

The only major complaint I have is the lack of maps in the text. Some contributors have provided maps, but it would have been useful to have a world map showing where each variety is located, and region or even country maps for each region or variety. I did go fetch my atlas, but 10 or 20 extra pages in each volume would have made this unnecessary.

A CD-ROM is also included. Its main feature refers to the online version, which was not yet available at the time of review, so I cannot comment on this feature. The physical CD-ROM presents the data in the handbook in a more interactive fashion. One can choose a feature and highlight each variety that exhibits that feature. There are also sound samples of each variety, which will make the volumes more accessible to novice linguists studying English. It is a nice resource, but do not buy the volumes for the CD-ROM, mainly because there is not much one could do except browse with it and see interesting relationships between unlabeled small dots. It would be much more useful with more samples in specific places, labels on the dots, and the ability to zoom in to specific regions. (There is a “magnify” tool, but on my PC it simply showed a bigger dot that was not even the same color as the one I was selecting.) While many varieties are represented, the samples seem to be somewhat sparse and uneven, and the sound quality spotty.

Despite these drawbacks, this is a reference work that should be in the library of every university with an English or linguistics department. It is worth the money, as it will be able to do the work of many other volumes, and it will save much sleuthing by students and researchers. The editors and contributors are to be commended for producing such a thought-provoking and at the same time useful work.

REFERENCE

Wells, John C. (1982). *Accents of English*. 3 vols. Cambridge: Cambridge University Press.

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MAURICE NEVILLE, *Beyond the black box: Talk-in-interaction in the airline cockpit*. Aldershot: Ashgate, 2004. Pp. xvii, 245. Hb \$94.95.

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Maurice Neville, from the Australian National University, examines the routine interaction between pilots in the airline cockpit, drawing on several related theoretical approaches to talk-in-interaction, such as ethnomethodology, conversa-

tion analysis, and institutional discourse analysis. In chapter 1, “The workplace as social interaction,” Nevile reviews the theoretical background on workplace and institutional discourse as well as some of the most significant articles in the literature about aviation communications, in particular about interaction in the airline cockpit. In this sense, Nevile’s work establishes a different orientation since, as he points out, previous work on this type of institutional discourse has focused on critical situations, accidents, and incidents instead of routine interaction, with the result that

‘communication’ is frequently mentioned in the relevant aviation literature, but it is not exactly clear how airline pilots routinely communicate in their ongoing interactions with one another in the cockpit as they perform the typical tasks necessary to fly their plane. (p. 12)

Furthermore, when the routine talk has been the study focus, pilots’ interaction was recorded during simulation sessions or data was taken from coded observations. Therefore, one of the most evident differences between this study and previous works (Linde 1988 regarding crew members’ interaction and Cushing 1994 regarding especially pilot–controller communication, among others) is that the author analyzes audio and video data from actual passenger flights in Australia, recorded by himself from a jumpseat right behind and between both pilots, a fieldwork methodology highly recommended by researchers in this area (Kanki 1996) but very difficult to implement because of security issues, especially after September 2001. This methodology provides the necessary data for a study not so concerned with prescribed forms of interaction as with real pilot–pilot dialogue.

The book is structured in three main parts, each one providing the lay reader with the background knowledge necessary to understand the interpersonal dynamic between crew members and the basic aviation procedures the pilots perform in accomplishing their institutional goals. Numerous examples serve to progressively present a thorough description and analysis of the prescribed and nonprescribed interactional features.

The chapters in part I deal with how the two sets of possible professional identities of pilots (captain/first officer, and pilot flying/pilot not-flying) are manifested by the speakers through their choice of personal pronouns in different situations (depending whether captain or first officer is the pilot flying). Taking under consideration the respective responsibilities of the captain and the copilot, as well as those of the pilot flying and of the pilot-not-flying, Nevile shows that the choice of personal pronouns reveals how airline pilots make available their understanding of the distribution of these identities in a particular moment of the flight, and therefore how they understand the tasks and responsibilities to be distributed at that moment. The use of nonprescribed pronouns and of what Nevile calls “impromptu pronouns,” embellished uses of the prescribed forms,

demonstrates that cockpit identities are continuously created and reinforced by the speakers, not just “given” by the institution before the beginning of each flight. When the form selected is not a singular pronoun, *I* or *you*, the use of the plural *we* invokes a shared identity and thus shows, according to Nevile’s analysis, that some circumstances are understood to be affecting both pilots at the same time, or the flight itself.

