

Knowing the Way. Managing Epistemic Topologies in Virtual Game Worlds

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Abstract This is a study of interaction in massively multiplayer online games. The general interest concerns how action is coordinated in practices that neither rely on the use of talk-in-interaction nor on a socially present living body. For the participants studied, the use of text typed chat and the largely underexplored domain of virtual actions remain as materials on which to build consecutive action. How, then, members of these games can and do collaborate, in spite of such apparent interactional deprivation, are the topics of the study. More specifically, it addresses the situated practices that participants rely on in order to monitor other players' conduct, and through which online actions become recognizable as specific actions with implications for the further achievement of the collaborative events. The analysis shows that these practices share the common phenomenon of projections. As an interactional phenomenon, projection of the next action has been extensively studied. In relation to previous research, this study shows that the projection of a next action can be construed with resources that do not build on turns-at-talk or on actions immediately stemming from the physical body—in the domain of online games, players project activity shifts by means of completely different resources. This observation further suggests that projection should be possible through the reconfiguration of any material, on condition that those reconfigurations and materials are recurrent aspects of some established practice.

Keywords conversation analysis, collaborative gaming, coordinated action, ethnomethodology, gameplay, massively multiplayer online game, projectability, recognizability, virtual action

1. Introduction

The nature of social action, and, the various means through which people establish mutual orientations, continue to intrigue us as students of the social sciences. Adding technology—as with the case of collaborative virtual environments—renders the picture even more difficult to explicate. In what follows, we will attempt to provide a minor contribution to this large discussion by illustrating some perspicuous features of how coordination is achieved in the context of multiplayer online games.

A vast number of studies in the tradition of conversation analysis have elaborated on the fact that so much of social life is built on the use of talk, and how many organizations and institutions are coordinated and implemented through talk in interaction. A primary concern has been the ways in which turns-at-talk are ordered to make actions take place in

conversation (e.g., Sacks et al. 1974; Schegloff 1968, 1996a, 2007). Another related strand of research has emphasized the role of the human body in the ongoing achievement of coordinated action. As argued by Goodwin, “[s]trips of talk gain their power as social action via their placement within larger sequential structures, encompassing activities, social structural arrangements, and participation frameworks constituted through displays of mutual orientation made by the actors’ bodies” (2000, p. 1492). Studies focusing on the body have also shown that when people arrange themselves for a common activity “they enter into a system of spatialorientational behavior which can be conceived of as a unit of behavioral organization at the interactional level” (Kendon 1990, p. 236). Studies of “talkand- bodily-conduct-in-interaction” (Mondada 2006), more closely related to the area of CSCW have addressed issues such as: the social organization of cooperative work in a control room through the use of a complex array of tools and technologies (Heath and Luff 1992a), the ways in which visual conduct, in concert with talk, is used to accomplish demonstrative reference (Hindmarsh and Heath 2000), or, how tangible interaction affords social interaction and collaboration (Hornecker 2005).

The coordinating practices studied in the current work, neither rely on the use of talk-in-interaction nor on a socially present living body. What remains, as materials on which to build consecutive action, is the use of text typed chat, and the largely underexplored domain of virtual actions. This last subject, especially when not accompanied by talk-in-interaction, constitutes a “missing what” (Garfinkel and Livingston 2003) of interaction studies.

A major issue in previous research on virtual worlds concerns social action, and, how to analytically approach the relation between real world phenomena and phenomena occurring in the virtual domain. This point of departure has caused a split between studies investigating virtual domains grounded in the analysis of interaction cues from the physical world (cf. Hindmarsh et al. 1998; Moore et al. 2007a) and studies that regard these technical platforms as resembling “metaphors of everyday interaction”, i.e. the physical world, but as “by no means constrained by them” (Irani et al. 2008, p. 195). While virtual worlds have many features that are structurally similar to face-to-face interaction, they regularly build on interaction practices tied to chat tools. In addition, the genre of games labeled Massive Multiplayer Online Games (MMOs) is also driven by, and centered on, activities emanating from the computer games themselves. This makes relevant the problematic question of the “real life” baseline as an evaluation or comparison tool for virtual world embodiment and action (Dourish et al. 1996; Irani et al. 2008).

The use of text typed chat is often central to gaming practices, and sometimes the primary means by which the collaborative experience is built, for instance, in the case of online role-playing (Bennerstedt 2008b). In contrast, the groups and game situations analyzed in this study, point to the use of chat as only intermittently relevant and relied on in the practices studied. This could be initially understood by the fact that, unlike the spoken word, chatting (by texting) competes with the timely performance of certain game related actions. How, then, members of MMOs can and do collaborate, in spite of such apparent interactional deprivation, are the topics of our study. More specifically, we will address the situated practices that participants rely on in order to monitor other players’ conduct, and through which online actions become recognizable as specific actions with implications for the further achievement of the game in progress.

2. Computer gaming

Today, virtual spaces have become everyday places for millions of players in online games (in 2008 over 16 million players worldwide, according to Woodcock (2008)). Players in front of their computers, engaged in MMOs, spend an average of 22 h per week inside these computer-rendered worlds (Yee 2006). They get involved in activities that stem from the game as well as social events with other players. As this leisure practice has gone mainstream, spending time in online societies is a contemporary phenomenon where players get highly skilled in handling a

game interface and where they carry out courses of action in a 3D environment populated with other people by means of characters (a term used by researchers of virtual environments for 3D figures is avatars). MMOs, such as World of Warcraft and The Lord of the Rings Online, are not only populated with players that form tightly knit communities (cf. Nardi and Harris 2006; Steinkuehler and Williams 2006), the activities also build on the contents provided by the computer game. In this way, MMOs differ from nongame related virtual worlds (e.g. Second Life). In relation to virtual worlds without game content, MMOs structure players' activities in that they have to adjust to certain ways of using the game in order to progress and to become a "normal" and accepted online citizen.

One of the most common activities that players in MMOs get involved in is what can be described as team-oriented gaming practices. There are various reasons why players team up in groups to engage in gaming practices. Central incentives are tasks that require the combined strength of several avatars (tasks often stem from so called quests that the game provides). Other reasons given for entering into these collaborative activities are: the intention to aid others just for the pleasure of offering help and expertise (Duchenaud and Moore 2004); it is an arena on which to stage role-playing events (Linderoth 2008) or, as some gamers testify, participation may be based on feelings of group pressure (Linderoth and Bennerstedt 2007). Engaging in gaming practices is often glossed as gameplay, thereby implying that the gamers interact with the computer game rules in certain ways (Juul 2005). Juul directs attention to the fact that computer games are to be understood as divided between rules and fiction. Parts of the game and the interface are interactive while other parts are merely decorative (i.e. phenomena that players cannot interact with). With the notion of gameplay we want to point to activities that players get involved in, which to some degree originate from the design of the game, i.e. interactive structures set up by the producers of the virtual environment in question. Our understanding of team gameplay builds on this notion but adds the significant element of collaboration with other players. Especially how the socio-technical set-up of the game environment mediates the collaboration is of importance for our further analysis.

