Discourse Analysis of Air Traffic Phraseology

Bachelor Thesis

Brno 2016

Supervisor: Mgr. Radek Vogel, Ph.D.
Author: Ondřej Čada
**Prohlášení**

Prohlašuji, že jsem bakalářskou práci vypracoval samostatně, s využitím pouze citovaných literárních pramenů, dalších informací a zdrojů v souladu s Disciplinárním řádem pro studenty Pedagogické fakulty Masarykovy univerzity a se zákonem č. 121/2000 Sb., o právu autorském, o právech souvisejících s právem autorským a o změně některých zákonů (autorský zákon), ve znění pozdějších předpisů.

Souhlasím, aby práce byla uložena na Masarykově univerzitě v Brně v knihovně Pedagogické fakulty a zpřístupněna ke studijním účelům.

Brno, 30th March 2016

……………………………

Ondřej Čada
Acknowledgements

I would like to thank my supervisor, Mgr. Radek Vogel, Ph.D. for his kind help and patient approach throughout writing this thesis.

Ondřej Čada
Annotation

The aim of the thesis is to analyze the discourse between pilots and air traffic controllers from the phonetical, lexical, grammatical and pragmatical perspectives. It is divided into two parts – theoretical and practical. In the first part, relevant issues concerning spoken language, discourse analysis and the language of Aviation English are discussed. The second part analyzes the topic from the suggested perspectives using examples from model situations as well as real-life recordings.

Key words: discourse analysis, language, phraseology, aviation, communication, phonetics, grammar, lexis, pragmatics

Anotace

Cílem této práce je analýza diskurzu mezi piloty a řídícími letového provozu z fonetického, lexikálního, gramatického a pragmatického hlediska. Práce je rozdělena do dvou částí – teoretické a praktické. První část popisuje problematiku mluveného jazyka, analýzy diskurzu a angličtiny používané v letectví. V druhé části je pozornost věnována samotné analýze z již zmíněných hledisek.

Klíčová slova: analýza diskurzu, jazyk, frazeologie, letectví, komunikace, fonetika, gramatika, lexikum, pragmatika
## Contents

Introduction .................................................................................................................. 7

The corpus ..................................................................................................................... 8

I THEORETICAL PART ................................................................................................. 9

1 English in aviation ..................................................................................................... 9
   1.1 What is Aviation English? ..................................................................................... 9
   1.2 General characteristics of the aviation language ............................................... 9
   1.3 Standard phraseology ......................................................................................... 10
   1.4 History ................................................................................................................ 11

2 Discourse analysis .................................................................................................... 13
   2.1 Discourse ........................................................................................................... 13
   2.2 Levels of discourse analysis .............................................................................. 13
      2.2.1 Phonetic level ............................................................................................... 13
      2.2.2 Lexical level .................................................................................................. 14
      2.2.3 Grammatical level ....................................................................................... 16
      2.2.4 Pragmatic level ........................................................................................... 18

3 Communication and conversation theory ................................................................. 19
   3.1 Act of communication and language functions ................................................. 19
   3.2 Conversation ....................................................................................................... 20
      3.2.1 Turn-taking ................................................................................................. 21
      3.2.2 Cooperative principle .................................................................................. 22
      3.2.3 Politeness .................................................................................................... 22

II PRACTICAL PART .................................................................................................. 24

4 Phonetic and phonological level .............................................................................. 24
   4.1 Pronunciation of letters ...................................................................................... 24
   4.2 Pronunciation of numbers .................................................................................. 26
   4.3 Pronunciation of abbreviations ......................................................................... 28
   4.4 Pronunciation attributes of Czech aviation personnel ..................................... 28
   4.5 Summary ............................................................................................................ 29
Introduction

The human desire to fly dates back as far as the ancient Greek myth of Icarus. However, ever since 1903 when Orville Wright successfully took off in the first engine powered airplane, the aviation industry has been constantly growing. Soon, as the skies became crowded and on-board radio transmitters found their way into cockpits, there was a need to establish rules of communication in order for every pilot to understand one another and thus to improve safety.

This bachelor thesis will deal with the discourse analysis of air traffic phraseology – that is the highly standardized speech used in radio communication exchanges between pilots and air traffic controllers. Air traffic phraseology is a special, internationally used occupational variety of English and as such contains features which are in many cases contrary to Standard English so as to minimize the possibility of misinterpretation of the message, which is otherwise likely due to the worsened quality of analog radio transmissions, and the fact that the majority of users of air traffic phraseology are not native speakers of English (although a certain level is required by the authorities). The main aim of the thesis will be to analyze typical examples of radio communication exchanges which do or may occur during a flight, paying special attention to these differences and discussing the reasons for them.

The thesis will be divided into two parts. The first part will provide the necessary theoretical background needed to understand the concept of air traffic phraseology and will present the theory of discourse analysis as viewed by various authors. This will serve as the basis for the practical part, where the thesis will provide an analysis of the topic on the following levels: phonetical and phonological, lexical, grammatical, syntactical and pragmatical.
The corpus

While it would be possible to use textbook examples for the analysis, it was far more appropriate to analyze the language used in real situations including all of its imperfections. Therefore, for the purposes of the analysis, a corpus of the air traffic phraseology has been created using recordings (from the audio archive at LiveATC.net) of the following frequencies:

- Praha Radar (LKPR APP) 127.525 MHz – 2x 30 minutes (different weather conditions)
- Ruzyně Tower (LKPR TWR) 118.100 MHz – 30 minutes
- Ruzyně Delivery (LKPR DEL) 120.050 MHz – 30 minutes

The date and time of the recordings and also the frequencies were chosen to achieve the most possible diversity of transmissions – Radar controlling arrivals and departures at peak hour and in bad weather conditions, Tower taking additional responsibility for ground movements in the evening and Delivery taking lots of requests due to snow at the airport.

In total, 354 utterances were transcribed and all of them are included in Appendix A. The corpus also uses a set of symbols to more precisely capture the utterances. The list can be find below.

Symbols used in the corpus:

P, C speaker identity – P stands for “pilot” and C for “controller” Note that within one part of the corpus C stands for a single controller, but P means any pilot (specified by the call sign which usually follows)

1-6-0, 1-60 “one six zero”, “one sixty”

<<4 sylls>> the transmission was incomprehensible but it was possible to distinguish the number of syllables

[double click] P or C pressed push-to-talk button twice in quick succession, meaning “I have received your message” or “Roger”.

[ə:] hesitation marks, slips of the tongue

- - long pause

(sic) transcribed including the speaker’s error
I THEORETICAL PART

1 English in aviation

1.1 What is Aviation English?

Aviation English is a relatively broad term, which can be looked at from several points of view. The following is a definition by Wang:

Aviation English can be defined as a comprehensive but specialized subset of English related broadly to aviation, including the “plain” language used for radiotelephony communications when phraseologies do not suffice. Not restricted to controller and pilot communications, aviation English can also include the use of English relating to any other aspect of aviation: the language needed by pilots for briefings, announcements, and flight deck communication, and the language used by maintenance technicians, flight attendants, dispatchers, managers and officials within the aviation industry or even the English language studied by students in aeronautical and/or aviation universities. (152)

In this thesis, however, I will be dealing primarily with the core of Aviation English, the standard phraseology. That is, the highly standardized language used in radiotelephony communications, which can be classified as “a code that is used in a very restricted context” (Alderson 169), or for further illustration: “Airspeak is a singularly context bound special language with its emphasis on the human-machine interface and the safe conduct of air transport” (Ragan 54).

Above all, the term Aviation English also belongs to an area called English for Specific Purposes (ESP), which includes for example Business or Law English. International Teacher Training Organization defines ESP simply as “a term that refers to teaching or studying English for particular career (like law, medicine) or for business in general”.