This proposition can be compared with the uses registered among non-English-speaking pilots. In Argentina, it was observed that also in pilot–controller interaction, pilots and controllers often refer to the flight they are in charge of with a third person verbal form (de-Matteis 2004a), further supporting the notion that some circumstances are experienced both by crew members and controllers as affecting the flight itself, considered as the “relevant identity” (p. 198). In Spanish, this use is almost always reinforced with the definite article *el*, as in “*El uno cero uno cuatro aterriza dos seis*” ‘*the one zero one four lands two six*’ (meaning 26 minutes after the hour).

As the author suggests, the use of an inclusive *we* in pilot–pilot interaction to invoke a shared crew identity by a captain can be linked to a nonauthoritative leadership style that can improve team cohesiveness, one of the areas to which Crew Resource Management (CRM) training programs has paid a great deal of attention since the first inclusion of these programs in crew initial and recurrent training (Helmreich, Merritt & Wilhelm 1999).

In part II, chapters 4 (“Accomplishing takeoff tasks”) and 5 (“Managing tasks in flight”) integrate non-talk activities as equally important and meaningful to the coordination of a crew’s tasks and to the sharing of information that enables both speakers to build their “situational awareness” (Endsley 1988), a critical concept in the realm of aviation human factors (Nagel & Wiener 1988), the interdisciplinary from which the foundations of CRM training curricula derive and with which this book shares an interest in improving aviation safety.

In this part, perhaps the most original in relation to previous research, the combined use of video and audio data allows Nevile to describe in considerable detail the intertwined talk and non-talk activities of non-emergency situations, something that has not been considered in the vast majority of previous linguistic studies of interaction in this socio-technical setting. It becomes evident that an airline crew coordinates its talk and non-talk activities in a way that is not randomly organized. On the contrary, the author suggests that in a strongly sequential activity such as flying an airplane, the order of actions to be performed in a cockpit determines that each action is relevant and possible after another task has been fully completed. Therefore, prescribed words such as *set*, *selected* or *completed* can be appropriately uttered only when the action to which they refer has indeed been completed.

Finally, the third part of the book explores the way pilot–controller radio communication is included and dealt with in pilot–pilot interaction. Because the con-

troller is a speaker who communicates from beyond the cockpit and, for the most part, with only one of the pilots (usually the pilot-not-flying), the integration of a controller's utterances within the cockpit environment is important to the maintenance of a common situational awareness, because instructions and clearances by the different controllers affect both pilots. Controllers' turns of speech lead sometimes to talk activity to clarify who has heard and understood the information within the cockpit. If this is the case, Neville's study shows that talk activities can be initiated either by the non-flying pilot in charge of pilot-controller communications or by the flying pilot. This type of talk activity can occur before, during, or after the radio exchange between the non-flying pilot and the controller, and it always attempts to ensure a common understanding of the information that affects them as a crew.

Certain radio exchanges with the controllers, however, do not induce any talk between crew members. This occurs when the radio exchange is treated as exclusively concerning the pilot-not-flying because it does not directly affect the flying pilot's performance or, sometimes, because pilots continue what they were doing and, in not talking about the controller's transmission, they treat it as unproblematic and understood by both of them.