Different MMOs use different labels for the most common form of team, a fellowship in The Lord of the Rings Online (LOTRO) or a party in World of Warcraft. More importantly, however, there are technological constraints on the size of such groups. In LOTRO, this means that the most basic form of a team can comprise of a maximum of six players.¹ In a fellowship or party the members have certain functions available to them, such as a chat channel that is only visible for the members and information bars of the members' avatars. Gee (2008) describes gamers' involvement in teams with a focus on the pleasure of such practices:

One of the fascinating things about modern video gaming is that game designers have discovered that people find great pleasure, excitement, and fun in organizing themselves into cross-functional teams, however boring the concept sounds at an institutional level. Though such teams have given rise to high stress and a lot of tensions in workplaces, millions play on such teams for pleasure in games like World of Warcraft. In World of Warcraft, a hunting group might be composed of a Hunter, Warrior, Druid, Mage, and Priest. (p. 33)

In order to explain team-oriented gameplay, Gee (using World of Warcraft as an example) points out that MMOs are built on the differentiation of avatars. The different capabilities of avatars can be traced back to the choices made by the players when they first created their characters. Thus, players in groups have different roles depending on their avatars' area of expertise (its so called class). There are three major roles: the healer who takes on the function of healing other players' avatars, the damage dealer who can inflict a great deal of damage on adversaries, and the tank who has a strong and solid armor, able to withstand prolonged attacks. Several classes are hybrids that make it possible to shift between roles in the course of action. The ways players are set up to work together, in order to achieve certain goals in the game, can be understood in the

light of what Reynolds (1993) describes as “heterotechnic cooperation.” With this term, Reynolds wants to characterize the “essence of human technical activity [as] anticipation of the action of the other person and performance of an action complementary to it, such that the two people together produce physical results that could not be produced by the two actions done in series by one person.” (p. 412). Heterotechnic cooperation is partly supported and assumed by the game design, but it also makes demands on the individual players. Gee continues to explain what a competent player must be able to handle in “a hunting group”.

Each of these types of characters has quite different skills and plays the game in a different way. Each group member must learn to be good at his or her special skills and also learn to integrate these skills as a team member into the performance of the group as a whole. Each team member must also share some common knowledge about the game and game play with all the other members of the group—including some understanding of the specialist skills of other player types—in order to achieve a successful integration. So each member of the group must have specialist knowledge (intensive knowledge) and general common knowledge (extensive knowledge), including knowledge of the other member’s functions. (Gee 2008, p. 33)

This is one way of describing some features of team gameplay. However, the description does not make visible the ways in which team members accomplish their “hunting” or the work that is needed to sustain a well-ordered group. In the next section, some of the previous research on team oriented online games is outlined.

3. Studies of interaction and virtual worlds

One way to make sense of the social landscapes that unfold in MMOs, multiplayer combat games and other 3D virtual environments is to compare them to face-to-face interaction among participants in everyday and workrelated settings. Such comparisons have caused researchers to paint a picture of the communication in virtual worlds as impoverished and in need of further improvements (cf. Manninen and Kujanpää 2005; Moore et al. 2007a). Moore et al. (2007a) point out that MMOs aim to emulate the semiotic resources available in face-to-face settings by copying aspects of how people organize their bodies, and, transforming those features into a computerrendered proxy (for example, running, walking, dancing, waving and, of course, fighting).

Regardless of its level of refinement, a computer-rendered world will inevitably be a second-order copy of the embodied world as we know it. This does not mean, however, that interaction-by-proxy is impossible—clearly, the millions of players, carrying out joint enterprises in virtual game-worlds daily, attest to the contrary.

Manninen and Kujanpää (2005) claim that the “interaction cues” provided in the online game they examined is insufficient and in need of more refinement. Allegedly, this insufficiency is “reducing the interaction between players” (Manninen and Kujanpää 2005). At the same time, the authors also note that whatever the scarcity of interaction cues, the players inevitably create ways of coming to terms with other players’ intentions. It can be seen that these social worlds take on a life of their own, where certain ways of acting, perhaps unintended from a design perspective, become ordinary practices. Manninen and Kujanpää (2005) give an example from a first-person multiplayer combat game (where the players sees the game environment through the eyes of their avatars) in which gamers are observed to use the in-game weapon as a device to direct the attention of other players. In the words of Moore et al. (2007b) such use of available deictic resources becomes a case of “player-invented workarounds” (p. 22).

Furthermore, Manninen and Kujanpää (2005) point out that the computer screen sets certain limits to the visual access players have to the game environment and to their co-players. As a countermeasure, “players tend to constantly run around with necessary side-glances to see what is going on outside their restricted field of view” (Manninen and Kujanpää 2005). Reeves

et al. (2009) have another take on these phenomena. Through a detailed account, this study works out how expert players, of another first-person perspective action game, make sense of other players' spatial behavior; addressing how players orient towards and move in relation to other team members, how they discern if a member is a friend or foe, by means of situated practices of monitoring the terrain they are navigating in.

Earlier research on virtual environments also points to a problem of coordination—a problem said to stem from the lack of certain visual information. In most collaborative virtual environments (CVEs) it is hard to see, at a glance, what the co-participants are currently paying attention to (cf. Fraser et al. 2003; Hindmarsh et al. 1998; Hindmarsh et al. 2006; Moore et al. 2007a). Hindmarsh et al. (2006) describe fragmentation as one of the problems with virtual interaction and that the embodiments of avatars are misleading.

It may be that seeing a pseudo-humanoid form for an avatar is confusing. This kind of 'embodiment' may give participants a sense that it possesses a roughly 'human-like' field of view, i.e. around 180°. However, the users' field of view in this CVE is only 55°. (p. 811).

Given all the work on how people in interaction monitor the attention of others and continuously adjust the production of further actions (Goodwin 2000; Heath et al. 1995; Streeck 2009; Tulbert and Goodwin 2008), one could expect that the shift into virtual worlds calls for problems in coordinating action. Again, the problem is placed in relation to face-to-face settings, where people regularly coordinate joint activities based on what is visually accessible at a glance (cf. Goodwin 2006). The questions concerning how players in the game genre of MMOs manage their visual field and their relation to the 3D figure, when engaged in everyday gaming activities, are therefore relevant to address further.

As briefly noted above, players' fields of view differ between games. In MMOs, players do not (normally) see the game environment through the eyes of their avatars. Rather, it is a third-person view and hence it is given from a distance, an adjustable radius (by zooming in and out) tied to the 3D figure one is controlling (see Figure 1). Irani et al. (2008) describe this feature as virtual worlds' having an invisible camera tool that "allows the user to look where his or her CVE [virtual] body is not" (p. 191). This implies that the visual access the player has to the scene, at any given moment, is not tied to the current orientation of the avatar (it is, however, contingent on the location of the avatar in the game environment). In addition, a player in a MMO will have to pay attention to not only what happens in the proximity of their avatar, but also to a large number of icons and representations that belong to the game interface (e.g. mini-maps, chats, inventories, energy bars, and objectives).

