LOOKING FOR ACTION

TALK AND GAZE HOME POSITION IN THE AIRLINE COCKPIT

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This paper considers the embodied nature of discourse for a professional work setting. It examines language in interaction in the airline cockpit, and specifically how shifts in pilots' eye gaze direction can indicate the action of talk, that is, what talk is doing and its relative contribution to work-in-progress. Looking towards the other pilot's face treats talk as occurring outside the predictable and scripted sequential flow of interaction for work. The talk might be casual conversation unrelated to work tasks, or involve negotiation of work arising from locally contingent circumstances. Pilots treat particular sites for looking, cockpit instrument panels and windows, as a home position for gaze for planned and predictable work activity. Looking away from this home position, as either speaker or recipient, treats talk as doing something else. The paper draws on insights and methods of conversation analysis, and uses naturally occurring data, video recordings of pilots at work on actual scheduled passenger flights.

INTRODUCTION

This paper contributes generally to applied linguistics research on discourse (see Trappes-Lomax, 2004), and particularly the discourse of professional work (see Davies and Elder, 2004). Its specific interest is the nature of discourse as naturally occurring social interaction, and to further in applied linguistics interest for understanding language as it experienced and used in the real world (Brumfit, 2004). To this end the paper draws on the principles and insights of conversation analysis for examining language as one resource among many, such as gaze and other forms of embodied conduct, for participants together

to create and understand moments of social life (Gardner, 2004; Schegloff et al. 2002; Nevile and Rendle-Short, 2007).

In ordinary naturally occurring social interaction, directing one's gaze, and interpreting an other's gaze, is one means by which participants organise their activities and make sense of what they are doing. Participants use gaze to help determine who is talking to whom, to attend to objects and events, and to orient themselves within the immediate physical environment. In work and institutional settings, gaze may be significant for how tasks get done in recognisable and acceptable ways and sensitive to setting-specific constraints. This paper considers how gaze is coordinated with talk in a particular sociotechnical workplace: the airline cockpit. It originates in a general observation that pilots only occasionally actually turn to look towards one another as they interact for work to fly their aircraft. In a larger study on talk-in-interaction in the airline cockpit (Nevile 2004a)[1] it was noted that although pilots commonly look at each other's hand activities, mostly they only occasionally talk or listen while gazing towards the face of the other pilot.[2] This paper explores how gaze direction can indicate how pilots treat (present/understand) some talk for its relative contribution to work-in-progress. Gaze direction is therefore one means by which pilots create and make sense of what they are doing and what is going on as they talk for collaborative work.

LOOKING IN THE AIRLINE COCKPIT

Looking is a critical feature of interaction for pilots' work. Apart from looking out the window to see where they are going and to note what is going on around them (e.g. weather conditions, other traffic), pilots spend most of their time looking at cockpit instrument panels. Outside the high activity takeoffs and landings, 'flying' a modern airliner consists mostly of monitoring and managing aircraft performance and flight progress. Looking at the right places at the right times is critical for performing work successfully and safely. Numerous air accidents have resulted when pilots did not monitor relevant cockpit instruments, or did not respond promptly or appropriately to what they saw (e.g. Faith, 1998). However, pilots also look to watch one another's activities, especially one another's hands as they push buttons, turn dials, move levers, or point to displays. Pilots even conduct these activities in ways to make them more or less visible and witnessable, according to the type of task and the value for work of joint attention to its execution (Nevile, 2007).

Occasionally also, one pilot will turn to look towards the face of the other pilot, or the pilots may even find themselves momentarily looking face-to-face. Pilots are physically co-present, but mostly they do not talk face-to-face. Seating arrangements in the cockpit

are fixed, and pilots sit side-by-side facing forwards. This arrangement physically orients pilots towards the instrument panels and windows as the locations for cockpit tasks. Pilots' long-term and dominant postural orientation (Schegloff, 1998) is therefore towards where they need to look to do their work. Also, it is not necessary for pilots to use gaze to manage interaction, for example to organise turn-taking or establish speakership and recipiency. Pilot's routine talk and conduct for tasks is mostly highly predictable, strictly ordered and scripted in training and manuals of Standard Operating Procedures. Mostly pilots know in advance who will say what to whom, and when, relative to task performance, and very often evidence of attention and understanding is displayed with non-talk activity, such as pushing a button (Nevile, 2004a, 2004b). So looking towards the other pilot means looking *away* from relevant and necessary locations for doing work. This paper considers moments in the flow of cockpit interaction when, as either speaker or recipient, a pilot does turn to look towards the other's face, and so is no longer gazing towards the cockpit locations that are routinely and necessarily attended to. Gaze direction can communicate the character of talk in the airline cockpit, and specifically the sense in which talk is occurring outside the predictable and routinely ordered flow of talk and activity for performing tasks.

