



Ethnography of Communication (EOC)

Ethnography of communication (EOC) is a field of study linking linguistics and anthropology that was established by linguistic anthropologist Dell Hymes. It was initially called **ethnography of speaking**, but Hymes (1972b) broadened the scope to include nonvocal communication (eg: whistling) and nonverbal communication (eg: silence and gestures).

EOC is a framework for analysing naturally occurring speech and interaction in the context in which it emerges. A key principle is that culture and communication are inseparable.¹ When the members of a community communicate, they express cultural elements specific to their community. At the same time, they also create value systems that organize the community through their communication (Covarrubias Baillet, 2009a).

Drawing on EOC and also on Basil Bernstein's concept of communication codes, Gerry Philipsen developed **speech codes theory** (SCT). SCT is a framework for analysing communication that allows the analyst to uncover the precepts or rules within a given community that help people to live their lives and interact with others (Covarrubias Baillet, 2009b). Central to this framework is the concept of a speech code, defined by Philipsen (2002, p. 56) as "a historically enacted, socially constructed system of terms, meanings, premises and rules pertaining to communicative conduct".

The following sections describe fundamental concepts in EOC which are relevant to the analysis of pilot/air traffic controller communications: **speech acts**, **speech events** and **speech situations**; the **SPEAKING framework**; **personal address** and **silence**; **communicative competence**; **speech community** and **community of practice**; and **code switching**.

Speech Acts, Speech Events and Speech Situations

Three basic social units that are used for the study of communication practices are the speech act, speech event and speech situation. A **speech act** is the minimal unit for analysing conversational interaction, for example, a greeting, request or command; a **speech event** is made up of a number of speech acts; and a **speech situation** is the general context of the communication (Hymes, 2001). Thus each request or command spoken by a pilot or air traffic controller is a speech act; an exchange between a controller and a pilot is a speech event; and an air traffic controller communicating with a series of aircraft is a speech situation.

Hymes (2001, p. 53) observed that the process of interpreting a speech act goes beyond mere syntactic analysis: "much of the knowledge that speakers share about the status of utterances as [speech] acts is immediate and abstract, and having to do with features of interaction and context as well as of grammar". In other words, the meaning of a speech act is conveyed by a combination of factors. These include paralinguistic features such as intonation, as well as the position of the speech act in an exchange and the social relationship of the interlocutors.

¹ Hall (1990, p. 186) expressed a similar sentiment when he wrote that "culture is communication and communication is culture".



SPEAKING Framework

Hymes developed an etic (ie: universal, not culture-specific) framework to guide the analysis of communicative patterns in a culture. The framework has eight components denoted by the mnemonic term SPEAKING:

- S – the setting;
- P – the participants;
- E – the end purpose of an event;
- A – the acts that make up an event;
- K – the key, or tone, in which communication is enacted;
- I – the instrumentalities, or channels of communication;
- N – the norms of interaction and interpretation;
- G – the genre.

Duranti and Goodwin (1992) observed that, compared with speech act theory, this framework allows a fuller analysis of the context of communication. It explicitly deals with the setting (both spatial and temporal) and the various roles that participants may adopt (ie: addressor, speaker, addressee or hearer/audience). As noted by Coulthard (1985), it is not uncommon for participants to make frequent and rapid role changes. In pilot-ATC radio communication, a typical speech situation involves a controller (in the role of speaker) transmitting a message to a particular flight crew (addressee) while other crews (audience) listen on the same radio frequency. Then the flight crew (as a speaker) responds to the message while the controller (addressee) and other crews (audience) listen. And so the communication continues with other aircraft. Additionally, a controller may sometimes change role from speaker to addressor in the middle of a transmission in order to read out a pre-scripted message such as a weather warning.

Personal Address and Silence

Other important concepts in EOC include personal address and silence, both of which are subject to rules that vary depending on culture and context. **Personal address** denotes the expressions used by speakers to refer to self and other. These include first names versus family names, nicknames, honorifics and occupational titles such as “Captain”. **Silence**, or the absence of speech, is particularly relevant to the **sterile cockpit rule** in commercial aviation. This rule prohibits crews from engaging in non-essential speech when flying below 10,000 feet. It was introduced by the Federal Aviation Administration (FAA) in the United States following accidents in which pilots were distracted by conversations unrelated to flight tasks (Sumwalt, 1993, 1994). Hisam and Hampton (1996) suggested that there may be differing interpretations of the sterile cockpit rule in different cultures.

Communicative Competence

In simple terms, the construct of communicative competence relates to the ability to communicate. Hymes (1972a) proposed the concept of communicative competence in response to Chomsky’s concept of **linguistic competence**. Chomsky had distinguished



between a speaker-listener's linguistic competence (ie: knowledge of language) and performance (ie: use of language in real situations). This was similar to the fundamental linguistic distinction made by Saussure between *langue* and *parole*. The concept of communicative competence proposed by Hymes accounted for speakers not only acquiring grammatical knowledge of a language but also learning how to use language appropriately in specific social contexts. Native speaker-listeners acquire not only grammatical knowledge of a language but also learn how to use the language appropriately in their society so that "a child becomes able to accomplish a repertoire of speech acts, to take part in speech events, and to evaluate their accomplishment by others" (Hymes 1972a, p. 277). Likewise, non-native speakers must gain communicative competence in a foreign language, in order to be able to use the language effectively and appropriately.