This raises the issue of the relation between the living body and what, for all practical purposes, becomes the primary locus for monitoring the visual attention of others.² Kendon (1985) points out that for humans in interaction "there is a systematic relationship between spatial arrangement and mode of interaction" (p. 240). He shows how participants in human face-to-face parties organize their bodies to achieve "interaction of a certain sort" (p. 241) and during the course of action, spatial and orientational positionings are used as resources for finding out the expectations and intentions of participants. Kendon (1985, 1990) shows that people orient their physical bodies in so called F-formation systems to maintain a "focused encounter." For members of these encounters, it is mainly their lower body segments that determine how they arrange themselves.

When a person is standing, this is largely determined by the placement of his feet. Once an individual has adopted a particular bodily location and orientation he is still free to rotate his head and to some extent his shoulders through a considerable arc before he must begin to turn his lower body as well. (1990, p. 211).

When participants stand in a circle they are seen to coordinate a joint conversation by means of small adjustments in orienting and moving different body segments. This means that in the situated activity system, individuals have what Kendon refers to as a transactional segment that is “a space extending in front a person which is the space he is currently using in whatever his current activity may be.” (1990, p. 210). However, “an F-formation system is defined as a system of behavioral relations between individuals, and any given instance of such a system lasts just as long as these relations persist.” (1990, p. 212). This implies that participants work to maintain an F-formation that emanates from the positioning of the front of the physical body. Added to this, the ability to re-orient the upper parts of the body, without repositioning the lower segments, so called “body torque,” can also be used to display engagement with multiple courses of action (Schegloff 1998).

When juxtaposing the research on player’s fields of view by means of the computer screen with Kendon’s (1990) notion of the transactional segment, we can see that they address related phenomena, albeit with important differences. These differences have implications for how players can make-sense of other players’ actions. To summarize, in sharp contrast to much face-to-face interaction, the visual orientation of the players, what they are attending to, is not a socially accessible event. What this entails, for the interactive work of the players, is, however, a matter for further empirical analysis.

In the following section, we will outline our analytical approach through which we examine the ways members of MMOs coordinate actions and sustain a joint group in the virtual terrain. In contrast to previous research, analyzing prototype technologies (Hindmarsh et al. 2006) or aiming for design improvements (Moore et al. 2007a, b), we focus on how players accomplish group-related work; work, that for them is everyday routine practice.

4. Analyzing the art of cooperative gameplay

This work departs from the already stated observation that millions of gamers manage to collaborate and coordinate their actions in their everyday use of MMOs. Our analytical interest, then, lies in “discovering the social organization underlying the production and intelligibility of ordinary, everyday social actions and activities.” (Heath and Luff 1992b, p. 308). Or put more precisely, we will address what makes game-relevant actions and activities intelligible to the cohort of players studied.

The study is in line with workplace studies that draw on detailed ethnographic accounts demonstrating how work gets done (cf. Heath and Luff 1992a; Suchman 1987). More precisely, it has similarities with studies focusing on the social organization of actions and activities outside ‘traditional’ workplaces, such as the everyday use of technologies in the home environment (Crabtree and Rodden 2004), including diverse playful pursuits (Crabtree et al. 2005). Within this tradition, there are a number of studies that unpack the ways in which games are socially organized by the players, and it is argued that such an approach may advance our “understanding of playful activities and design for them” (Crabtree et al. 2007, p. 168). Previous studies of games have scrutinized the skills of orchestrating a ubiquitous and performance game (Crabtree et al. 2007) and documented expert play in online games (Reeves et al. 2009). Our aim is to study the work of players involved in team-related activities, with an eye towards the interactional details of this work. For this end, we adopt an ethnomethodological and conversation analytical approach (Garfinkel 1967; Sacks et al. 1974).

In *The Lord of the Rings Online*, the available forms of interaction between players, involve talk as typed chat, coupled with the use of avatars (voice-chat functionality was implemented a few months after the release date but its use does not occur in our material). The game interface is predominantly visual/ textual in character. It provides a local game terrain in which the avatar is situated (Reeves et al. 2009) and additional displays that offer a “terrain for human

involvement” (Sudnow 1983, p. 21). So, even if there is an aural dimension, given through the game produced sounds, the analysis could be seen to emphasize visual resources and practices around the game interface.

In the study, we are informed by the way Ryave and Schenkein (1974) utilize an “analytical technology for gaining access to the methodic practices of members engaged in doing walking” (p. 273). In *Notes on the Art of Walking*, Ryave and Schenkein describe an analytical framework for the “navigational problem” (p. 273) when engaged in transporting a human body on a street. The authors make visible the ways in which members’ produce and recognize events on the street as resources for, and constraints on, the continuation of their walking. By drawing on members’ methods, their solutions to accomplishing walking, they show that walkers achieve their walking by seeing others on the street as walking-together or as walking-alone. Ryave and Schenkein take what they refer to as a “commonplace phenomenon” (p. 265) and highlight the ways in which these phenomena are insignificant for the walkers—but at the same time, by highlighting such members’ procedures, it makes the mundane and ordinary stand out analytically. In a street there are, besides other walkers, natural boundaries. For example, houses and other structures act as walls, while trees and garbage cans become obstacles. However, as Ryave and Schenkein note, these boundaries can at times become involved in the on-going accomplishment of walking. The authors also give examples of extraordinary events in terms of walking on a street that has a pavement, for example “walking on the top of parked cars” or “through a hand-holding couple.”

Here, we focus on what in ethnomethodology has been termed the practical reasoning in our examination of team gameplay. As formulated by Turner (1974):

it emphasizes that members are—as a condition of their competence— rendering scenes intelligible, reasonable and accountable, that their world is a constant doing and achieving. ‘Practical’ actors make and find a reasonable world: their doing so is topically available for the social scientist. (p. 10)

The question that we want to investigate has some resemblance to the navigational problem facing walkers on the street. Ryave and Schenkein (1974) argue that they are pursuing an analytical inquiry, namely “what is the nature of the work executed routinely by participant walkers?” (p. 267). This work is categorized as the members’ methods for the production and recognition of events happening on the Estrada. Our examinations of team gameplay in MMOs have drawn our attention to how members recurrently initiate certain projects, and subsequently work to maintain these in order to advance within the game setting.

In an attempt to unravel some parts of this work, we aim at two things. First, we want to outline some of the various practices, or activity types, that players carry out when they play in teams. These activities can be understood as nested and with possible temporal relations between them. Second, we aim to describe players’ methods for 1) recognizing, 2) sustaining, and 3) changing an activity.