APPROACH

The approach here is grounded most strongly in the interests and methods of ethnomethodology and conversation analysis (EM/CA) for describing and analysing the resources by which people create and understand the order and intelligibility of activities for social life, and particularly in work and institutional settings (see Arminen, 2005). These resources include language and also embodied practices, like gestures, body posture, head movements (e.g. nodding), and gaze direction. EM/CA studies focus particularly on the moment-to-moment sequential organisation of naturally occurring interaction, especially as realised through processes of turn-taking (see ten Have, 2007).

Gaze has been shown to be significant in a number of ways as participants orient to one another to coordinate their contributions for the activities underway, jointly to create whatever it is they are doing, whatever is going on. For example, directing and monitoring gaze plays a role for establishing speakership and recipiency, and for accomplishing forms of participation (especially after Goodwin, 1981; see e.g. Goodwin, 2003; Lerner, 2003; Kidwell, 2006). Studies across a range of settings have also shown how shifts in gaze direction can organise participants' attention to objects, events, people, or locations within the material surround (e.g. Kidwell and Zimmerman, 2007). In particular, to perform collaborative work tasks the participants organise gaze to see in relevant and

consequential ways. Seeing is socially accomplished and situated in activities in progress and sensitive to local contingencies (e.g. Goodwin, 1994). Recent research on interaction in cars, a setting physically comparable to the airline cockpit examined here, has considered gaze as drivers and passengers talk to accomplish driving related activities, for example to negotiate a route, make a turn at an intersection, or find a parking place (Laurier, 2005; Haddington and Keisanen, 2009; Haddington, in press).

Gaze direction can also signal understanding of talk's action, for what it is presented or can be interpreted as doing. For example, Haddington (2006) examines the role of gaze and assessments for stance-taking in ordinary conversation, while Kidwell (2006) examines a situation where police pursue return gaze from a distressed woman as they seek to calm her down. This paper builds in particular on studies which show how shifts in gaze can be significant for changes or transitions in the nature or trajectory of current activities, to signal that now something different is (or will be) going on (Robinson, 1998; Robinson and Stivers, 2001). So Stivers and Heritage (2001, p.172) describe how a doctor's turn to look away from a patient, and towards his own written records, can convey his understanding that the patient is completing the story of her medical history.

DATA

Transcription examples are made from video recordings of pilots at work on actual passenger flights, collected for a larger project on routine talk-in-interaction in the airline cockpit (Nevile, 2004a) for which I arranged with two Australian airlines to fly in the cockpit and film the pilots. Recordings were made on 18 domestic flights on two aircraft types (Fokker 50 n=12; Boeing 737 n=6). Flights were filmed in full from engine pre-start to engine shutdown, and varied in duration from around 40 to 140 minutes. All flights had two pilots, a Captain (Capt) and a First Officer (FO). Examples here represent recurring patterns for gaze as identified throughout the collection of recordings. For clarity and continuity examples here are from one crew, conducting two flights. The FO is the junior rank and always seated on the right, and the Captain is the senior rank and is always seated on the left. On both flights the FO is the Pilot-Flying and controls the aircraft, while the Captain acts as the Pilot-Not-Flying and assists the FO. The Captain however retains ultimate command. I filmed the pilots from the cockpit observer seat, immediately behind and between the two pilots' seats. I base analyses of gaze direction on evidence of conspicuous turns of the head, perhaps accompanied by a turn in shoulders and bodily orientation. Participants can and do interpret where an other's gaze is or is not oriented towards (see Stivers and Heritage, 2001). It is difficult (for analyst or participant) to know exactly what another person is looking at, or what they are seeing and

attending to. In the recordings usually only one pilot is in camera view, or comes into view at a particular time.