1.2 General characteristics of the aviation language

Manual on the Implementation of ICAO Language Proficiency Requirements offers a list of features which are specific for the aviation environment. Firstly, it is noted that radiotelephony requires speaking and listening skills, but not reading and writing. The communication also highly depends on context, knowledge of air traffic control procedures, navigation, equipment, etc. Non-verbal communication is completely missing which means that clarity and accuracy of speech is of utmost importance. What is more, the speakers cannot both transmit at
the same time, which means that they are “unable to interject remarks or comments that may serve to monitor effective mutual understanding” (ch. 3.3.1). Other aspects that can negatively affect the quality of the communication are imperfect microphone technique (the speaker either switches the microphone too late when he or she has already begun talking or too soon if he or she is still talking) and various background noises such as static interference or cockpit noises, for example wind or engines.

The community of Aviation English speakers is also an interesting one. Since most of the speakers are not native speakers of English their language proficiency varies greatly and there is also an incredible diversity of accents. These two factors combined may present a significant obstacle in communication. After all, history has many times shown that language inaccuracy and subsequent misunderstandings can lead to severe accidents.

1.3 Standard phraseology

As stated earlier in this chapter, standard phraseology is the core of Aviation English. It has been created to allow for clear and unambiguous communication between pilots and air traffic controllers. Its most distinct feature is the use of a restricted set of vocabulary together with firmly given syntactical structure, in a way not dissimilar to programming languages. This ensures that each transmission is to a certain degree predictable and thus easier to understand (for someone who knows the standard phraseology, that is). For example, a basic instruction such as “squawk tree tree two zero” is incomprehensible to most people outside of the field of aviation, but every student pilot knows that he or she has to dial the four digits 3-3-2-0 on a device called a transponder, which enables the air traffic controller to identify the airplane on the radar.

The features of the phraseology might create an impression that it is some kind of an occupational jargon. Interestingly, Manual on the Implementation of ICAO Language Proficiency Requirements counters such belief with the following statement:

Standardized ICAO phraseology is sometimes referred to as a kind of jargon, a specialized code specific to air traffic controllers and flight crews. Yet, as a formalized code, ICAO phraseology does not serve the same function as informal jargon. Rather, phraseology has the specific technical function of ensuring efficient and safe communications. Informal jargon, jargons from other specialized fields of activity (for example, military) or anything else which may make comprehension more difficult should be avoided, given the potential consequences of misunderstandings within the radiotelephony environment. (ch. 3.3.9)
Nevertheless, there are situations for which the standardized phraseology does not suffice and in such cases the speakers have to revert to “plain language” as the restricted vocabulary and set phrases cannot cover every possible situation, especially an emergency one.

Either way, in most situations the communication procedure follows a strictly given pattern such as seen in the diagram below (see figure 1). After an air traffic controller (ATC) issues a clearance or gives an instruction, a pilot has to read it back (i.e. repeat it). This allows the controller to check whether the pilot understood the instruction and also gives him an opportunity to correct him in case he did not. In that situation, the controller repeats the part which was read back incorrectly and the whole communication loop is repeated.

![Diagram of the Pilot-Controller Communication Loop](image)

Fig. 1. The Pilot-Controller Communication Loop; *Aviation Safety Letter*. Ottawa: Transport Canada, 2012. PDF.

### 1.4 History

With the end of World War II there was a massive increase in airline travel and general aviation\(^1\) flights. To reflect this fact, the International Civil Aviation Organization (ICAO) had been formed on 4 April 1947 to ensure safe and orderly development of global civil aviation. In 1951 ICAO recommended that “the English language be used for universal use in international aeronautical radiotelephony communications” (“Status of English Language”).

---

\(^1\) General aviation = all aviation other than commercial airlines or the military
However, insufficient proficiency in English among pilots and air traffic controllers contributed to many accidents, the best-known and also the most serious one being the Tenerife accident in 1978, in which 583 were killed. In fact, a review of 28,000 incident and accident reports revealed that two thirds of them were caused by language (“Background”). To minimize future occurrence of such events, the phraseology constantly develops. For example, a several years ago the phrase “go ahead” was officially replaced by “pass your message,” because the original phrase could be mistaken for an instruction to move forward.

Surprisingly, it was not until 2003 that ICAO introduced language proficiency requirements for air traffic controllers and pilots in order to reduce the frequency of communication errors and thus significantly improving safety. The requirements took effect on 5 March 2008. Ever since then, every professional pilot / air traffic controller must prove their proficiency by taking an ICAO English test and achieving ICAO Operational Level (Level 4) or higher on the ICAO Language Proficiency Rating Scale. The proficiency scale ranges from Level 1 to Level 6 with guidelines published for:

- Pronunciation
- Fluency
- Structure
- Vocabulary
- Comprehension
- Interactions

Those who reach Level 4 are reassessed every three year and pilots and controllers who have reached level 5 have to retake the test every six years. Level 6 is valid permanently (“English is Now”). The ICAO Language Proficiency Rating Scale is included in Appendix B.
2 Discourse analysis

2.1 Discourse and discourse analysis

Since this thesis deals with the analysis of a discourse, it is important to first define these terms. Discourse, according to the *Oxford English Dictionary*, is simply “a connected series of utterances; a text or conversation.” The definition of discourse analysis varies from author to author and covers a wide range of activities. Brown and Yule define discourse analysis as “the analysis of language in use,” and add that the term is used “to describe activities at the intersection of disciplines as diverse as sociolinguistics, psycholinguistics, philosophical linguistics and computational linguistics” (viii-1). McCarthy describes it as “the study of the relationship between language and the contexts in which it is used,” studying all kinds of written texts and spoken data (5). Cook notes that discourse analysis is a rapidly expanding field, which “examines how stretches of language, considered in their full textual, social, and psychological context, become meaningful and unified for their users.”

2.2 Levels of discourse analysis

In discourse analysis, the object of study (any piece of written or spoken language) can be studied at several interrelated levels of description, namely phonetic/graphetic, phonological/graphological, grammatical, lexical and semantic levels (Crystal and Davy 15).

Crystal and Davy also note that the number and nature of the levels is determined by “convenience for the job in hand” and that other relevant levels or sub-levels may be distinguished (e.g. lexis). The levels are to be studied as independently as possible while the order in which they are studied is not significant (15).

This following subchapters will describe in greater detail only the levels relevant to the discourse of air traffic phraseology. This concerns the phonetic, lexical and grammatical levels as suggested by Crystal and Davy, as well as the pragmatic aspect introduced by Brown and Yule.

2.2.1 Phonetic and phonological levels

Given that the subject of analysis in this thesis concerns radio transmissions, it goes without saying that in this case, speech is the exclusive medium of language expression (as opposed to writing).
It is important to distinguish between the terms phonetics and phonology. According to Crystal and Davy, phonetics “studies the characteristics and potential utility of human vocal noise” while phonology “studies the sound system of a given language” (16-17). Since the air traffic phraseology, or Aviation English in general, prescribes its own pronunciation of certain words that is different from Standard English, the primary focus in the practical part will be on the phonological aspect of the language.

The basic unit of speech is called the phoneme. There are approximately 44 phonemes in the English language and the most basic division is that of vowels and consonants.

Roach defines vowels as “the class of sound which makes the least obstruction to the flow of air,” and notes that “they are almost always found at the centre of a syllable. He also adds that it is rare to find any sound other than a vowel which is able to stand alone as a whole syllable” (100). The quality of a vowel sound depends on the shape of the lips (rounded as for /u:/, neutral as for /a/ or spread as for /i:/) and whether the front, the middle or the back of the tongue is raised, e.g. /æ/ in the word cat is a front vowel while /ɑː/ in the word cart is a back vowel. Lastly, it is possible to distinguish between close/low and open/high vowels. (Roach 100 – 101)

Consonants, on the other hand, do obstruct the flow of air through the vocal tract. They can be further divided according to the manner of articulation (plosives, nasals, fricatives, etc.), that is what sort of obstruction a speech sound makes to the flow of air, or according to the place of articulation (bilabial, dental, alveolar, etc.), that is where the obstruction happens in the vocal tract (Roach 68). When two words differ in only one phoneme, they can be referred to as minimal pairs, e.g. height /ˈhaɪt/ vs. hate /ˈheɪt/.