4.1. The data and the setting

The analysis is primarily based on screen-captured video, but it also builds on an understanding of gaming practices established through years of playing by both authors. Out of several hundreds of hours playing time in MMOs, only a fraction has been video-recorded. The total amount of in-game video material gathered from three MMOs (*The Lord of the Rings Online*, *World of Warcraft*, and *Age of Conan*) consists of 90 h, mainly consisting of group activities of coordinated gameplay and role-playing situations. In the team-oriented material, most of the avatar-interaction is not based on written (chat) posts but rather on visual cues.

For the empirical illustrations of this study, we used a European server of *The Lord of the Rings Online* (LOTRO) (see Figure 1 for some properties of the game interface). LOTRO was



Figure 1. The ethnographical setting for the study of everyday life in LOTRO. On the screen, one avatar is visible (in this case, the avatar belongs to the first author). Several resources can be seen: in the upper left corner there are icons and status bars of the playercontrolled avatar, other team members' avatars and non-player characters; the 'mini-map' in the upper right corner; the chat window in the lower left corner, and in addition, there are buttons for various abilities and skills in the lower middle of the screen

released in 2007 and is based on J.R.R. Tolkien's epic fantasy novels. In 2007, at the time this research took place, this MMO had 150,000–200,000 active subscribers (Woodcock 2008). As with most MMOs, a player starts by choosing and customizing a character. In this creation process, the player chooses the appearance, the name, and more importantly, the specific class the avatar should have. The avatar starts from zero and by means of various types of quests, for example, gathering objects or bringing down monsters in the game, the player gains experience points that result in the avatar evolving (i.e. gain higher levels). As already described, in MMOs, players form groups and cooperate in order to accomplish their missions. Fighting, traveling or moving as a close-knit group, are common and ordinary activities.

Our way of gathering the empirical material has been influenced by previous ethnographic studies of MMOs (Moore et al. 2007a) and of auto-ethnographic accounts of gameplay (Sudnow 1983). This means that the first author has taken part as observer and participant. That is, the first author has become a member of LOTRO and has been video-recording the activities. Our strong emphasis on proficiency in the domain of scrutiny is related to Garfinkel's (2002) notion of "unique adequacy requirement of method." In order to interpret video data from such a specialized setting, we as analysts need to have a knowledge level that render members' doings recognizable from a member's perspective.

The analyzed sequences stem from situations where players are in a group of strangers, so called pick-up groups. In these situations the team members have either one or several task-related objects assigned to them. What task the group should focus on has in general been negotiated beforehand. However, as the tasks are often rather vaguely described, the understanding of the task at hand will be regularly re-negotiated.

Pick-up groups get together for a short period of time, advertising in chat channels for companions willing to join a team. In this way, we as analysts do not know who the other play-

ers are. Nor do they know who we are (see Moore et al. 2007a for a discussion of this involvement). The names of the avatars have been changed and in the examples, the avatar named Saga is controlled by the first author. As the gender of the other players is undisclosed any gendered pronoun in our analysis refers to the displayed gender of the avatar.

In order to communicate, players use written text messages (chat) and/or verbal speech. In order to speak in LOTRO, players either use third-party voice-chat programs or use the built-in voice-chat. However, in pick-up groups, we observed that players predominantly rely on chat as their primary means for conversation.

The characteristics of all the materials we have built the analysis on are, (1) that the players are strangers to each other, and hence do not know how the others usually play and collaborate, (2) they only use text-typed chat to enhance their communication (hence no one is using so called voice-chat, i.e. turns-at-talk). Our analysis is organized around a collection of excerpts that make it possible to highlight shifts between activities. The excerpts do not focus on the actual combat play (for such an analysis, see Bennerstedt 2008a). Instead, the focus lies on practices members rely on in their ongoing teamwork. That is, recurrent courses of action through which members are held accountable for recognizing, sustaining or changing the work at hand.

5. Analysis

In all the instances we have analyzed, the documented fellowships (the groups) find themselves in hostile environments. On their journeys throughout the game terrain, and threatened by hosts of enemies, the players will strive to avoid the death of their avatars. It is not that dying in an online game has any fatal consequences outside the game; it is, however, time consuming. The temporary loss of one team member weakens the strength of the group and indirectly endangers the lives of the other avatars. In order to succeed, the whole team needs to proceed and act as a coordinated group. Dying thus stops the progress of the game, and potentially diminishes the other players' enjoyment of the activity. Consequently, there is a morality to staying alive in MMOs, arising from the social commitments to the group. Avoiding death is one aspect of a player's competence and tied to this are players' interactional achievement of sticking together as well as fighting together, but as we will show, there are more finely detailed practices prescribing how this should be done in a skillful manner.

5.1. The variety of activities in team gameplay

In this section, we will give a simplified overview of the major activity types and their temporal relations. This description will then function as a backdrop to the more detailed analyses of how players recognize, maintain and shift between types of activities.

First, there is the activity of finding other players suitable and willing to embark on a joint enterprise (grouping). To form a pick-up group, players can either use an in-game tool to invite other avatars in the proximity, or, for non colocated avatars, make announcements in a special chat channel ("looking-forfellowship"). In order to come up with a balanced group when doing this, the matching of classes (e.g., healer, damage dealer, tank) is of primary concern. When the players have settled on a group that is adequate for their needs (a maximum of six players in LOTRO) they will have to "team up." This means that their respective avatars are required to travel to a specific location in the virtual landscape.

When the avatars have teamed up, and the players have decided what tasks to pursue, the avatars will again need to reposition. But this time, their movements will be carried out in coordination with others. If the group knows where to go, and aims to go there as fast as possible, their actions will often be directed towards sustaining this mode of rapid transportation. At other times, the team members are unsure of where to go, or what to do in an area, which might slow down the team's progress through the terrain. The coordination of their movements then takes on a different style, more exploratory in character.

While on their way, a fellowship will unavoidably encounter enemies, very commonly leading to combat. While fighting, the players are thus charged by monsters of various kinds and numbers. The onset of a fighting activity can either be planned or arise from a mistake by any of the team members. When a fight is planned, the players use various methods to project future courses of action, divide responsibility and make priorities among their opponents. An unplanned fight can be brought about through carelessness or by failing to attend to certain details in the game terrain. If an avatar comes in too close proximity of a hostile game-controlled character, this will trigger an attack on the entire group, not only on an individual avatar. Unplanned fights are normally not preferred and their outcome, of course, depends on many variables. Most importantly, it will depend on differences between the skill levels of avatars and monsters, as well as differences in numbers.

After a successful fight, the fallen enemies will leave behind a stock of equipment and other valuables. These objects are shared between the players. To manage this practice of looting, the game system has pre-programmed claims of interest that the players can choose between.³

Finally, in the aftermath of battle, some avatars might be in need of restoring their energy levels (so-called morale—the amount of damage the avatar can take before being defeated—and power, which is consumed when the avatar is utilizing its skills). To do this, the players can draw upon skills or items carried by the avatars; food, drink, other equipment or by resting. This concludes our brief overview of types of activities in *Lord of the Rings Online*. Even if we have implied a temporal succession between types, it should be noted that the activities outlined here do not adhere to a strict order of appearance. They should, rather, be seen as nested in each other, where transitions depend dynamically on individual actions performed and on the ever-changing game terrain. Next, we will investigate players' methods employed in order to recognize, maintain and shift the type of activity.