Transcription notation is adapted from the common CA system originally developed by Gail Jefferson (see end of paper). For anonymity, transcriptions use sketched images created from video stills. Two sketches were modified to eliminate background clutter. Descriptions of gaze direction and shifts are given in capitals in brackets, {LIKE THIS}, and correspond to co-occurring talk or silence transcribed in a box.

ANALYSIS

LOOKING TOWARDS THE OTHER PILOT: CASUAL CONVERSATION

One pilot may look towards the other pilot, or the two pilots may even simultaneously look towards one another, when the talk is casual conversation (or small talk, see Coupland, 2000) and does not concern any activity or information relevant for flying the aircraft. The airline cockpit is a workplace but often, mostly during lower-demand 'cruise flight', pilots engage in casual conversation. The following segments show a shift to look towards the face of the other pilot, and so away from the instrument panels and windows.
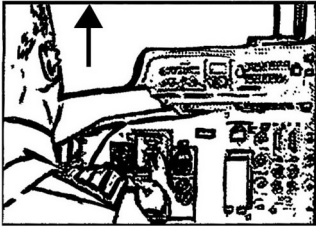
[1] "so how's the ute?"

The first example occurs in cruise flight. The Captain is in camera and is leaning slightly forward and looking towards the forward instrument panel. He says "so" and leans back from the panel while beginning to turn right to face towards the First Officer (FO) (line 2). He asks the FO about his new car, a 'ute' (in Australia this is an open-backed car with only one row of seats, commonly used by trade workers). The Captain's talk initiates casual conversation that is unrelated to any task for flying the aircraft.

The Captain's first talk is a general enquiry ("how's the ute?", line 2), and after the FO replies minimally ("goo:::d (0.2) 'eah.", lines 4 and 6) the Captain follows up with a more specific question ("you got that air-conditioning fitted?", line 8). The Captain begins to shift his head towards the FO at the beginning of his talk, right after the word "so", at the beginning of his question about the 'ute'. Indeed the shift in focus for talk, to casual conversation, might also be hinted at with the turn initial 'so', which has been found to be a marker signaling boundaries between different activities (Rendle-Short, 2003). The FO comes into view, looking left towards the Captain, as he replies with "eh?" (line 11). The Captain asks again (line 13), during which the FO returns gaze towards

the forward window. The FO continues looking forward when answering "no:: no(h)t yet." (line 15).
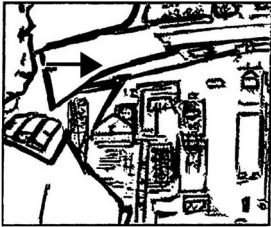
1	(33.3)	

{CAPTAIN IS LOOKING FORWARD}

2 Capt	so how's the ute?	

{CAPTAIN LEANS BACK AND MOVES HEAD RIGHT TO FACE TOWARD FIRST OFFICER – ONLY THE LOWER PART OF CAPTAIN'S FACE IS VISIBLE}

```
3            (0.6)
4 FO         goo:::d.
5            (0.2)
6 FO         'eah.
7            (0.8)
8 Capt:      you got that air conditioning fitted?
9 FO:        (  )
10           (0.6)
```
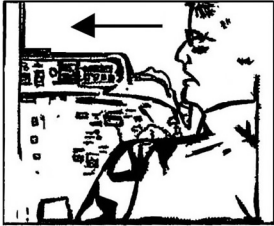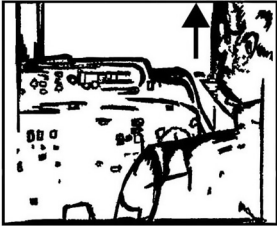
Example 1

11	eh?	

{FIRST OFFICER SHIFTS GAZE LEFT TOWARD CAPTAIN}

12	(0.5)	
13 Capt:	you got that air conditioning fitted yet?	