The IPA chart made published by the International Phonetic Association describing the consonants and vowels in the English language is included in Appendix C.

2.2.2 Lexical level

The lexical level naturally deals with the lexis, “the level of language consisting of vocabulary, as opposed to grammar or syntax” (“Oxford English Dictionary”). Vocabulary, or lexicon, is then comprised of lexemes (lexical units or items). These, according to Lewis’ Taxonomy of Lexical Items, include words (book, pen), polywords (by the way, upside down),
collocations (prices fell, rancid butter), institutionalized utterances (I’ll get it; That’ll do), sentence frames and heads (That is not as [adjective] as you think; The danger was…) and text frames (In this paper we will explore…; Firstly…) (“Lexical Approach”).

Moreover, a lexeme has several linguistic dimensions:

- Historical dimension
- Structural dimension
- Regional dimension (standard vs. dialect)
- Social dimension (gender, class, formality, ethnicity)
- Occupational dimension (Vogel 15)

The most relevant parts of speech (or word classes) for this thesis are nouns, adjectives, verbs and adverbs. Interjections are non-existent in aviation phraseology and prepositions and pronouns are used too sparsely to meaningfully analyze them. Let us then take a look at the basic features of each word class.

**Nouns**

Nouns are commonly divided into proper and common nouns. Common nouns can be either countable or uncountable. Furthermore, both countable and uncountable nouns can be either concrete or abstract. Characteristic grammatical features of nouns are number, countability, definiteness, case and gender (Quirk and Greenbaum 70; Vogel 28-30).

**Adjectives**

Adjectives, have the following four characteristic features (Quirk and Greenbaum 129):

- They can occur in attributive function, premodifying a noun
- They can occur in predicative function, functioning as subject or object complement
- They can be premodified by the intensifier very
- They can take comparative and superlative forms

Many adjectives were created by transformation from nouns or verbs with the use of suffixes, the typical examples are: -able (comfortable), -ful (playful), -ish (greyish), -ous (dangerous), -al (seasonal), -ic (scientific), -less (useless) and -y (dirty). (Quirk and Greenbaum 130)
Verbs

Verbs express actions, events or states and can differ in tense, aspect, voice, mood, person and number (Vogel 36).

Verbs can be divided into three main categories:

- Full verbs (lexical verbs)
- Primary verbs
- Modal auxiliaries

There are verbs with *stative* senses (generally not used in the progressive form) and verbs with *dynamic* senses (can be used in imperative and progressive forms). Some verbs can be used in either sense (Vogel 37).

Adverbs

Adverbs are the last word class which will be analyzed. Quirk and Greenbaum claim that from the morphological point of view it is possible to distinguish two closed classes (*simple* and *compound*) and one *derivational* class of adverbs.

- Simple adverbs, e.g. *just, only, well* and many that denote position and direction such as *back, down, near, out, under*
- Compound adverbs, e.g. *somehow, somewhere, therefore*
- Derivational adverbs – majority have the suffix *-ly*, other suffixes include *-wise* (clockwise), *-wards* (northwards), *-fashion* (schoolboy-fashion), *-ways* (sideways) and *-style* (cowboy-style)

(Quirk and Greenbaum 147)

2.2.3 Grammatical level

According to Crystal and Davy, grammar is the central part of a linguistic statement and is traditionally divided into morphology, which deals with the classes of words and their internal structure, and syntax, which investigates the external relationships of words (18).

Analyzing discourse at the grammatical level means to analyze “the internal structure of the units called sentences in a language, and the way these function in sequences” (Crystal
and Davy 18). At this points it is apt to review some of the grammatical features which will be analyzed in the practical part.

Regarding sentence structure, there are three main types of sentences – simple, compound and complex. The simple sentence is defined by Dontcheva-Navratilova as “a sentence which consists of one main clause with finite verb form and the constituents of which are phrases” (152). The compound sentence includes two or more main clauses linked by coordination and each of the main clauses may include any number of subordinate clauses. Complex sentence on the other hand consists of only one main clause and at least one subordinate clause which functions as a subject, object, complement or adverbial (Dontcheva-Navratilova 143).

According to Quirk and Greenbaum (231), simple sentences may be further divided into four major syntactic types:

- **Declaratives** – the subject is normally present and precedes the verb.
- **Interrogatives** – two types: *yes/no* interrogatives – an operator is placed in front of the subject and *wh*-interrogatives – an interrogative *wh*-element is in the initial position and there is generally subject-operator inversion.
- **Imperatives** – no overt grammatical subject and the verb has the base form.
- **Exclamatives** – initial phrase introduced by *what* or *how*, usually with subject-verb order.

In addition, there are four major classes of discourse functions associated with the syntactic types above:

- **Statements** – primarily used to convey information.
- **Questions** – used to seek information on a specific point.
- **Directives** – used to instruct somebody to do something.
- **Exclamations** – primarily used for expressing the extent to which the speaker is impressed by something.

(Quirk and Greenbaum 231)

Another grammatical feature relevant to this discourse is the block language, which is often used to save space (in case of written language) or time (in case of radio or television). Quirk
and Greenbaum claim that block language can be usually found in newspaper headlines, headings, notices, labels and advertisements and that it often consists of isolated noun phrases such as *Entrance*, *50 mph limit* or *No dogs without leash* (245).

Ellipsis is grammatical omission (Quirk and Greenbaum 255) that often appears in informal and spoken language. There are positional categories of ellipsis based on where it occurs in the sentence:

- **Initial ellipsis** – *(I) hope he’s there.*
- **Medial ellipsis** – *Jill owns a Volvo and Fred (own) a BMW.*
- **Final ellipsis** – *I know that we haven’t set the record straight, but we will (set the record straight).*

(Quirk and Greenbaum 256)

Another possible division is according to the knowledge needed to recover the ellipted element. Again, there are two types:

- **Situational ellipsis** – the interpretation depends on knowledge of extralinguistic context, e.g. *(I'll) See you later.*
- **Structural ellipsis** – the interpretation depends on knowledge of grammatical structure, e.g. *I believe (that) you are mistaken.*

(Quirk and Greenbaum 256-57)

### 2.2.4 Pragmatical level

Brown and Yule claim that ‘doing discourse analysis’ certainly involves ‘doing syntax and semantics’, but it primarily consists of ‘doing I pragmatics’ (26). Oxford English Dictionary defines pragmatics as “the branch of linguistics dealing with language in use and the contexts in which it is used, including such matters as deixis, the taking of turns in conversation, text organization, presupposition, and implicature.” According to Yule, pragmatics is “the study of the relationships between linguistic forms and the users of those forms,” and he also claims that “the advantage of studying language via pragmatics is that one can talk about people’s intended meanings, their assumptions, their purposes or goals, and the kinds of actions (for example, requests) that they are performing when they speak” (4).
3 Communication and conversation theory

3.1 Act of communication and language functions

The process of using a radio to exchange information or give instructions is undoubtedly an act of (spoken) communication. As such, it requires at least two participants (in the case of ground-to-air communication it is the pilot and the air traffic controller), who have the role of the addresser (the speaker who produces the utterance) and the addressee (the hearer who is the recipient of the utterance) (Brown and Yule 38). In order for the participants to communicate, it is necessary that they establish a contact. The content and form of the communication is then referred to as the message, which is encoded and decoded by the participants using the common code (i.e. known to both participants). Finally, the surrounding environment of the participants is called the context. We distinguish the situational context, the verbal context (co-text) and the pragmatic context (the background knowledge of the participants) (Dontcheva-Navratilova 15-16). These six components of communication were suggested by R. Jakobson and their relation can be seen in the following figure:

<table>
<thead>
<tr>
<th>CONTEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESSER</td>
</tr>
<tr>
<td>CONTACT</td>
</tr>
<tr>
<td>CODE</td>
</tr>
</tbody>
</table>

Fig. 2. Components of the act of communication according to Jakobson. (Dontcheva-Navratilova 15).