5.2. Grouping

When engaged in team gameplay in MMOs, there are recurrent practices that relate to the establishment of the group. First, there must be a process where several players decide to join forces for a sustained period of time (typically ranging from 30 min to a few hours). This also entails the negotiation of roles depending on the specific abilities and objects the avatars are equipped with (as outlined above). However, in some cases, these issues are not negotiated through text or speech but rather assumed on the basis of the information provided about each avatar. For instance, team members will take it for granted that the player controlling an avatar with outstanding healer abilities will do healing. Such “abilities” are publicly displayed via the game interface. Second, the players may negotiate what objectives to focus on. Such objectives can be specified by so called “quests” provided by the game, or the players can themselves decide on acquiring specific objects. Regardless of the type of objective, these can be renegotiated and changed during the course of play.

A third, less perspicuous activity is that of waiting. In this instance, by “waiting” we mean specifically that of waiting for other avatars to show up in a specific location in the game world. As we will show later, there are also other kinds of waiting, tied to different activities. To monitor the status and progression of this activity, the players either communicate by text or they use the dynamic map provided by the game interface. By pressing “m”, the player opens a window that permits her to see every part of the game world. The map represents other members in a fellowship as dots moving on the map. By means of this view, it is possible to check how far the other team members have come and to judge how long it will take for them to team-up. A fellowship that has already teamed-up, but fails in combat, will be forced, in some cases, to group again. If any team member, or an entire team, is defeated, the once dead avatar will be

resurrected, but in a place much further away in the game world (this can be circumvented by specific resurrection abilities or unique in-game objects).

5.3. Moving about

After the team has grouped, usually the avatars start to move forward through the game terrain. By typing a simple “let’s go” the players can initiate a shift to a less stationary activity. In relation to the activity of moving about, it is most common to select and follow a “leader.” We use the term leader in a very loose sense and it should be read as highly dynamic, i.e. how the group relates to a single member as a “followable” candidate. The selection of who to follow can be done in many ways. It may be done through text, for instance, by someone in the team calling for the others to follow him or her. Selfnomination as a “follow-able” can also be done by the mere onset of a move (given that the previous activity is visibly about to end). As a display of trust (Garfinkel 1967; Rawls 2008), players will rely on, any member that commences such a move is, (a) to assume temporary leadership, and (b), indicate the direction.

Below, is an example of this taken from a group that recently finished negotiating their responsibilities in the team. In the excerpt, the six members (Darm, Tagero, Pylor, Elona, Saga and Lador) are in the process of negotiating their route. They are also waiting for the last member, Saga, to join them. They use a chat channel that makes it possible to communicate even when players are spread out in the game world.

At the start of the chat conversation, all the avatars but one are gathered in a group formation and standing still. In line 1, Darm asks if anyone knows where to go in relation to their quest. Tagero and Pylor respond that they have knowledge of some of the objectives related to the quest. After this, the last member joins the group (line 5) and they exchange greetings. This is done by using pre-programmed short commands (emotes). This results in the phrase “Saga bows deeply before Pylor” as displayed in the game chat, and in addition, the virtual body performs a bow. After a reciprocal bow by Tagero, both Darm and Pylor simultaneously order the team to get going (line 8 and 9).

As Pylor starts to move out the others quickly tag along. Even if there has been no formal

Excerpt 1

1. 05.28 Darm: who knows where we are going?
2. 05.38 Tagero: I know to a point
3. 05.51 ((Saga dismounts, turns around, checks the map and starts to move towards the group))
4. 05.54 Pylor: i know 1 or two fires
5. 06.02 ((Saga reaches the group. The group stands in a circle, but all the avatars do not face towards the center.))
6. 06.08 Saga: [*You bow deeply before Pylor*] ((emote⁴))
7. 06.13 Tagero: [*Tagero bows deeply before Saga*] ((emote))
8. 06.15 Darm: ok lets go folks
9. 06.15 Pylor: let’s go
10. 06.16 ((Pylor starts to move))
11. 06.18 ((Darm turns around and starts to follow Pylor.))
12. 06.18 Elona: got one part of the quest
13. 06.19 ((Elona and Tagero both reorient and follow the others. Saga and Lador have not yet moved their avatars.))

nomination of who should take the lead, the shared information that both Tagero and Pylor have some knowledge of the area, renders them possible candidates. Darm has already displayed his readiness and he is the first to tag along. Before he can begin to follow Pylor, however, he has to turn around. The need to reorient before moving out is true for most members of the group and reveals the type of formation they have been in. The players have not arranged their avatars in a perfect circle, nor have they necessarily shown the front of their avatars to the others, as would be expected in a real life situation. Nevertheless, by standing in some form of close formation and by utilizing the formal greeting command, they manage the work of teaming up. Moreover, as the invisible camera can have an orientation dissimilar from the orientation of the avatar, the positioning of one's avatar in a group formation, and leaving it idle until further notice, functions as a visual reference marker that the player is focused on the group's projected next action. This practice resembles, and may very well be parallel to, the F-formation (Kendon 1990) and body torque (Schegloff 1998). Nevertheless, there are important differences. While discussing how individuals maintain space, Kendon asserts that "Activity is always located" (1990, p. 210) and we hold that sustaining this characterization becomes problematic when analyzing focused virtual encounters. Kendon continues to argue that "A person doing something always does it somewhere and his doing always entails a relationship to the space which has in it the objects or people with which the doing is concerned." (Kendon 1990). When the location of people becomes dispersed, and the shared objects acted upon have no materiality, the relationships to space and place become intricate, to say the least. Although this point would need much more elaboration, at this stage we simply propose that it is a practice with its own set of properties and that it cannot be fully captured by the notion of the F-formation system. Even if the exact dealings of the individual players are not completely visible to the others, the formation still provides a framework for understanding the activity (cf. Bowers et al. 1996).

We will now discuss how gamers deal with group traveling through the virtual terrains and how they keep together as a coordinated group. Often, players adjust to the game terrain as passers-by. As MMOs consist of vast land masses, players are involved in a lot of transportation (the land masses in LOTRO are in line with Tolkien's maps of his fantasy world). One clear example of this is when the avatars use a horse to move around in the terrain. In LOTRO, a player can possess a horse, which considerably improves one's ambulatory speed. To use the horse, the player simply pushes a button and the avatar initiates a preprogrammed set of actions. The avatar whistles to the horse (with hand in mouth, producing a whistling sound) and subsequently it begins to mount the horse (which has by then emerged out of thin air). In this way, when a player pushes the mount button, the other players can recognize this either by noticing the bodily behavior of the avatar or by hearing the sound (see Jørgensen 2008, for a study of sound as resource for coordination and competition in MMOs). Since it takes several seconds to mount the horse, any nearby destination will be reached faster by running. And given the fact that it is impossible to fight while mounted, riding is not a preferred mode of transportation if a fight is imminent. A player with an avatar mounting a horse is thus seen as initiating long and fast traveling with no fights.