{FIRST OFFICER RETURNS GAZE FORWARD}

14	(0.2)
15 FO:	no:: no(h)t yet.
16	(1.9)

Example 1 (cont'd)

The segment continues as the FO extends his response (lines 17-25) before the sequence is interrupted by a call from the cabin crew (line 27).
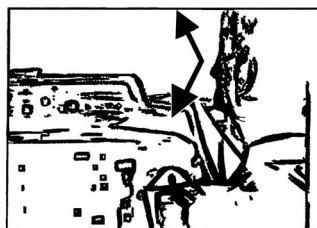
As he begins to develop his answer, with "but I think soon as the first" (line 17), the FO again turns left towards the Captain, but before completing this turn he shifts his gaze back to the forward panel and window (".hh I'm going to ah::,", line 20), and then right towards the right window as he completes his turn ("I'll prob'ly (.) be right down", line 24). So, the casual conversation is accompanied by momentary shifts in gaze of each pilot towards the other, and back to looking forward.

17 FO: but I think soon as the first,

{FIRST OFFICER SHIFTS GAZE LEFT TOWARD CAPTAIN}

18   (.) four zero degrees
19   d(h)a(h)y co(h)me(h)s,
20   .hh I'm going to ah::,

{FIRST OFFICER RETURNS GAZE FORWARD}

21   (0.2)
22 Capt: won't be far away.
23   (0.2)

24 FO: I'll prob'ly (.) be right down
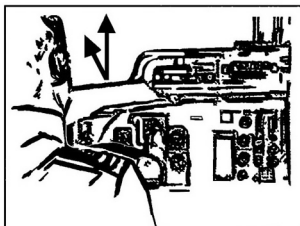

{FIRST OFFICER SHIFTS GAZE RIGHT TOWARD RIGHT
WINDOW}

25   there at the (.) air-conditioning shop.
26   {buzzer sounds, indicating an incoming call from the cabin crew}
27 Capt: off the air.
28   {Captain speaks with cabin crew member}
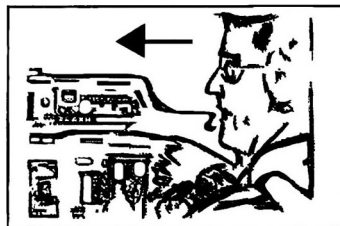
Example 1 (cont'd)

1	(22.3)	
2 Capt:	another (.) fire out here.	

{CAPTAIN IS LOOKING SLIGHTLY LEFT TOWARD THE FORWARD WINDOW}

3	(0.7)
4 FO:	yeah?
5	(0.3)
6 FO:	out towards:: ah: {town name omitted},
7	(0.5)
8 Capt:	° 'eah:. °
9	(1.0)
10 FO:	well that place has got its
11	own fire brigade (.) so,

{FIRST OFFICER COMES INTO VIEW, GAZING LEFT TOWARD CAPTAIN}

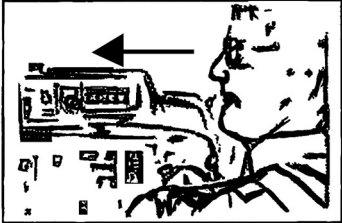|	
12	(0.4) {FIRST OFFICER SHIFTS HIS GAZE TOWARD FORWARD PANEL}
13 Capt:	have they?
14 FO:	ye(h)ah hh.
15 Capt:	they've got everything haven't they?
16 FO:	ju(h)st ab(h)out.
17	(6.6)

Example 2

[2] "its own fire brigade"

This example of casual conversation occurs as the aircraft flies over a large and remote area of native grass and bushland. The Captain sees and comments on a fire on the ground ("an<u>other</u> fire out here.", line 2). The fire has no significance for the pilots' work to conduct the flight, the Captain just notices a feature of the environment below and raising it as a topic for talk. As the segment begins the Captain is looking left of the left forward window.

When the Captain says "an<u>other</u> (.) <u>fire</u> out here." (line 2), he continues looking out his forward window. The FO responds with "yeah?" (line 4) and there is an exchange of turns about the fire's location near a small town (lines 6-8). The FO furthers the topic with "well that place has <u>got</u> its own fire brigade (.) so," (lines 10-11). The video does not show when the FO begins to gaze towards the Captain, but he is certainly doing so when beginning his turn (line 10). So, the FO furthers the topic of casual conversation while looking left towards the Captain. The FO has shifted his gaze away from the window he had been gazing towards.

[3] "go for a swim"

This last example of casual conversation occurs during cruise flight and after twenty seconds without talk or collaborative activity. In contrast to the first two examples, here it is the FO who initiates casual conversation, saying "go for a <u>swim</u> (.) if it's hot enough (.) when I get back," (line 2). The comment gets only a minimal response from the Captain ("°mmm.°", line 4) and there is no further talk on the topic.