Similarly, Jakobson suggested six functions of language that directly correspond to the components of the act of communication. The emotive function expresses the addresser’s emotions and attitudes towards what his/her is speaking about, usually in the form of interjections, exclamations and expressive or emphatic intonation patterns. The conative function focuses on the addressee to make him/her do something and is usually expressed by the vocative and the imperative. The referential function refers to the context and is typically expressed by statements. The poetic function corresponds to the form of the message, but despite its name isn’t necessarily bound to poetry. Typical features connected with the poetic function are rhyme,
repetition, irregular structures and neologisms, and can be also found in advertisements, newspaper headlines and public or informal speech. The *phatic* function coincides with the contact and is used to establish, maintain and terminate communication, usually by using set expressions. The remaining function is called *metalingual* and is used to define or check the code, and to repair misunderstandings (Dontcheva-Navratilova 17).

![Language functions according to Jakobson.](Fig. 3. Language functions according to Jakobson. (Dontcheva-Navratilova 17).)

### 3.2 Conversation

The term conversation is seemingly synonymous to communication, which was described in the last subchapter. Nevertheless, there is an important difference between the two. In communication, the addressee can be receiving a piece of information only passively – by listening (e.g. audience in a theater), reading or watching (newspapers, advertisements…). Conversation, however, requires at least two individuals who actively participate in the talk and *take turns* (this term will be explained later). Cook claims that talk can be classed as conversations when:

- It is not primarily necessitated by a practical task.
- Any unequal power of participants is partially suspended.
- The number of participants is small.
- Turns are quite short.
- Talk is primarily for the participants and not for an outside audience. (Cook 51)

Nonetheless, Cook adds that these definitions (although useful) are imprecise because of the vagueness of the terms small (as in the number of participants) and short (as in the duration of turns). “Although we might call a turn of four minutes part of a conversation, we would consider conversation to have ceased if someone talked for an hour and a half” (Cook 51). He further notes that there are also many “intermediate cases,” for example a seminar, which would
come somewhere between the two suggested extremes – a conversation and a formal spoken discourse.

3.2.1 Turn-taking

As mentioned in the previous subchapter, *turn-taking* is an essential feature of any conversation. Usually there is no overlap between the individual turns. Cook claims that only about five per cent of conversations contain an overlap of turns, which in turn means that the speakers somehow ‘automatically’ know when to start their turn. He also explains that “where there is an overlap between turns it has some particular significance: signaling annoyance, urgency, or a desire to correct what is being said. Conversely, pauses between turns also carry particular meaning” (52).

According to Cook, the way in which speakers take turns is very much influenced by the culture and language and, for example, the overlap is more tolerated in some societies than in others. He adds that non-linguistic factors can also help in efficient turn-taking (body language, eye contact, intonation and volume of voice).

A set of turns (e.g. a question and an answer) may be described as an *adjacency pair*. In an adjacency pair there are usually two kinds of possible responses – preferred and dispreferred (Cook 54). Examples of adjacency pairs are the following:

1. Offer: Acceptance (preferred)  
   Refusal (dispreferred)

2. Assessment: Agreement (preferred)  
   Disagreement (dispreferred)

3. Blame: Denial (preferred)  
   Admission (dispreferred)

4. Question: Expected Answer (preferred)  
   Unexpected Answer (dispreferred)

“A dispreferred response is usually marked in some way: by a slight pause, or by a preface like ‘Well’ or ‘You see’, or by an explanation and justification of the response” (Cook 54).
3.2.2 Cooperative principle

One of the basic principles of conversation is that the participants cooperate. The
general rules that one should keep in mind so that the conversation is maximally effective were
introduced by a British philosopher H. P. Grice as the Cooperative Principle. Grice suggests the
following four maxims:

Maxims of quantity:
- Make your contribution as informative as is required (for the current purposes of the
  exchange).
- Do not make your contribution more informative than is required.

The point of these maxims is that too much information may become confusing for the listener.

Maxims of quality:
- Do not say what you believe to be false.
- Do not say that for which you lack adequate evidence.

These two maxims fall under a supermaxim – “Try to make your contribution one that is true”.

Maxim of relation:
- Be relevant.

Maxims of manner:
- Avoid obscurity of expression.
- Avoid ambiguity.
- Be brief (avoid unnecessary prolixity).
- Be orderly.

The four maxims of manner fall under a supermaxim “Be perspicuous”. Unlike the previous
three categories which relate to what is said, the maxims of manner relate to how it is said (Grice
46).

3.2.3 Politeness

According to Dontcheva-Navratilova, the most important markers of politeness and fa-
miliarity in English are the following:
- The choice of form of address – they indicate social distance and respect.
The choice of social communication formulae when greeting, saying goodbye, introducing people and chatting, e.g. Hi, bye-bye, See you, Cheers.

The use of indirect speech acts when ordering, requesting, advising and offering. An indirect speech act means that there is an indirect relationship between a structure and a function, for example a declarative used to make a request.

The formula please.

The use of any kind of slang – indicates familiarity.

(Yule 55; Dontcheva-Navratilova 62)
II PRACTICAL PART

The second part of this bachelor’s thesis attempts to analyze the collected material using the theoretical basis described in the first part. First of all, the phonetic and phonological levels are examined, followed by the lexical level, which examines the specialized vocabulary used in aeronautical communication. Next, the thesis deals with the grammatical level of the discourse analysis, examining features connected with spoken discourse, and finally, the pragmatic aspect is examined.

Each chapter analyzes the selected level in great detail, paying special attention to the differences between Standard and Aviation English. There is a brief summary of the findings at the end of each chapter.

The corpus for analysis consists mainly of transcriptions of authentic spoken material, specifically the radio transmissions on the frequencies associated with Václav Havel Airport Prague. Examined were the following frequencies: Praha Radar, controlling the Terminal Control Area, Ruzyně Tower, controlling take-offs and landings, and Ruzyně Delivery, which issues ATC clearances for departing traffic. In total, two hours’ worth of communication were transcribed and used for analysis, supplemented by examples found in the official rules of Aeronautical Telecommunications (“L Frazeologie”).

4 Phonetic and phonological level

The communication procedures including the speech technique and how certain words should be pronounced are prescribed by Manual on the Implementation of ICAO Language Proficiency Requirements. It states that transmissions should be conducted in a normal conversation tone and the following should be fulfilled to achieve the highest possible intelligibility: each word should be pronounced clearly and distinctly, even rate of speech not exceeding one hundred words per minute should be maintained with slight pauses between individual numbers and speaking volume should be kept at a constant level.

4.1 Pronunciation of letters

Let us first take a look at the word spelling alphabet (see table 1), as it is the most central feature of the phraseology. The first column shows words corresponding to each of the of the letters of the English alphabet. The second column shows their pronunciations prescribed by
ICAO using the International Phonetic Alphabet and finally the third column shows their approximate pronunciation using the Latin alphabet (the stress is on the underlined syllable).

Note that the words Alfa is spelled with an $f$ and the word Juliett is spelled with $tt$. According to Havran, this is because some non-native speakers might not know that $ph$ should be pronounced as $f$, and native French speakers would treat a single final $t$ as silent.