At the same time as the activity of moving about over longer distances must be initiated by someone, and appropriately recognized as initiated by the other players, it must also be continuously sustained. An example of how this is managed comes from the same group of players as seen in excerpt 1. The group is running across a hilly terrain. Up until this moment, the road they have been traveling on has been narrow, thus forcing the players to attack all the enemies encountered in order to continue on their journey. The group crosses a suspension bridge and enters a less hilly terrain ahead. Pylor, the avatar in lead, begins to encircle the next group of enemies and continues down a slope. Four of the players attend to the chosen path and keep their avatars in line with Pylor. Lador, being the exception here, stops and thereby falls behind the rest

of the group. After a few seconds he attacks some enemies located beside the path. It can be seen that Pylor notices Lador's conduct, as he halts, turns around and starts to move back towards the now fighting Lador. Subsequently Pylor posts "Lador stay together" in the chat. The rest of the group join in the fight and Pylor adds, "please", thereby mitigating his previous remark. Lador then gives an account of his actions by referring to an object that he has seen on the side of the path, "we got to take this crest, i think."

Cropping up in this brief exchange are some of the assumptions that regulate team gameplay. We can also see how a non-accountable action (Sacks 1989), i.e. the habitual activity of fighting, suddenly becomes recognized as an accountable action. When a team moves forward as a tightly coordinated group, it is at times possible to avoid attacking enemy characters. If the enemies are not approached head on, but instead passed by at a distance, they will not detect the players, and consequently they will not attack. This requires a competent member, following the lead of another player, to coordinate his or her own movements with the leader in a very delicate manner. By mimicking even minor adjustments to, or deviations from, a projected trajectory along the game terrain, the individual player contributes to sustaining the activity of moving the group to a distant location. A player who does not pay attention to such movements can become a liability to the group. The player who, either intentionally or by mistake, comes too close to an enemy will trigger an attack on the avatar. Since it is common practice for the others to help out in such situations, the transportation will temporarily be suspended. In the situation described above, only seconds earlier, attacking enemies was the expected thing to do, but it then shifted into a course of action to be avoided. This shift was made possible through the changes in the game terrain. In this way, the topology of the game provides one important resource when judging the relevance of accomplished or projected actions (cf. Reeves et al. 2009).

Not all movements in the game terrain are directed towards a single or even specified location. Different uncertainties regarding the status of the game in progress can make the movements and actions of the group less uniformly goal oriented. In their gaming sessions, which sometimes go on for hours on end, players occasionally fail to attend to the conduct of their team members. Such lapses of attention could result in key information about acquired objectives being overseen. But even if the current events are attended to, it can be hard to keep count of how far in the gathering process the other team members are. To counter this form of uncertainty, players are seen to use the chat and display their required number of objectives. During such a gathering event, a simple "4 left" is read as a request to keep the activity going until four more items have been collected. The transition from this type of activity can then be accomplished by means of an "all done:)". However simple and minimal we might deem this form of communication to be, it is not characteristic of the entire gameplay. Players regularly go about following others until they judge it reasonable that the group has reached its objectives. Only then do they make the request for status updates, or, as seen above, request more time.

It can also be the case that the players do not know where or what they are looking for in the game terrain. In such cases, players utilize what could be seen as a search and destroy strategy. This practice of testing out various places in the game terrain is distinguished by the many changes in direction, returning to previously visited areas and the frequent initiation of fights. When the members follow someone during this kind of play, there is a clear acceptance of this lack of goal orientation. Calling into question the style of play, be it verbally in chat, by standing still with the avatar or by setting off in a different direction, is in effect a method for assuming control over the searching activity.

Lastly, there are changes in trajectories initiated by individual avatars that are not made as a follow-able in the sense discussed above. Instead, some movements are directed towards natural resources in the terrain (such as trees or minerals) that the specific avatar is able to extract. The other team members thus adjust for these kinds of extra trajectories that go outside the move-

ment as a team. In other words, members have to distinguish between movements initiated as being for and about the group, and, movements related to the businesses of individual players.

5.4. Fighting

The one feature of many computer games that has attracted by far the most media attention is the portrayal of violence. The Lord of the Rings Online, together with the majority of all MMOs, also, in a fundamental sense, builds on the element of armed conflict. We are interested in this practice of fighting, not because of its possible effects on the players when they leave their computers, but, rather, because of its internal organization. Since the activity of fighting can more or less sustain itself, once commenced, and unless the players decide to flee,⁵ we will primarily focus on how players prepare for, or initiate, fighting.

A very central element of the game design, with a direct bearing on the activity of fighting, is the mechanism through which any non-player character can detect a player-controlled avatar. Technically, this is accomplished by providing each nonplayer character with a simulated perceptual field. Among players, this field is known as the “aggro radius.” To trigger the aggressive behavior so often encountered in these non player-controlled characters, a player can either simply position their avatar inside this invisible field, or perform an aggressive act by, for example, hurling a projectile towards such a character. This latter move is known as the practice of “pulling,” and it can be utilized strategically as we will show later.

We will continue by describing members who are observed to initiate a fight as a planned event. When doing this, the players either coordinate their actions by means of written instructions, or, through the physical positioning and other behavior of their avatars.

When using written instructions, players often direct attention towards what enemies to focus on and lay down individual responsibilities during the fight. In one example, when a group of players face several enemies (trolls), the player Arwen writes “w8” This instructs one member of the team, with the ability to immobilize (stun) enemies, to focus on a specific target. However, the command to stun the smallest troll is elaborated a second later when Arwen types “stun smalles[t] troll.”, an abbreviation for wait, and subsequently adds “when i pull then stun troll on right.” The term pull is broadly used to refer to actions taken by a player to initiate an attack on an enemy. By temporarily putting one of the enemies into a daze (through the stun), the group will be able to concentrate on the remaining characters. As the stun will only stay in effect for a few seconds, it must be delivered at the right time. By means of the comments made by Arwen, the impending fight is sequentially structured, leaving the players with the tactical upper hand (for more detailed analyses of this practice, see Bennerstedt 2008a; Bennerstedt and Linderoth 2009).

In the next sequence, we see a different but common way of initiating the activity of fighting. Here, we follow a fellowship of four, exploring a maze-like structure. The group is currently in an open area devoid of other characters. In one corner, a staircase leads up towards a corridor. At top of the stairs, and in front of the corridor leading from the stairs, two enemy characters are moving about. It should also be added that besides the avatars named earlier, there is an additional character that can be seen in the original scene. This is a so called ally (functioning as ‘Herald’ aiding the fellowship’s strength) that belongs to the player controlling Eowyn. Since this character is set to automatically follow Eowyn, and consequently behaves noticeably differently from the others, it has been omitted from our analysis.