In sum, the results of the analysis presented in these three parts highlight the different ways in which technical crews turn the scripted wordings from company standard operating procedures (SOPs) for cockpit interaction (the so-called "standard callouts") into real use during their daily routine work, thus continuously constructing an evolving and shared knowledge of the flight's progression. The book ends with a review of possible analytical and practical implications of this research. Among the analytical implications, Neville argues for the necessity of studying talk-in-interaction taking into consideration the complex interrelations of all the interactional features, from proxemics and gestures to prosody, grammar, and semantics. He also relates the book's insights into routine interpersonal communication between crew members to human-technology interaction, on the one hand, and to the conceptualization of cognition as a situated phenomenon to which talk-in-interaction greatly contributes, on the other.

I would like to emphasize two of the practical implications of this type of research for the aviation industry. Of particular relevance is Neville's observation of the advantages that the use of in-flight video recording could have for accident investigation, despite the controversies over its actual implementation (Woerth 2000). In this sense, the book provides a broader approach that, by incorporating the latest developments in conversation and discourse analysis, brings up to date the linguistic methodology for aviation accident investigation proposed in the classic work by Goguen & Linde (1983). Second, as the author suggests, the ethnomethodological and linguistic framework of this analysis offers new inputs into the definition of the complex concept of situational aware-

ness, for which psychological paradigms have attempted to account and which is so closely related to cognition studies.

Finally, I would like to stress the fact that changes from prescribed wordings studied by Nevile are not uncommon in aviation practice all over the world, and therefore should be taken under consideration by the aviation safety experts who are in charge of the linguistic policies in the aeronautical community, both from within the airlines in designing SOPs and also from within national and international organizations in establishing supranational linguistic regulations (Varantola 1989, de-Matteis 2004b). In order to understand how pilots interact in their daily routine work in different cultures and languages, naturally occurring interactions constitute the essential data. Observational data corpora can then be used to evaluate existing practices and, when necessary, to modify them or to propose new ones at the regulatory level.

Clearly written and helpful to the lay reader, Nevile's book not only offers a thorough example of how talk-in-interaction can be studied in a particular socio-technical setting but also signals a path to be followed by researchers interested in aviation safety.

REFERENCES

- Cushing, Steven (1994). *Fatal words: Communication clashes and aircraft crashes*. Chicago: University of Chicago.
- de-Matteis, Lorena (2004a). Convergencias y divergencias en radiotelefonía. El caso de la aeronáutica y la radioafición. In Mariela Rígano & Lorena de-Matteis (coords.), *Actas de las I Jornadas de Jóvenes Investigadores en Ciencias Humanas*, 283–97. Bahía Blanca: Jóvenes Investigadores de la Fundación Ezequiel Martínez Estrada.
- (2004b). Política y planificación lingüísticas en la aviación en Argentina. *Revista de lingüística teórica y aplicada* 42(2):9–44.
- Endsley, M. R. (1988). Design and evaluation for situation awareness enhancement. *Proceedings of the Human Factors 32nd Annual Meeting*, 97–101.
- Goguen, Joseph, & Linde, Charlotte (1983). *A linguistic methodology for the analysis of aviation accidents*. Washington, DC: NASA Contractor Report 3741.
- Helmreich, Robert; Merritt, Ashleigh; & Wilhelm, John (1999). The evolution of Crew Resource Management training in commercial aviation. *International Journal of Aviation Psychology* 9(1):19–32.
- Kanki, Barbara (1996). A training perspective: Enhancing team performance through effective communication. In Barbara Kanki & Veronika Prinzo (eds.), *Methods and metrics of voice communications*, 39–42. Washington, DC: Office of Aviation Medicine.
- Linde, Charlotte (1988). The quantitative study of communicative success: Politeness and accidents in aviation discourse. *Language in Society* 17:375–99.
- Nagel, David, & Wiener, Earl (eds.) (1988). *Human factors in aviation*. London: Academic Press.
- Varantola, Krista (1989). Natural language vs. purpose-built languages. *Neuophilologische Mitteilungen* 90(2):173–83.
- Woerth, Duane (2000). Issues arising out of the crash of Egypt Air 990. Statement before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, U.S. House of Representatives, April 11, 2000. www.resourcescommittee.house.gov/transportation/aviation/hearing/04-11-00/woerth.html. (Retrieved October 15, 2005.)

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