Looking at the second column, some interesting observations can be made. Firstly, it suggests a non-rhotic accent (no /r/ is pronounced before consonants). In reality however, everyone except most of the native speakers of English pronounce /r/ in all instances. Secondly, an unusual pronunciation of some words is shown, namely the vowel /ʌ/ in Golf – ICAO /ˈɡʌlf/- vs. standard /ˈɡɒlf/, and the velar nasal /ŋ/ is replaced by the alveolar nasal /n/ in Tango and Yankee. Again, it should be noted that in reality these are usually pronounced in a more standard way, i.e. /ˈtæŋgə/ and /ˈjæŋkiː/ respectively.

Table 1. Word spelling alphabet

<table>
<thead>
<tr>
<th>Word</th>
<th>IPA</th>
<th>IPA using Latin alphabet</th>
<th>Word</th>
<th>IPA</th>
<th>IPA using Latin alphabet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfa</td>
<td>/ˈælfə/</td>
<td>AL FAH</td>
<td>November</td>
<td>noˈvembə</td>
<td>NO VEM BER</td>
</tr>
<tr>
<td>Bravo</td>
<td>braːˈvo</td>
<td>BRAH VOH</td>
<td>Oscar</td>
<td>ˈoskə</td>
<td>OSS CAH</td>
</tr>
<tr>
<td>Charlie</td>
<td>ˈtʃɑːli</td>
<td>CHAR LEE</td>
<td>Papa</td>
<td>paˈpɑ</td>
<td>PAH PAH</td>
</tr>
<tr>
<td>Delta</td>
<td>ˈdeltə</td>
<td>DELL TAH</td>
<td>Quebec</td>
<td>keˈbek</td>
<td>KEH BECK</td>
</tr>
<tr>
<td>Echo</td>
<td>ˈeko</td>
<td>ECK OH</td>
<td>Romeo</td>
<td>ˈroːmiˈo</td>
<td>ROW ME OH</td>
</tr>
<tr>
<td>Foxtrot</td>
<td>ˈfɔkstrət</td>
<td>FOKS TROT</td>
<td>Sierra</td>
<td>siˈe-ra</td>
<td>SEE AIR RAH</td>
</tr>
<tr>
<td>Golf</td>
<td>gΛlf</td>
<td>GOLF</td>
<td>Tango</td>
<td>ˈtæŋɡo</td>
<td>TANG GO</td>
</tr>
<tr>
<td>Hotel</td>
<td>hoːˈtel</td>
<td>HO TTTEL</td>
<td>Uniform</td>
<td>ˈjuːnifɔːm</td>
<td>YOU NEE FORM</td>
</tr>
<tr>
<td>India</td>
<td>ˈi:n di·ə</td>
<td>IN DEE AH</td>
<td>Victor</td>
<td>ˈviktə</td>
<td>VIK TAH</td>
</tr>
<tr>
<td>Juliett</td>
<td>ˈdauːliˈet</td>
<td>JEW LEE ETT</td>
<td>Whiskey</td>
<td>ˈwiski</td>
<td>WISS KEY</td>
</tr>
<tr>
<td>Kilo</td>
<td>ˈkiːlo</td>
<td>KEY LOH</td>
<td>X-ray</td>
<td>ˈeksˈrei</td>
<td>ECKS RAY</td>
</tr>
<tr>
<td>Lima</td>
<td>ˈlɪmə</td>
<td>LEE MAH</td>
<td>Yankee</td>
<td>ˈjænki</td>
<td>YANG KEY</td>
</tr>
<tr>
<td>Mike</td>
<td>maɪk</td>
<td>MIKE</td>
<td>Zulu</td>
<td>ˈzuːluː</td>
<td>ZOO LOO</td>
</tr>
</tbody>
</table>


Example 1:

C: Easy 1-9 *Echo Bravo* /ˈekoʊ ˈbraːvoo/, after *Oscar Kilo Lima* /ˈoskər ˈkilo ˈlimə/ proceed to ERASU.
C: CSA 5 Charlie Tango /ˈʃaːli ˈtæŋɡo/, proceed to Papa Romeo /ˈpæpə ˈrʊmeo/ 5-3-0.

The examples above (spoken by a Czech controller) shows that the real quality and quantity of the phonemes and also the word stress sometimes differ from the prescribed pronunciation as they are affected by the Czech accent. This is dealt with in greater later in this chapter.

4.2 Pronunciation of numbers

As is the case with letters, a special way of pronouncing numbers is prescribed. However, unlike with letters, their pronunciation is not indicated with ICAO IPA transcription, but merely as respellings (nevertheless, the Czech version of the regulation does include examples of how these should be pronounced in simplified IPA with rhoticity, probably due to the fact that most Czech speakers are not familiar with the phonetic spelling).

Table 2. Phonetic representation of numbers and associated words

<table>
<thead>
<tr>
<th>Number</th>
<th>Pronunciation in the Czech Republic</th>
<th>IPA Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZERO</td>
<td>'ziːɾəu, 'ziːrəu,</td>
<td>ZE-RO</td>
</tr>
<tr>
<td>ONE</td>
<td>'wan</td>
<td>WUN</td>
</tr>
<tr>
<td>TWO</td>
<td>'tu:</td>
<td>TOO</td>
</tr>
<tr>
<td>THREE</td>
<td>'tr:i:</td>
<td>TREE</td>
</tr>
<tr>
<td>FOUR</td>
<td>'fo:r, 'faur</td>
<td>FOW-er</td>
</tr>
<tr>
<td>FIVE</td>
<td>'faif</td>
<td>FIFE</td>
</tr>
<tr>
<td>SIX</td>
<td>'siks</td>
<td>SIX</td>
</tr>
<tr>
<td>SEVEN</td>
<td>'sevn</td>
<td>SEV-en</td>
</tr>
<tr>
<td>EIGHT</td>
<td>'eit</td>
<td>AIT</td>
</tr>
<tr>
<td>NINER</td>
<td>'nair</td>
<td>NIN-er</td>
</tr>
<tr>
<td>DECIMAL</td>
<td>'desaml</td>
<td>DAY-SEE-MAL</td>
</tr>
<tr>
<td>HUNDRED</td>
<td>'handrid, 'handred</td>
<td>HUN-dred</td>
</tr>
<tr>
<td>THOUSAND</td>
<td>'tauznd</td>
<td>TOU-SAND</td>
</tr>
</tbody>
</table>


While most of the numbers and associated words are pronounced in a standard way, there is a possibility of confusion with some of them, namely the numbers five and nine, which,
although it might seem unlikely, do sound quite similar over the radio. As a result, the number five /ˈfaɪ/ should be pronounced /ˈfɑːɪ/, that is the voiced labio-dental fricative /v/ at the end becomes voiceless /f/, while the number nine /ˈnɛɪn/ takes the “–r” suffix (niner), and is therefore pronounced as /ˈnɛɪnə(r)/.

**Example 2:**

80  
P: QNH 1-0-1-2 /ˈwʌn ˈzɪrʊʊ ˈwʌn ˈtuː/, descending Flight Level 1-3-0 /ˈwʌn ˈtriː: ˈzɪróʊ/, check Quebec.

117  
C: CSA 9-6-5 /ˈnɛmər ˈsiks ˈfaɪ/, turn right heading 0-2-0 /ˈzɪrʊʊ ˈtuː ˈzɪróʊ/.

179  
C: Aeroflot 2-0-2-4 /ˈtuː ˈzɪrʊʊ ˈtuː ˈfɔːr/, contact Ruzyně Radar 1-1-9 decimal 0 /ˈwʌn ˈwʌn ˈnɛmər ˈdɛsɪməl ˈzɪróʊ/, good bye.

The numbers three and thousand, which are pronounced with unvoiced dental fricative /θ/ in Standard English, may be difficult to pronounce for non-native speakers who might mistake it for /s/ or /f/. Hence, although unlikely to cause confusion, the correct way to pronounce these words is with the alveolar plosive /t/ in initial position, that is /ˈtriː/ and /ˈtəʊzənd/.