Like the Captain in the second example, here the FO continues to gaze forward as he initiates talk for casual conversation. This example differs in that the FO turns towards the Captain immediately he completes his turn, in readiness for the Captain's reply. That is, immediately after he says "back" (line 2), the FO shifts his gaze left, away from the forward window and towards the Captain. Rather than occurring before or as the talk emerges, immediately after talk the FO shifts his gaze away from a location receiving his work-oriented attention. The video recording does not show if the Captain turns towards the FO, but the topic is not developed and the FO returns his gaze forwards.

1	(20.8)	{FIRST OFFICER IS GAZING TOWARD FORWARD INSTRUMENT PANEL}
2 FO:		go for a <u>swim</u> (.) if it's hot enough (.) when I get back,

3	(0.4)	

{FIRST OFFICER SHIFTS GAZE LEFT TOWARD CAPTAIN}

4 Capt:	°mmm.°	
5	(35.1)	{FIRST OFFICER SHIFTS GAZE RIGHT TOWARD FORWARD PANEL}

Example 3

So far we have seen examples for one form of occasion when a pilot might turn to look towards the other pilot: when the talk is casual conversation and does not concern tasks for flying the aircraft. At such moments one or other pilot might look away, however briefly, from the locations they must look towards to do their work. Because pilots mostly do not look towards one another as they talk for routine work tasks, to do so can communicate and make interpretable the status of some talk as doing something different. The shift in gaze or head movement towards the other pilot can present talk's treatment as concerned with something other than the predictable flow of routine talk for tasks. Such gaze can make salient talk's action as casual conversation.

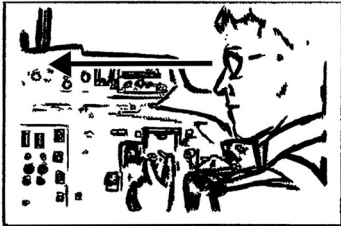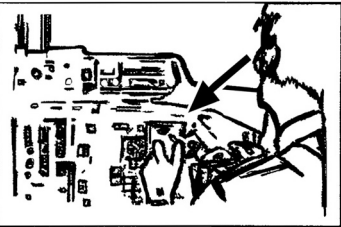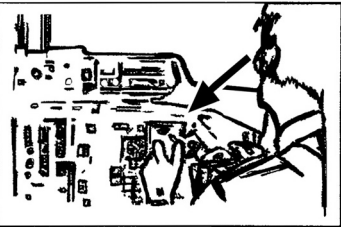## LOOKING TOWARDS THE OTHER PILOT: NEGOTIABLE WORK-RELATED TALK

Apart from casual conversation, unrelated to performing tasks for work, gaze shifts towards the other pilot's face were also found recurrently to occur when talk *was* indeed related to the work of flying the aircraft, but involved negotiated talk which was prompted by and contingent upon immediate (local) circumstances impacting on predictable and scripted routine work flow. What pilots say and do to fly their aircraft mostly concerns tasks and events that occur in a predetermined and predictable order, and cockpit work-related talk is scripted and predictable, fixed in formal procedures. Pilots

work with, and orient to, anticipation for what will be said, and when, as they progress through flight tasks. Sometimes however, some details of work need to be discussed and negotiated. Perhaps the focus of the talk is not part of the predictable and scripted order of tasks and events, or varies that order, or is otherwise somehow particular to the specific circumstances of the pilots' conduct and the progress of this flight here-and-now. The following examples show that talk at such moments is also associated with shifts of gaze towards the other pilot.

[4] "ah five late": a changed arrival time

Here the aircraft has taken off and is climbing to its cruising altitude. The FO is in camera and gazing towards the forward window. The Captain has been busy with paperwork, recording details of the flight's progress, and then remarks that they will arrive five minutes late on this leg of their round trip ("°kkkk ° ah: fi:::ve late at ah twelve (twenn'y),", lines 2-3). During the Captain's lengthened "fi:::ve", the FO begins to shift his gaze left towards the Captain.

