preparing instruments for operation

Frame 3.2: Dentist injecting anesthetic with a syringe

Frame 3.3: Dentist choosing bur for dental drill



Frame 3.4: Assistant disentangling saliva suction instrument

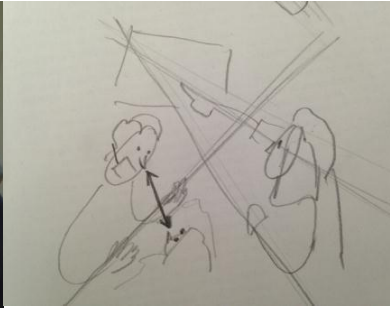
Frame 3.5: Assistant maneuvering saliva suction instrument

Frame 3.6: Dentist cutting capsule

Figure 4: Directionalities from within and Spacing (Roving Point-of-view)



Frame 4.1: Directionalities in Space from within

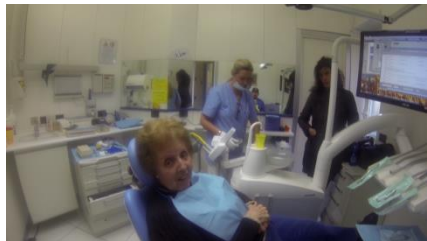


Frame 4.2: Translating directionalities

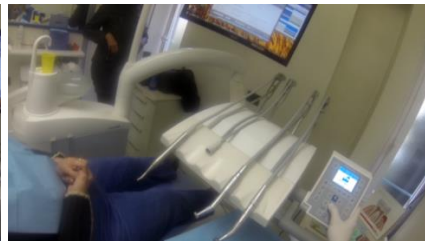


Frame 4.3: Spacing as the spatial coordination of bodies

Figure 5: The Loss of Meaningful Space in the Infra-subjective View



Frame 5.1: Dentist informs the patient about the upcoming procedure



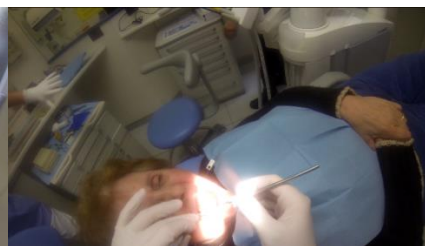
Frame 5.2: Dentist does several quick head moves between patient and a device to recline the patient chair



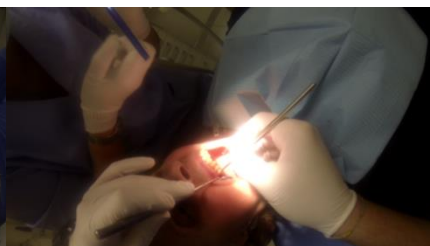
Frame 5.3: Dentist moves light closer



Frame 5.4: Dentist fetches instruments



Frame 5.5: Dentist starts working on patient's mouth



Frame 5.6: Working with explorer tool

Table 3: The Understandings of Space as they Are Performed by the Four Video-recording Apparatuses

Spatial understanding Apparatus	Space as physical extension	Space as materialization of power	Space as experienced /interpreted	Space as practiced (social and material spacing)	Affective dimension of spacing
Panoramic View	Foregrounded	Foregrounded	Backgrounded	Present	Backgrounded
American-objective View	Backgrounded	Backgrounded	Foregrounded	Present	Present
Roving Point-of-view	Backgrounded	Present	Present	Foregrounded	Foregrounded
Infra-subjective View	Present	Present	Backgrounded	Present	Backgrounded

Table 4: Expanding from organizational space to organizational phenomena: When to draw upon which video recording apparatuses

Apparatus	Modes of understanding of organizational phenomena favoured by the apparatus	Understandings of space and their analytical dimensions foregrounded by the apparatus	Spatial research themes that fit the apparatus
<i>Panoramic</i>	<ul style="list-style-type: none"> – Structural explanations – Sensitivity to the systemic dimension of organizations – Critical sensitivity and political explanation – Organizational symbolism 	<p><i>Space as physical extension</i></p> <ul style="list-style-type: none"> – Objective position of objects (e.g. furniture, machines, tools) and people in space as well as their relative proximity and distance – Architectural elements – Changes and movements of collectives of objects and people over time (e.g. clustering dynamics, patterning) <p><i>Space as materialization of power</i></p> <ul style="list-style-type: none"> – Symbolic meaning of architectural elements (e.g. layout) – How spaces are joined and divided (e.g. work/ non-work spaces, spatial divisions between professional groups) 	<ul style="list-style-type: none"> – Space planning and design to foster efficiency and specific organizational behaviours (e.g., collaborative spaces) – Symbolical value of spatial relationships, décor and architecture (e.g. space as expressions of organizational identity and image) – Leadership and political uses of space (surveillance, control and creation of panoptic effects; space and resistance; space and dissent)
<i>American-objective</i>	<ul style="list-style-type: none"> – Human centred explanations: Focus on personal/managerial skills – Interactional accounts: Discursive, sequential construction of organizational reality, dialogical processes of sensemaking and giving – Naturalistic view 	<p><i>Space as experienced /interpreted</i></p> <ul style="list-style-type: none"> – Interactions and discursive practices of humans in space – Interpretations of the symbolic and aesthetic dimensions of space (e.g. value of relation and status associated to furniture) – Participation of body language and material signals in interaction – Intensities of spatial relationships generating an affective sphere (e.g. managing fear, putting a client at ease) 	<ul style="list-style-type: none"> – Spatial dimension of interactional activities, e.g. proxemics, orientation and other and non-verbal behaviours – Ergonomic studies of bodily best practices in a spatial surrounding – Discursive leadership construction drawing on spatial elements
<i>Roving Point-of-view</i>	<ul style="list-style-type: none"> – Relational explanations: routine and practice-based studies of organizing – Organising as a collective accomplishment and co-orientation – Processual accounts: Temporality, continuous enfolded of organizing – Sociomateriality: Embodied nature of organizing, object-orientations 	<p><i>Space as practiced</i></p> <ul style="list-style-type: none"> – Interaction and relationship of people and artefacts – Rhythm and sequence of activities and encounters – Directionalities and orientations of objects, bodies, activities within space – Spatial coordination of bodies <p><i>Affective dimension of spacing</i></p> <ul style="list-style-type: none"> – Affective aspects associated with spacing activities (e.g. sense of irritation by taking spatial turns) 	<ul style="list-style-type: none"> – Flexworkers/mobile workers continuously enacting work spaces and the boundaries with leisure spaces – The role of spatial thresholds/passages when constructing a sense of place – spatial arrangements and distributed leadership practices
<i>Infra-subjective</i>	<ul style="list-style-type: none"> – Organizational conduct as a sequence of decision making moments and choices – Individualistic accounts: skills – Denaturalization of human conduct 	<p><i>(Inconclusive production of space)</i></p> <ul style="list-style-type: none"> – Position of objects and people in space – Changes and movements of single objects and people in space – Disjoined sequence of procedures, movements, reorientations, vistas of individual practitioner (carrying the camera) – Discursive practices mostly of the practitioner carrying the camera 	<ul style="list-style-type: none"> – Spatial dimension of procedures and routines: spatial rhythms, cycles and encounters – Spatial re-orientations inherent in workflows – Mobile work practices of an individual worker – Usability of spaces