**Example 3:**

34  
P: And departure good day, Transavia 5-2-3-6, passing 2 thousand 3 hundred /ˈtəʊzənd ˈtriː ˈhʌndrɪd/.

39  
C: CSA 4 Lima Mike, descend 5 thousand /ˈfaɪt ˈtəʊzənd/ feet, QNH 1-0-1-2.

This modified pronunciation of numbers is usually strictly obeyed by both controllers and pilots. The exception is number nine in the final position when spelling frequencies, in which case the “–r” suffix is sometimes carelessly omitted (e.g. “Contact Ground 1-2-1-9 /ˈwʌn ˈtuː ˈwʌn ˈnɛm/).

The number four, although represented as FOW-er in phonetical spelling and /ˈfaʊər/ being the second possible variant in the “Czech” pronunciation, is in my experience never pronounced that way in real communication neither by native, nor by non-native speakers. Havran confirms this by saying that “On the Audio CD produced by Oxford University Press 2008 (Aviation English for Pilots and Air Traffic Controllers – Sue Ellis & Terence Gerighty) the number four is pronounced /faʊə/ only when its pronunciation is introduced in isolation, but then speakers go on to pronounce four in the usual way /fɔː:/ in examples of actual transmissions.”
4.3 Pronunciation of abbreviations

Abbreviations are an essential and also very common part of the air traffic phraseology. They will be dealt with in the next chapter focused on the lexical level, but it is apt to mention the different way of pronouncing these now.

In Standard English, initials such as CIA, BBC and FBI are pronounced as separate letters with primary stress on the last syllable, i.e. /ˈsɪə/ and /ˈɛf biː/.

In aviation phraseology, each syllable is stressed, e.g. ILS /ˈaɪl ɛs/ or QNH /ˈkjuː ɛnˌtʃiː/.

4.4 Pronunciation attributes of Czech aviation personnel

In addition to the pronunciation recommendations set by ICAO, the phraseology is naturally modified by each speaker depending on his or her accent. Let us therefore take a closer look at the features that are typical for Czech pilots and air traffic controllers. Below is a table showing transcriptions of the most commonly mispronounced words in comparison to the dictionary RP pronunciation.

Table 3. Commonly mispronounced words by Czech aviation personnel.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>alfa</td>
<td>/ˈælfə/</td>
<td>/ˈɑlfə/</td>
<td>India</td>
<td>/ˈɪndə/</td>
<td>/ˈɪndə/</td>
</tr>
<tr>
<td>bravo</td>
<td>/ˌbraːˈvəʊ/</td>
<td>/ˈbrɑːvo/</td>
<td>information</td>
<td>/ˌɪnˈfə meɪʃn/</td>
<td>/ɪnˈfərmeɪʃn/</td>
</tr>
<tr>
<td>correct</td>
<td>/ˈkɒrɪkt/</td>
<td>/ˈkorekt/</td>
<td>kilo</td>
<td>/ˈkiːloʊ/</td>
<td>/ˈkɪlo/</td>
</tr>
<tr>
<td>delivery</td>
<td>/ˈdɛlɪvəri/</td>
<td>/ˈdelɪverɪ/</td>
<td>lima</td>
<td>/ˈlɪma/</td>
<td>/ˈlɪma/</td>
</tr>
<tr>
<td>delta</td>
<td>/ˈdeltə/</td>
<td>/ˈdelaʊ/</td>
<td>moderate</td>
<td>/ˈmɒdərət/</td>
<td>/ˈmodərət/</td>
</tr>
<tr>
<td>descend</td>
<td>/ˈdɪˌsend/</td>
<td>/ˈdɛsənt/</td>
<td>November</td>
<td>/nəʊ vəmbə/</td>
<td>/ˈnɒvəmbər/</td>
</tr>
<tr>
<td>destination</td>
<td>/ˌdestɪˈneɪʃn/</td>
<td>/destɪnetʃn/</td>
<td>papa</td>
<td>/ˈpæpə/</td>
<td>/ˈpapa/</td>
</tr>
<tr>
<td>echo</td>
<td>/ˈɛkoʊ/</td>
<td>/ˈeko/</td>
<td>Quebec</td>
<td>/ˈkwɪt bek/</td>
<td>/ˈkebek/</td>
</tr>
<tr>
<td>Emirates</td>
<td>/ˈɛmɪrəts/</td>
<td>/ˈemɪrəts/</td>
<td>Romeo</td>
<td>/ˈrəʊmiəʊ/</td>
<td>/ˈrəʊ meʊ/</td>
</tr>
<tr>
<td>established</td>
<td>/ˌɛstəˈblɪʃt/</td>
<td>/estəblɪʃt/</td>
<td>Sierra</td>
<td>/ˈsɪərə/</td>
<td>/ˈʃɪərə/</td>
</tr>
<tr>
<td>hello</td>
<td>/ˈheloʊ/</td>
<td>/ˈhelou/</td>
<td>X-ray</td>
<td>/ˈeks rɛt/</td>
<td>/ˈiks rɛt/</td>
</tr>
<tr>
<td>hotel</td>
<td>/ˈhɛʊ ˈtel/</td>
<td>/ˈhotel/</td>
<td>Zulu</td>
<td>/ˈzuːluː/</td>
<td>/ˈzulu/</td>
</tr>
</tbody>
</table>

By examining table 3, it can be concluded that words that have the same written form in the Czech language (e.g. kilo, delta, Romeo, hotel) are pronounced the same way as in Czech, that is to say, the diphthong in the final position is replaced by a monophthong. This is even
more common with controllers serving at regional airports as they are very often communicating with both English and Czech speaking traffic at the same time and proper English pronunciation would require constant switching between two different phonetic registers. The same reason, together with the fact that in the Czech language the stress is always on the first syllable, can be assumed in the case of words such as destination, information, established, November and sierra, where the stress is normally on the second or third syllable, but they are seldom pronounced that way by Czech speakers.

4.5 Summary

In summary, the pronunciation of otherwise standard English words changes significantly once they are used in the context of aviation phraseology. The effect can be further amplified at a regional level by speakers with different accents. In the Czech aviation environment, the phraseology pronunciation is affected mainly by always stressing the first syllable (rule transferred form the Czech language) and by monophthongization of the vowel when it appears in the final position (as in echo or kilo).
5 Lexical level

This chapter deals with the lexical level of the phraseology, more specifically the specialized vocabulary used for the aeronautical communication. Firstly, the lexis is divided into individual word classes and examined in terms of use and function. Secondly, the chapter deals with the so-called “standard expressions” – the very basis of air traffic phraseology. Finally, this chapter investigates the peculiarities of abbreviations used in aviation.

5.1 Main topics

The usual topics that appear in aviation communication are of course those that appear during every flight and have direct connection to safety and navigating the airplane. The following topics appear in the corpus:

- Abbreviations, brevity codes
- Airline names
- Aviation equipment
- Geographical names
- Greetings
- Movement, position, distance
- Numbers
- Rules, restrictions
- Time
- Units of measurement
- Weather

5.2 Word classes

This part of the thesis presents the lexis used in the air traffic phraseology. It lists the nouns, adjectives, verbs and adverbs collected in the corpus. Furthermore, the nouns and verbs are sorted by frequency with the number of appearances indicated in the parentheses.

5.2.1 Nouns

Nouns are the most common word class. This is also thanks to the high amount of proper nouns, typically the names of cities which are used to name the radio navigation beacons and airports, and call signs (usually related to the name of the carrier), which are part of almost
every transmission. Furthermore, the phraseology often contains nominalizations (verbs and adjectives transformed into nouns). Below are the nouns sorted by frequency in four thematic categories:


- Units of measurement: *feet* (20), *knots* (16), *degrees* (11), *miles* (4)

5.2.2 Adjectives

The use of adjectives in the phraseology is very restricted. Usually, they are used in the attributive position (see example 4) to premodify a noun, especially that related to direction, speed or intensity of weather.

