

**MAURICE NEVILE, *Beyond the Black Box: Talk-in-Interaction in the Airline Cockpit.***

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Review by Dilso Corrêa de ALMEIDA<sup>1</sup>

In *Beyond the Black Box: Talk-in-Interaction in the Airline Cockpit*, Maurice Nevile, a researcher with the Australian National University, explores how language expresses meaning in routine, intra-cockpit communications between pilots, as they go about the tasks involved in the normal operation of an aircraft. Nevile uses the term “talk-in-interaction” to encompass not only the verbal component of interaction but also how pilots draw on a host of environmental resources to generate meaning and to exchange information that is essential to all phases of flight. The very title of the book expresses the author’s concern with representing and analyzing language as it occurs during everyday operations, as opposed to analyses based solely on samples of language retrieved from cockpit voice recorders after an accident or incident has occurred. The author points out that the bulk of research involving pilot talk focuses on language as it is used during some non-normal situation and highlights the need to understand how language is used in routine situations, when everything is as it should be.

Throughout the book, Nevile emphasizes a view of the cockpit as a “sociotechnical setting”, defined as an arena in which participants engage in verbal and non-verbal behavior, as they manipulate and interact with an abundance of technological artifacts to accomplish sequential tasks that will ultimately lead to the safe conduct of a flight from A to B.

Nevile’s choice of Ethnography and Conversation Analysis as the methodological backbone of his research enabled him to generate large amounts of data which he analyzed with a very high level of detail. Nevile’s study is the result of observations made from the jumpseat on 18 flights during which he set out to describe how language use defines what it is to be an airline pilot. The use of video recording during his observations provided him with the necessary means to register the non-talk component of the activity in the cockpit. Nevile’s use of the term “talk-in-interaction” serves to emphasize that language does not happen alone, isolated from the multitude of resources people make use of to accomplish whatever task they have at hand. On the contrary, language is but one ingredient of interaction.

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Beyond the Black Box is divided into three parts, each dealing with a specific aspect of language use in the cockpit. Nevile begins Part 1 by explaining how division of labor takes place in the pilot's environment, presenting the reader with important distinctions between the roles of captain and first officer, pilot flying and pilot not flying. He, then, goes on to demonstrate how language fits in to make these distinctions clear while pilots carry out their duties. He shows, for example, how the use of ordinary pronominal forms contributes to the reinforcement of identities already laid out in official documents. As examples, he cites the use of expressions like "your departure", "your go", "your yoke" or "your power levers" as a form of reinforcing the distribution of control over the aircraft systems between the pilot flying and the pilot not flying. Also, he points out, the use of the pronoun "we", as in "we are cleared to start", has the underlying function of conveying the notion of unity, of team, of what it means to be a crew member.

In Part 2, Nevile tackles the interrelation between language and the numerous technological artifacts in the cockpit. He stresses that the situational awareness required from pilots during all phases of flight is not in the head of an individual pilot, but is achieved jointly by the integration of talk and non-talk activities in coordination with cockpit instruments, displays and controls. Nevile acknowledges the sequential nature of the tasks to be accomplished by the pilots in the conduct of their activity. He notes that words like "set", "selected", "checked" or "complete" convey to the receiver that a particular task has been concluded, signaling that the crew can, then, carry on to the next task. Nevile also brings up how pilots make use of what he calls "and-preface" expressions, such as "and heading please" to signal the routine character of the tasks to be accomplished. This part also shows how language is used to transmit commands or requests and to show compliance with such requests, as when the pilot flying commands "gear up" and the pilot not flying answers "gear is up", after checking the position of the landing gear.

In Part 3, Nevile shows how communication with air traffic control triggers talk and non-talk activities in the cockpit as pilots interact with instruments, dials and controls to comply with the instructions received. He cites expressions like "clear left" and "clear right" as examples of intra-cockpit talk generated by an instruction to cross an active runway. He also mentions a case in which the pilot not flying used the phrase "he said final approach speed", after noticing that the pilot flying had not reduced speed as instructed. Language is constantly used to assure that both pilots are aware of air traffic control instructions. Nevile mentions that an expression like "copy that", used by the pilot flying, indicates that he has heard and understood an instruction given by the controller.

The author concludes his book emphasizing that cognition is situated, embodied and socially distributed. Our knowledge of the world depends on our experiencing it through our senses and we share this experience through some form of language.

Nevile suggests some possible implications of his study for accident investigation, for the commercial aviation industry and also for the field of human factors. He advocates that accident investigation could benefit from more detailed analyses of cockpit communication through Conversation Analysis techniques, including the use of video recording. The commercial aviation industry, he argues, could use the findings of studies of this sort in the design and placing of cockpit instruments and controls. As to the field of human factors, he points out that communication is frequently mentioned as playing an important role in flight safety, but it is not really clear how pilots communicate in the cockpit.

Although not explicitly put by the author, studies like the one conducted by Nevile could bring important contributions for the field of aviation language teaching by shedding some light on the intricacies of oral communication in the pilot's work environment. The findings of such studies could possibly illuminate the design of syllabi more attuned to real world instances of language use.