As the Captain says "ah:" the FO nods as he begins to return his gaze towards the forward window. When back gazing forward the FO acknowledges the Captain's comment ("mm hmm", line 5), and says they can "make it up on the way home," (line 7). The Captain comments on a variation to their expected arrival time, of which the FO needs to be aware because he is jointly responsible for conducting the flight (Nevile 2004a). For the FO, this is not predictable talk within the routine flow of actions and events. Had the Captain not said anything, at that moment, it would not have been noticeably absent talk. The FO does not continue to gaze towards the Captain through all of the Captain's turn, and does not gaze towards the Captain when replying. However, the unpredictable work-related talk did occasion a shift in the FO's gaze away from the forward window, the previous focus of his attention. The FO begins to return his gaze forward immediately after the Captain says 'five late', a point at which the substance of the Captain's talk is discernible, as the Captain completes his turn by specifying a time ("at ah twelve", line 3). The FO returns his gaze towards the forward panel.

1	(7.8)	{FIRST OFFICER IS FLYING THE AIRCRAFT AND IS LOOKING TOWRD THE FORWARD PANEL}

2 Capt:		°kkkk ° fi:::ve late

{FIRST OFFICER SHIFTS GAZE LEFT TOWARD CAPTAIN}

3	at ah twelve (twenn'y),

{FIRST OFFICER NODS AS HE SHIFTS HIS GAZE RIGHT AND DOWN TO THE FORWARD PANEL}

4	(0.2)
5 FO:	mm hmm.
6	(2.1)
7 FO:	make it up on the way home,
8 Capt:	yeah.

Example 4

[5] "I might carry the bottom bug": a new speed

This example occurs in cruise flight as the FO is preparing for the descent, approach and landing. The FO is the Pilot-Flying on this flight, and so is the pilot in control of the aircraft and responsible for routine flight planning. As the segment begins he is gazing towards the forward panel as he adjusts a speed 'bug', a moveable reference marker on the speed display which the pilots will use as they reduce speed to prepare for landing.
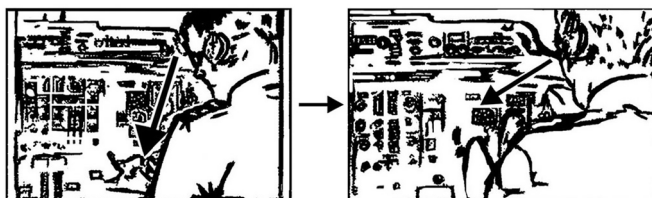
```
1            (1.15.7)
2 FO         I think like before I might carry the: ah:
3            bottom bug, (0.5) as the approach, (0.3)
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4            if it's: (.) windy and gusty.
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{FIRST OFFICER GAZES LEFT TOWARD CAPTAIN}

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5 Capt:      yeah: whatever.
```


{FIRST OFFICER RETURNS GAZE FORWARD AND DOWN,
TOWARD THE LANDING DATA PAD, ON WHICH HE WRITES,
THEN GAZES TOWARD THE INSTRUMENT PANEL WHERE HE
ADJUSTS THE 'BUG' (MARKER) ON THE SPEED DISPLAY}

```
6            (0.3)
7 Capt       (     actually) I was surprised (so ba[d)
8 FO                                          [one thir-
9 FO         one thirteen.
10           (0.5)
11 Capt:     I don't mi:nd.
12           (0.7)
13 FO:       yep.
14           (16.9)
```

Example 5

He then writes on a 'landing data pad', where pilots record specific information for each descent and landing (e.g. on speeds to be used).

The FO talks to say he is deciding to use an alternative to a planned speed for the approach stage of flight, to make allowance for the weather conditions (the wind), ("I might carry the ah: bottom bug, (0.5) as the approach, (0.3) if it's: (.) windy and gusty,", lines 2-4). As before, the Captain needs to be aware of this because he is jointly responsible for conducting the flight. The beginning of the FO's turn may imply he has considered or used this speed before ("I think like before", line 2), on the pilots' immediately previous flight that day, but the speed is nevertheless a step taken now according to the circumstances for this new flight, when particular wind conditions might call for it. When the camera brings the FO into view, at the 0.3 second pause in his turn, he has already turned his gaze left towards the Captain. He begins to return his gaze forward, towards the landing data pad, as the Captain begins to produce his reply ("yeah: whatever.", line 5).