Example 4:

30 C: *CSA 4 Lima Mike*, you will cross localizer to intercept from the *left* side due to request from Tower.

90 C: … continue present heading and I will call you.

Each weather phenomenon is associated with a different set of adjectives describing its quality, quantity or intensity. Below is the enumeration of common weather phenomena and the related adjectives.

- amount of clouds: *clear, few, scattered, broken, overcast*

- spatial coverage of significant weather: *isolated, occasional, scattered, frequent, widespread*

- precipitation: *light, moderate, heavy*

- wind shear: *moderate, strong*

- other (turbulence, icing): *light, moderate, severe* (*“L Frazeologie”*)
Example 5:

C: ... and there are clouds, overcast 4 hundred and broken 2 hundred 50 - - feet.

5.2.3 Verbs

In the air traffic phraseology verbs are most typically used when giving instructions. This correlates with the following list which shows mainly verbs expressing some kind of action that the pilot is instructed to do (descend, climb, turn, etc.) The number in the parentheses represents how many times the verb (including all of its forms) appears in the corpus. Only lexical verbs (full verbs) are listed here. A phrasal verb is provided if the verb was not used separately.

- Descend (49), clear (22), contact (18), squawk (14), climb (13), call (14), land (14), hold (13), check (11), expect (11), turn (11), continue (10), approve (9), cross (8), line up (8), pass (8), establish (7), proceed (7), stand by (5), copy (4), taxi (4), wait (4), go ahead (3), maintain (3), reduce (3), say (3), stop (3), change (2), level off (2), push (2), report (2), disregard (1), intercept (1)

Dynamic verbs are always used in the imperative form when they are part of the original instruction, but are usually expressed in the progressive form during a read back (see example 6).

Example 6:

C: CSA 4 Lima Mike, descend Flight Level 1-0-0.

P: Descending Flight Level 1-0-0, CSA 4 Lima Mike.

Auxiliary and linking verbs are often omitted (including the subject) in order to save time and space on a busy frequency as they are not at all important for understanding the message.

Example 7:

P: Radar CSA 7 Kilo Golf, dobrý den, (we are) descending Flight Level 1-3-0, (we have) information Papa, QNH (is) 1-0-1-3.

C: De-icing stand 4, start-up (is) approved, change to ground 1-2-1-9.

5.2.4 Adverbs

The use of adverbs in the phraseology is even more restricted than that of adjectives. They are most commonly used during vectoring to specify direction of the turn.
Example 8:

C: CSA 4 Lima Mike, turn left heading 3-3-0.

In addition, the adverb fully is most frequently used in phrases “fully established” or “fully ready.”

Example 9:

P: Fully established, CSA 4 Lima Mike.
C: Delivery, Air France 9-1-4 Foxtrot, stand 1-7 and we are fully ready now.

Other adverbs may occasionally appear in phrases such as “taxi carefully” or “slowly descend to Flight Level 90.”

5.3 Specialized terminology

Aviation phraseology contains a set of words and phrases called standard expressions. Each of these expressions has a precise meaning, often exclusive to the aviation environment. The following is a list of the standard expressions found in the corpus. Each expression is provided with an example from the corpus and its exact meaning according to the Manual of Radiotelephony.

Affirm – “Yes.”
C: Good evening sir, are you ready for departure?
P: Affirm, we’re ready for departure, Ryanair 8 Romeo Quebec.

The word affirm was created by clipping of the adjective affirmative in the phrase “That is affirmative.” The correct pronunciation is /ˈɛfɜːrm/ with the first syllable stressed. The reason is that over poor quality connection it the full form could be mistaken for negative, which has the opposite meaning.

Approved – “Permission for proposed action granted.”
C: De-icing stand 4, start-up approved, change to ground 1-2-1-9.

Check – “Examine a system or procedure.”
C: CSA 7-3 Bravo, check Romeo.

Cleared – “Authorized to proceed under the conditions specified.”
C: CSA 7-8-9, runway 2-4 cleared to land, wind 2-8-0 degrees 5 knots.
P: Runway 2-4 cleared to land, CSA 7-8-9.
Contact – “Establish communication with…”

70 C: Emirates 4-4-0, contact Praha Radar 1-2-7 decimal 1-2-5, ahoj.

Correct – “True” or “Accurate”.

129 P: Aeroflot 2-0-2-4, information Papa on board.
130 C: Er, correct, thank you.

Correction – “An error has been made in this transmission. The correct version is…”

106 C: … expect vectoring ILS approach runway 0-6, correction runway 2-4 ...

Disregard – “Ignore.”

206 C: CSA 7-3-2-2, disregard.

Maintain – “Continue in accordance with the condition(s) specified.”

1 C: CSA 3 Delta Alfa, reduce speed 1-6-0 knots and maintain till 4 miles DME.

Negative – “No” or “Permission not granted” or “That is not correct” or “not capable”.

289 P: Easy 4-5 Yankee Tango, any chance we could depart from runway 0-6?
290 C: Negative.

Report – “Pass me the following information…”

51 C: CSA 4 Lima Mike, turn left heading 0-9-0, cleared ILS approach runway 0-6, report established on localizer.

Request – “I should like to know…” or “I wish to obtain…”

168 P: Speedbird 8-5-6, er, request reducing speed.

Roger – “I have received all of your last transmission.”

243 P: OK, we are on stand-by for your clearance, anyway.
244 C: Roger, call you.

Say again – “Repeat all, or the following part, of your transmission.”

221 P: 8 Juliett Whiskey, er, can you put us to queue for de-ice?
222 C: Sorry, say again.
223 P: We just need DE-ICE later on.

Standby – “Wait and I will call you.”

273 P: Delivery, Lufthansa 8 Juliett Whiskey, for information Kilo, request start-up clearance to Munich.
Wilco – “I understand your message and will comply with it.”

C: Lufthansa 8 Julie Whiskey, standby, call you.

C: <<4 sylls>> to contact your handling agency.

P: Wilco. (abbreviation for will comply)

The list above is not complete as only the standard expressions found in the corpus were listed. The following is a list of standard expressions for which no example could be found in the corpus: acknowledge, break, break break, cancel, confirm, how do you read, I say again, monitor, read back, recleared, speak slower, unable, words twice.

5.4 Abbreviations

As already mentioned in the subchapter dealing with pronunciation, abbreviations are a significant feature of the air traffic phraseology. Let us take a look at how they were formed.

➢ Clippings: there are not many “official” abbreviations in the phraseology which were created by clipping. In fact, the only notable one is affirmative > affirm. However, some call signs were created by clipping of the company’s name, e.g. EasyJet > Easy. Sometimes clipped variants of certain words can be heard over the radio although they are not officially part of the phraseology, e.g. localizer > loc, foxtrot > fox. Interestingly, clipping affected common Czech and Slovak greeting expressions na slyšenou > naslyš and dopočutia > dopo.

➢ Compound clippings: radar (radar detection and ranging), wilco (will comply)

Acronyms form by far the biggest group of abbreviations. The following are examples found in the corpus:

➢ Acronyms pronounced as words: ATIS (Automatic Terminal Information Service), TSAT (Target Start-up Approval Time)

➢ Initialisms: CSA (formerly Czechoslovak State Airlines), DME (Distance Measuring Equipment), ILS (Instrument Landing System), TOBT (Target Off-Block Time), EAT (Expected Approach Time), ATC (Air Traffic Control)

There is also a large group of “pseudo-acronyms” – groups of letters that resemble acronyms (and are often pronounced as words), but do not stand for anything in particular. These pseudo-acronyms are used especially as:
Names of navigation fixes: (from the corpus) AKEVA, BALTU, DOBEN, ERASU, RAPED, GOLOP, RATEV, RUDAP, VARIG. These are basically 5-letter codes with vowels and consonants arranged in a way that forms a pronounceable word. Most of the time, the names are chosen purely arbitrarily, however, it is sometimes possible to find fixes named after cities, towns or other points of interest if the two happen to have approximately the same coordinates, e.g. Mikulov > MIKOV.