Doromir, Gimlin and Eowyn have all moved towards and stand in front of the staircase leading up to the visible enemies. Saga is restoring her energy and therefore has to remain stationary before she can again begin to move. Both Gimlin and Eowyn are located between Doromir and the staircase (Figure 2, frame 1).

Next (Figure 2, frame 2), Doromir can be observed starting to kneel. After about half a second,



Figure 2. Before, during and after Doromir's setting of a trap. Above are the original framegrabs (with names blurred). Below are our stylized renditions of the avatars' orientations, poses and relations to the stairs.

Gimlin begins to move and positions himself behind Doromir. This kneeling behavior is part of the preparation of a trap. Setting the trap takes less than three seconds and when it is finished a red circle will appear on the floor in the space between Doromir and the staircase. But even before the trap appears, Eowyn also begins to move and she positions herself next to Gimlin (Figure 2, frame 3).

The stretch of interaction in focus here is only three seconds, and no linguistic information has been exchanged. Nevertheless, we can clearly observe the skillful coordination between players and their joint transition into a different activity. As soon as Doromir launches the course of action that will result in a trap, his action becomes visible through the embodied behavior of the avatar. Given the constrained set of possibilities afforded by the game, it is safe to say that Doromir is not kneeling in order to pick something up, to tie his shoelaces, or as an attempt at anything else besides laying a trap. But regardless of this last point, Doromir's action is sequentially and environmentally positioned so as to relevantly do the job of setting a trap. This is an action that fits in with both the time and place in the game. Similar to how, in the analysis by Ryave and Schenkein (1974), two walking persons can be seen as walking together (without necessarily holding hands), a competent player of LOTRO can see even the early stages of this kneeling as the object it will eventually result in. Furthermore, additional things can also be seen through this kneeling. First, it shows that a fight is about to take place, and it shows that the fight will take place in this very location. Since the trap is a stationary object, it displays the player's preference for luring ("pulling") the two visible enemies down into the open area. This is itself a mark of competence as it draws on a certain strategy of playing.

The re-positionings executed by both Gimlin and Eowyn are, in turn, displays of their understanding of the actions initiated by Doromir. They know that attacked enemies will run as straight as possible towards the group, and it is therefore necessary to establish a new formation for the trap to do its job properly. Analogous with the proof procedure for the analysis of turns, described by Sacks et al. (1974), it is possible to use the physical behaviors of the avatars as a



Figure 3. Left, an avatar under attack. Right, an avatar's normal pose.

methodological resource when investigating practices of team gameplay. The distinctive feature of this case however, is that no turns-at-talk have been exchanged. The build-up of the fighting activity is done entirely through the embodied behaviors of the avatars. There is nonetheless a sequential structure where one party projects and the other parties align with a future course of action.

There are also other ways of recognizing that team members are engaging in combat. If a player fails to notice another player's fighting initiation, it is still possible to see at a glance when an avatar becomes involved in combat. In LOTRO, the avatar will assume a crouching position with his/her weapon ready (see Figure 3) as soon as it is subjected to an attack.⁶ This makes it possible for others, who might not have noticed the attacker, to correctly assess the situation at hand and to start scanning the game terrain for the source of trouble. Manninen and Kujanpää (2005) use the label "automatic actions" for this kind of readymade animation. We would like to propose the work done on epistemic stances (Goodwin 2007) as a more productive analytical framework for understanding how co-participants can exploit and build their subsequent actions on these scripted behaviors. Even if the stances are produced automatically, they are nevertheless visible to the other players and thereby recognizable as stances.

5.5. Waiting

Another common activity when playing in small-scale teams is waiting. We have already mentioned how players can be seen as waiting for other avatars when they team up. But there are also other, distinctly different, practices of waiting. One kind of waiting is related to the restoration of energy. When a team has been involved in combat, some avatars might be in need of regaining their morale and/or power levels. To do this rapidly, the avatar must remain stationary for a period of time. The information regarding the energy levels of all team members is continuously and dynamically displayed through a variety of resources in the game interface. Players are counted on to monitor the individual needs of their team members on the basis of this information (Taylor 2006). Typically, players are observed standing still waiting for other members to restore their strength without there being any discussion about the reasons for the delay.

Waiting can also be understood as waiting for the physical player. The physical player might need to leave the computer or he/she can get disconnected from the game server. If the hold-up is of a planned nature, the player leaving will often let the others know that he or she needs to go away for a short period of time. One common practice is to use abbreviations, for example, "brb in 30 secs" which stands for "be right back within 30 s". This kind of waiting activity can be related to observations of group meetings in a CVE where other participants'

unannounced absences are “first interpreted as indexing technical problems and not accountable social behaviour (e.g. rudeness etc)” (Bowers et al. 1996, p. 62). Players who are idle without providing information about the reasons can be treated in a similar way. A clear example of this is when a team on the move observes that one of their members is falling behind (visible on the mini-map). The player Pylor makes this a topic for further inquiry by typing the player’s name (Noldor) in the chat. After a few seconds without response from Noldor, Pylor posts a “wait” to the rest of the group. They halt, turn around and start to move back to Noldor. When the players approach the missing, idle avatar, its label in the status bar is changed to “disconnected.” Pylor remarks on this with a “crashed maybe” and by means of a single “let’s go” the decision is then made to abandon the team member and continue without him/her.

The analytically interesting part of waiting as a social activity is how the players, who are still playing the game, use various methods to publically display that they are in fact waiting. For example, one can observe how the players try out pre-programmed functions that make the avatar smoke a pipe or have it start dancing in various ways. Another common method is that of jumping around in the proximity of the avatar of the absent party (this is done by pressing the space bar). In addition, waiting practices can also consist of “small talk.” All these methods are designed to display their presence in the game and will be visible to the player when he or she returns. A secondary reason for this active form of waiting can also be discerned. If nothing is done in-game, there is the risk that also other players will begin to disappear from the game scene, perhaps to do other things on their computers or even leaving the computer altogether. If such a development is triggered, the total waiting time could be considerably prolonged.

6. Discussion

The present study has addressed how players, distributed throughout the world, come together in the virtual environment provided by The Lord of the Rings Online and manage to coordinate their actions to accomplish a set of tasks. However novel and exotic such environments may appear to some readers, our analytical stance has been to regard it as just another workplace; albeit with the specific condition that any collaborative work must be mediated by computers. When analyzing these situations, we have started out from the idea outlined by Garfinkel (1967) that in order to be meaningful, any action must exhibit an order that is recognizable to other members in the same situation. Or as formulated by Rawls (2008):

If the coherence of actions, objects and identities depends on shared ways of producing situated orders of practice, and a mutual commitment to, or trust in, those shared practices, and if that order is made at local worksites, out of just what people need to get the work done in mutually understood ways, then the order properties of that coherence will necessarily exhibit the constitutive expectancies used to make it. (p. 709)

Central to the work done by all players is their mutual commitment to the (in part) described set of situated practices. These practices are assumed first, by all players, and then confirmed constantly through various displays of attention and competent action. By highlighting some of these practices, we aim to advance our understanding of human action as being highly adaptable to the local contingencies of the interactional field at hand, and as perhaps less dependent on talk-in-interaction than has sometimes been assumed.