The FO's talk concerns a weather-induced speed selection, an alternative to what might ordinarily and predictably be used. This choice and associated talk occurs out of the predictable routine flow of activities (the typical speed), and is accompanied by a shift in gaze left towards the Captain.
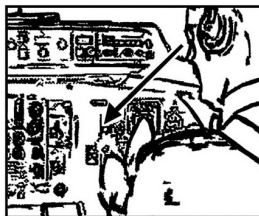
Here there may also be something else going on. The FO's talk is worded as a qualified proposal seeking agreement ("I think like before I might", line 2), that emerges slowly ("(0.3) as the approach, (0.3) if it's: (.) windy and gusty,", lines 3-4), and with prosody that signals the talk as hearably incomplete and projecting completion. The Captain hears the talk this way, replying with an agreement rather than plain acknowledgement ("yeah: whatever.", line 5). So, gazing towards the Captain may make salient that a response from him is required, that this talk now is negotiable, not a typical telling for a routine briefing where details are predictable and mere acknowledgement, not agreement, is required.

[6] "I might just increase": a new speed

Like the previous example, here the FO's talk concerns a change in speed to suit the particular contingencies of this flight. The Captain calls on the FO, who has the role of Pilot Flying, to give a briefing on the speeds he plans for the approach. The FO is planning to fly the aircraft at an increased speed compared to what might have been expected, to better suit the developing weather conditions the aircraft is likely to meet ("'cause of the::: ah: t-turbulence and the ah:: (0.2) crosswind there,", lines 7-8).
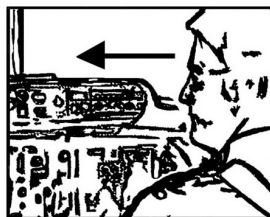
```
1              (0.9)
2 Capt:        o:::kay::: speeds.
3              (0.2)
4 FO:          okay I might just increase:: ah (0.3)
```
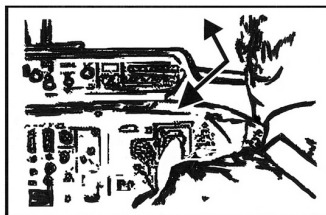


```
5              to:: one hundred and eight↑
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{FIRST OFFICER IS LOOKING FORWARD TO SPEED DISPLAY ON PANEL}


```
6              (0.2) f'r the approach,
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{FIRST OFFICER SHIFTS GAZE LEFT TOWARD CAPTAIN}


```
7              (1.8) 'cause of the::: ah:
8
```

{FIRST OFFICER RETURNS GAZE FORWARD TO PANEL AND WINDOW}

```
               [t-turbulence and the ah::  (0.2) crosswind there,
9 Capt:        [yeah °(yeah) (    )°
10             (1.9)
```

Example 6

As in the fifth example, the FO's talk is worded as a grounded proposal ("I might just increase::", line 4), that emerges slowly and uses rising pitch (',') to project completion: "ah (0.3) to:: one hundred and eight? (0.2) f'r the approach, (1.8) 'cause of the::: ah: t-turbulence and the ah:: (0.2) crosswind there," (lines 5-8). Indeed this time the basic proposal is presented with marked rising pitch ('?'), communicating the relevance of a response from the Captain ("one hundred and eight?", line 5). As a proposal this action is negotiable in that the FO needs the Captain's agreement and confirmation for the pilots to act as a team, jointly responsible for conducting the flight (Nevile 2004a).

DISCUSSION

In the airline cockpit, shifts in pilots' gaze, such that one pilot looks towards the face of the other, are organised relative to the action of talk. Gaze shifts embody distinctions in pilots' treatment of the talk as either casual conversation, or as negotiated work-related talk which arises from locally contingent circumstances. The action of the talk occurs out of the scripted and predictable routine flow of talk to conduct tasks. In examples here, there was no direct correspondence in timing between talk and gaze direction, such that any and all casual or negotiated talk was produced or received with one (at least) pilot gazing towards the other, or even that the onset of such talk was marked by this shift in gaze. Gaze could shift before, during, or after such talk, and shift to and fro when the talk was extended. Also, either speaker or recipient could make the shift in gaze.