Speech Community and Community of Practice

A fundamental notion within EOC is the **speech community**, defined by Coulthard (1985, p. 35) as "any group which shares both linguistic resources and rules for interaction and interpretation". While noting the usefulness of this concept, Coulthard stressed that it is an idealized notion due to the inherent difficulty in separating speakers into categories. Montgomery (1986) listed some attributes that members of a speech community share: a common language, ways of using language, reactions and attitudes to language, and social bonds. Montgomery noted that it is difficult to find actual communities meeting all these conditions. He suggested considering a speech community as including "not only the notion of verbal practices held in common, but also of tension and conflict between them" (Montgomery, 1986, p. 135).

Another concept that has been widely used in recent years is the **community of practice**, referring to "a set of people who share a purpose and pursue that purpose jointly in shared practices" (K. Tracy, 2009, p. 145). In the context of airline operations, Clark (2007, p. 8) identified the communities of practice of pilots and flight attendants as sets of people who work in close proximity but have "different discursive practices and speaking styles". Each of these communities can in turn be broken down into smaller communities of practice based on nationality, ethnic or regional culture, airline, and so on. Contrasting the community of practice paradigm with that of speech community, Clark (2007, p. 7) observed that social identity in a community of practice is not fixed "but is fluid, and constructed through shared practices, including discourse practices".

Code Switching

The members of a speech community or a community of practice may use multiple linguistic codes (ie: languages, dialects, registers or styles) for communication. Code switching takes place when speakers alternate between different linguistic codes during a single interaction. This often occurs when members of different language communities interact. For example, an American pilot who contacts air traffic control (ATC) in Colombia may use English interspersed with a few Spanish words such as "gracias" or "buenos noches". Another form of code switching takes place within a single speech community when the members switch between the different codes they share, such as dialects and registers. For example, a pilot may use standard phraseology in a transmission to ATC, then switch to plain English for intra-



cockpit dialogue with other crew members. Some researchers differentiate language shifting, or the switching between different languages, from style shifting, or the monolingual switching between different linguistic registers and dialects (Bullock & Toribio, 2009).

Limitations of Ethnography

The ethnographic method can provide insights into culture not captured by other research methods. It does this through a variety of data collection methods including participant observation, field notes, interviews and surveys. However, as Strauch (2010, p. 259) pointed out, this kind of study “is resource intensive, requires considerable expertise, and may be subject to observer variability”. In aviation the resource requirements include the need to gain access to flight decks, which for security reasons has been very difficult since the terrorist attacks of 2001. In addition, expertise is required in a variety of fields including piloting, human factors, anthropology, language and culture (Hutchins et al., 2002; Hutchins et al., 2006).

Applications to Aviation

Widespread use has been made of the technique of observing pilots at work during routine flights. However, this is rarely done within an ethnographic framework. Different flight crews participate in each observation, which typically lasts a few hours, and the aim is usually to collect quantitative data describing the performance of pilots. Sometimes flight deck observations are used to complement other data collection methods, such as large-scale surveys (see, for example, Helmreich & Merritt, 1998). In other cases, such as the Line Operations Safety Audit (LOSA) programme, flight deck observations are the only data collection method used. LOSA involves observers recording how pilots deal with threats and errors during actual flights. The LOSA programme is linked with crew resource management (CRM) training and draws on the threat and error management (TEM) taxonomy developed by Robert Helmreich’s human factors team at the University of Texas (ICAO, 2002).

One reason for ethnography not being widely used in aviation is that considerable resources are required, as mentioned above. Another reason is that aviation research has traditionally been dominated by quantitative methods, especially in the United States. In one notable study that utilised the ethnographic approach, Hutchins et al. (2006) examined the impact of culture on cockpit interaction at airlines in the Asia-Pacific region. Their study included observations of cockpit operations and simulator training as well as airline staff interviews. It identified specific differences in cockpit practice between airlines in different countries, illustrating a point made by Strauch (2010) that the ethnographic method can provide insights into culture not captured by other research methods.

Clark (2007) used ethnographic methods to investigate attitudes towards pilot-cabin crew communication in a study of flight attendant identity construction. Data collection included a survey, industry forum postings, and participant observation at an American airline. Clark used **communication accommodation theory** (CAT) to explain interactions between pilot and flight attendant communities of practice. She noted that some cabin crew accept the chain of command hierarchy that places them below pilots, but others exhibit non-accommodation by calling pilots “motorcoach drivers”. Referring to the studies of Chute and



Wiener (1995, 1996), she emphasised differences between the professional cultures of pilots and cabin crew: “The two groups have different histories, work rules, and unions; they are grouped in different departments in most airlines, and have different training programmes” (Clark, 2007, p. 24). The differences are compounded by a gender divide in many airlines, with pilots generally being male and flight attendants female.

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