In further characterizing the work done by players in LOTRO, we want to discuss how players produce such displays of competence and the materials from which these actions are created. In many collaborative environments, “individuals can assess a physical action or activity undertaken by another, within the course of its production, and prospectively envisage its completion” (Heath et al. 1995, p. 152). In this environment, as in many other CVEs, the action and activities undertaken by the remotely located players can only be accessed through the interface. Nevertheless, we would argue that much intelligibility originates in and through sequential rela-

tions between actions. As pointed out by Heath et al. (2002), “Sequence does not simply inform the production, intelligibility and coordination of conversational actions and activities, but is a fundamental resource in the co-ordination of action in complex organizational environments.” (p. 344).

For the most part, practices such as “staying together”, “fighting together”, “following the lead”, or “waiting for someone to restore their health” are tacit and taken for granted. Players regularly recognize certain actions as precursors of unfolding events, and build their own subsequent actions in line with the projected structure without being told how. Still, issues that are normally taken for granted can also be topicalized. Such topicalizations are regularly done to treat some issue as problematic and/or to instruct or correct the actions of less proficient players (newcomers; so-called “newbies” or “noobs”) (cf. Steinkuehler 2004). This makes text-in-interaction (chat) a good starting-point for the analysis of MMOs. However, an analysis focusing predominantly on exchanges made in the text chat, could end up with a bias towards situations where things are not running as smoothly as expected. This, in turn, could give a false impression of interaction in virtual environments being in some sense flawed, of lacking communicative resources, and thereby in need of remedy. We do not argue that the computer-supported communicative means cannot be augmented. We do, however, hold that the resources for managing collaboration (for the purposes of the activities studied) are plentiful, and that there already exists a skillful management of such resources.

Fundamental to the management of the gaming activity is the virtual world in which the avatars are acting, as well as the additional layer of displays. The virtual environment is very unlike a real environment, in which potentially any object or event can be interacted with. As Juul (2005) points out, such places are only half real, where some parts have interactive structures and others are just decorations. Learning to see the terrain as a set of action potentials (Linderoth 2004) is observed among experienced players with stand-alone computer games. Action potentials in online games are not only shaped by the interactive structures of the game itself, but also through the social organization of heterotopic cooperation (Reynolds 1993). As a consequence, for the competent player, the virtual terrain is not a dead surface, it is a topology shot through with meaning, projected as well as discovered.

6.1. Conclusion

As argued in the introduction, a large number of studies related to the field of CSCW have explored the issue of how people accomplish relevant forms of mutual alignment and involvement in their work. A series of workplace studies of centres of coordination has stressed the importance of mutual bodily awareness and how individuals produce actions with, and with regard to, material aspects of the local environment (Heath et al. 2002).

[In] settings, such as London Underground Control Rooms (Heath and Luff 1992a) and Air Traffic Control (Harper et al. 1991), individuals appear to remain sensitive to, and monitor, activities within the local milieu, whilst participating in relatively distinct activities and tasks. ‘Peripheral’ monitoring or participation is an essential feature of both individual and collaborative work within these environments. (Heath et al. 1995, p. 156)

Such observations, of co-located activities, have then been used to inform the design of systems aimed at supporting remotely located collaborating parties. Here, the emerging understanding as to how objects and the environment feature in the production and intelligibility of conduct raises a serious problem.

Indeed, the conduct of the other is rendered intelligible by virtue of its contingent interrelationship with the environment in which it is produced. Media spaces fracture the relationship between action and environment; they provide restricted, distorted, and fragmented access to the other(s), their action and their environment, and thereby undermine a participant’s ability to make sense of the actions of others and to design and produce actions in a contingently relevant way. (Luff et al. 2006, p. 562)

Without reducing the importance of the material environment, we again wish to raise the issue of sequentiality, as this feature of coordination might be key to understanding the subject of our investigation. In our view, the various practices studied and exemplified in this paper share the common phenomenon of projections. As an interactional phenomenon, projection of the next action has been extensively studied.

This feature constitutes the base of turn-taking (Sacks et al. 1974)—allowing the recipient to predict points of possible completion where a unit is likely to end—and more generally, of projections which characterize the organization of turns, sequences, and larger chunks of action. Projections can be observed within prosodical, syntactic (Auer 2005), turn constructional (Schegloff 1996b; Selting 2000; Ford 2004), sequential (Drew 1995), and gestural (Streeck 1995) organizational practices. They are one of the loci manifesting an embodied, online, public and praxeological cognition. (Mondada 2006, p. 118)

In relation to the bulk of research pointed to by Mondada (2006), this paper shows that the projection of a next action can be construed with resources that neither rely on turns-at-talk nor on actions immediately stemming from the physical body—in the domain of online games players project activity shifts by means of completely different resources. This observation is, in our opinion, of direct relevance to the field of CSCW. Not only does it spell out, as a methodological resource, a further topic of study. It also suggests that projection should be possible through the reconfiguration of any material, on condition that those reconfigurations and materials are recurrent aspects of some established practice.

However uninspiring this may be for developers of technological systems, the actual permanence of a technological set-up could very well be as important as any specific design feature. As has been argued in relation to the development of skilled play (Reeves et al. 2009), given a considerable amount of time, the stability of a game environment “enables the player to see prospective possibilities and projected courses of action in the contingencies of each particular game” (p. 222). On a more positive note for developers, in general, people can learn how to use most systems and adapt their conduct (constrained as it might be) to their local contingencies. This, however, is a slow process, and perhaps not one that is best studied by means of short-time experimental set-ups, we might add. The proficiency with which the players of the studied games exploit the particular features of their environment in order to build consecutive actions needs to be placed in relation to the time invested in acquiring such skills.

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Notes

1. For the accomplishment of more demanding and highly complex affairs in the game worlds (e.g. so-called raids) there exists additional technological support that can sustain even larger groups.
2. Normally, this would be the eyes, but in practices based on optical instruments it might be configured differently (see e.g. Mondada 2003).
3. A common tool utilized builds on need, greed or pass, where need is loosely defined as items that the avatar can use while greed is used for items, to sell to other players or give away to other avatars. Needless to say, this practice can lead to disputes.
4. A directed emote is accomplished by targeting an avatar with the mouse cursor and typing “/e” followed by the intended action.
5. Another practice observed is that of escaping combat situations. When a team has entered into combat, they can at times be overwhelmed. Since the non-player characters will only pursue a fleeing player to a certain extent, it is possible to escape from a pending defeat. The central problem with this practice is to organize it as a highly coordinated event. If an escape is initiated by one player who starts to run away from the scene, the other players must recognize the action as exactly that. Any player staying behind will find him or herself in dire trouble.
6. An attack on a team member will also be displayed by changed status of their energy bars and additional icons in the game interface.

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