It seems that mostly pilots treat the instrument panels and windows as the locations for their gaze routinely to reside, and to where their gaze returns after a brief movement away. Pilots' gaze movements therefore begin and end in the same location. So these gaze movements are evidence that pilots treat instrument panels and windows as a form of *home position* for their gaze (Schegloff, 1998, p. 542, citing Kendon, 1980; Sacks and Schegloff, 2002), a default location for where to look in the cockpit. Sacks and Schegloff (2002, p. 133) describe home position as a "formal organizational device that serves to bound episodes of body movement", as part of the sequential organisation of the body in interaction, and so of interaction's "detectable orderliness" (Sacks and Schegloff, 2002, p. 137). According to Schegloff (1998, p. 542), a home position is "the position from which some limb or physical movement departed, and the return to which marks a possible ending to a spate or unit of activity". In the airline cockpit, the 'spate or unit of activity' bounded by gaze movements away from home position is talk or action that occurs outside the flow of predictable and scripted order for activities to fly the aircraft. Like home position for pilots' body posture (Nevile 2004a, p. 467) or hand position

(Nevile 2004a, p. 104; Nevile, 2007), creating and orienting to a home position for gaze can allow pilots to embody and make visibly available how they distinguish moment-to-moment what it is they are doing. A home position creates a local site and moment of bodily stability from which movement or variation can be scrutinised for its significance (see Schegloff, 1998). Looking towards the other pilot's face represents an embodied judgment and claim that right now and for this long it is acceptable to look away from the instrument panels and windows.

Gaze shifts are potentially visible to the other pilot, and so that judgment can be public and accountable. One could be thought to be not looking where one ought to be looking. We saw that such moments were brief, commonly lasting only a turn of talk or less, showing how pilots understand and treat the instrument panels and windows as locations ordinarily and legitimately demanding their visual attention. Forms of home position (e.g. of posture, hand, or gaze) embody participants' understandings of what is going on. In the airline cockpit they form a recognisable arrangement of the body at work, for how pilots talk and act to inhabit and act within cockpit spaces in professionally competent ways relative to the conduct and progress of work activities (cf. Suchman, 1996).

CONCLUSION

This paper used naturally occurring data, transcriptions from video recordings of actual passenger flights, to explore a link between gaze and talk in interaction in the airline cockpit: moments when one pilot looks towards the face of the other. Such moments occur only occasionally because pilots must look towards the instrument panels and windows as the cockpit locations that provide the information necessary to perform tasks and monitor flight progress. They occur relative to pilots' treatment of talk's action, its relative contribution for conducting and monitoring the flight. I identified two recurring occasions 1) casual conversation i.e. talk unrelated to work to fly the aircraft; 2) negotiable talk i.e. contingent upon immediate circumstances of this-flight-now. Looking towards the other pilot's face involves temporarily turning away from the sources of information which demand attention. This shift in gaze therefore treats talk as occurring outside the predictable and scripted routine order of cockpit work, that something different is happening. The paper suggested that mostly pilots treat particular sites for looking, cockpit instrument panels and windows, as a home position for their gaze during planned and predictable work activity. Pilots demonstrate their understanding of when such looking away is acceptable, and what it signals: they know how to look, where and when, for

their work. Managing gaze and attention with the flow of talk is part of pilots' ordinary taken-for-granted professional performance. The paper therefore furthers the interest of applied linguistics in the discourse for professional work. It considers the nature and real-time details of such discourse as embodied and occurring relative to the material circumstances of its setting.

TRANSCRIPTION NOTATION

Transcriptions use the system developed by conversation analyst Gail Jefferson (e.g. see ten Have, 2007).

Capt	Captain
FO	First Officer
>four<	Talk that is noticeably faster than surrounding talk
<four>	Talk that is noticeably slower than surrounding talk
a:::nd	Lengthening of a sound. The longer the sound the more colons
°thanks°	Talk that is quieter than surrounding talk
five	Talk that is louder than surrounding talk
.	Falling pitch
,	Slightly rising pitch, talk that sounds incomplete
(3.4), (0.3)	Silence measured in seconds and tenths of seconds
(.)	Silence of less than a fifth of a second, i.e. less than (0.2)
no(h)t	Breathiness or laughter within a word
.hh	Audible in-breath
hh-	Audible out-breath
{buzzer sounds}	Description of contextual features, including sounds other than talk
{GAZES LEFT}	Description of non-talk activity, gaze direction or head movement
yeah:	Talk that corresponds to a description of gaze direction or head movement

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