ICAO airport codes: LKPR (Praha – Ruzyně), OIHH (Teheran), KLAX (Los Angeles). These 4-letter codes are pronounced using the word spelling alphabet, the first letter represents a continent, the second letter represents a country within the continent and the last two letters identify an airport.

Names of radio navigation beacons: 3-letter code usually abbreviated from the name of the nearest city or town (Brno > BNO, Vlašim > VLM, Vožice > VOZ, Holešov > HLV, but Praha > OKL, Cheb > OKG). These are again pronounced using the word spelling alphabet (BNO = Bravo November Oscar).

Q codes: these are special codes all beginning with the letter Q (also used in maritime and amateur radio communications). For example, QNH means “barometric pressure adjusted to sea level.”

5.5 Summary
The lexicon of phraseology is very restricted as the analysis of the corpus revealed that only 33 different lexical verbs and around the same number of common nouns were used in the recordings. The use of other word classes is highly restricted thanks to the extensive use of isolated noun and verb phrases. Many of the expressions can be found in standard dictionaries, but not their specific meaning which is often exclusive to the aviation domain. Furthermore, the large number of abbreviations and acronyms (despite the fact that only a tiny fraction of them were mention in this chapter) suggest that the phraseology indeed acts to a great degree as a code that is incomprehensible to an outside listener.
6 Grammatical level

This chapter deals with grammatical features relevant to the air traffic phraseology. Firstly, the sentence structure is examined, followed by analysis of sentence types and discourse functions. Secondly, the chapter deals with the use of block language and features typical for spoken language – pro-form and ellipsis.

6.1 Sentence structure

Since the air traffic phraseology is a spoken only, simplified variety of English with emphasis on conciseness, sentences longer than a few words are very rare. What is more, most of the radio exchanges only contain one instruction at a time, and therefore the prevailing type of sentence is the simple sentence (the call signs are being purposely disregarded).

Example 10:

32 C: CSA 4 Lima Mike, descend Flight level 7-0.
48 P: Eurowings 1-7-7-8, we’re established on the localizer.
323 P: Cleared to land runway 2-4, CSA 6-1-9.

Compound sentence is the second most common type and is typically used when the controller need to join two or more instructions into one message. The clauses are typically linked with one of the three central coordinators (and, or, but) using simple coordination.

Example 11:

1 C: CSA 3 Delta Alfa, reduce speed 1-6-0 knots and maintain till 4 miles DME.
37 C: CSA 4 Lima Mike, descend Flight Level 7-0 and turn right heading 0-3-0.
229 C: [ə:] roger (I understand), but your TSAT is 1-5-2-0. You have to wait or contact your handling to send new TOBT.

Complex sentence is the least common. It is generally used when instructing for actions that are supposed to be executed at a later time (when a certain condition is met). Typically, an adverbial clause or a verbless clause and the subordinating conjunction when is used in such cases.

Example 12:

266 C: Luxwing 2-0-1 ... outbound clearance, runway 3-0, when airborne continue straight ahead, climb 5 thousand feet altitude, squawk is the same.
267 P: ... thank you very much, call you back when ready to start.
6.2 Sentence types and discourse functions

Only three out of the four major syntactic types are used in the phraseology – declaratives, interrogatives and imperatives.

Declaratives (see example 13) have the discourse function of statements and are used to convey information. They mostly take the form of a simple sentence. Pilots usually use them to inform the controller about current or recent past events, or to state intentions. On the other hand, controllers usually use them to justify or give reason for their instructions in case they somehow deviate from standard procedures.

Example 13:
20  P: (We are) descending Flight Level 8-0, Eurowings 1-7-7-8.
30  C: CSA 4 Lima Mike, you will cross localizer to intercept from the left side due to request from Tower.
48  P: Eurowings 1-7-7-8, we’re established on the localizer.

Interrogatives have the discourse function of questions and are used to seek information. In the case of air traffic phraseology, they often take the form of a yes-no question to which the typical answer is “affirm” or “negative + reason”.

Example 14:
91  P: … any speed control for us?
163 P: Can we get some EAT, please?
221 P: 8 Juliett Whiskey, [ə:], can you put us to queue for de-ice?
236 C: Are you ready?

289  P: Easy 4-5 Yankee Tango, any chance we could depart from runway 0-6?
290  C: Negative, runway 3-0 or 2-4.

Imperatives have the discourse function of directives and are used to give instructions. They take the form of an imperative sentence and are normally never used by pilots.

Example 15:
32  C: CSA 4 Lima Mike, descend Flight level 7-0.
122 C: CSA 5 Charlie Tango, proceed to Papa Romeo 5-3-0.
342 C: Ryanair 8 Romeo Quebec, line up runway 2-4.
Unlike in the ordinary language, where declaratives are the most frequently used sentence type, the imperatives are equally as common in airspeak. This is due to the structure of exchange patterns where every instruction (imperative) must be followed by a read back (declarative).

Example 16:

C: *Eurowings 1-7-7-8, descend Flight Level 7-0.* imperative

P: *(We are) descending Flight Level 7-0, Eurowings 1-7-7-8.* declarative

Exclamatives are never used in the phraseology.

6.3 Block language

Block language is a phenomenon usually found in newspaper headlines, advertisements, on notices or labels. It is characterized by omission of “unimportant” elements such as auxiliaries and determiners, which are not needed to convey a message. Block language is suitable for the phraseology, since its aim is to use as few words as possible.

Often, radio messages are shortened to a form of an isolated noun phrase, especially during a read back (utterance #121 is provided only for context in example 17).

Example 17:

C: *CSA 5 Charlie Tango, proceed to Papa Romeo 5-3-0.*

P: *Papa Romeo 5-3-0, any speed limit?*

C: *No speed limit.*

6.4 Pro-forms and ellipsis

Because it is important that the language used in radio communications is unambiguous, pro-forms are seldom used as it may not be clear what they refer to. Nevertheless, the corpus shows one utterance in which the pro-form *the same* was used (see example 18). In this case it refers to the squawk code 1412, which has been already confirmed by the pilot in a previous transmission so there was no need to repeat it.

Example 18:

C: *Luxwing 2-0-1, I’m changing your ... outbound clearance, runway 3-0, when airborne continue straight ahead, climb 5 thousand feet altitude, squawk is the same.*
Ellipsis, on the other hand, appears very frequently as it is a common feature in both spoken and block language. Initial ellipsis often appears in read-backs when only the absolutely necessary part of the instruction is repeated (e.g. the name of a navigation point).

Example 19:

C: Call me.
P: (I will) Call you, thank you.

C: Easy 9-7 Romeo Delta, turn right, proceed to RAPED.
P: (Proceeding) To RAPED, Easy 9-7 Romeo Delta.

Sometimes, a call sign can be shortened, resulting in medial ellipsis (OK-ABC → OBC = Oscar Kilo Alfa Bravo Charlie → Oscar Bravo Charlie). Another example might be the word “decimal” when spelling frequencies (see example 20).

Example 20:

C: Correct, contact Ruzyně Tower 1-1-8 decimal 1, naslyš.
P: 1-1-8-1, CSA 3 Delta Alfa, naslyš.

Final ellipsis commonly occurs with some units of measurement (hectopascals, degrees). Peculiarly, the phrase no speed restriction is often being shortened to no speed. Other uses of final ellipsis were not recorded in the corpus.

Example 21:

P: Hello, Emirates 1-4-0, passing 4 thousand 4 hundred, climbing up to 5 thousand.
C: Hello, Emirates 1-4-0, Praha Radar, radar contact, climb Flight Level 1-6-0, no speed restrictions.
P: 1-6-0 and no speed, Emirates 1-4-0.

Structural ellipsis (omission of determiners, pronouns, operators, prepositions…) is extremely common in airspeak as a result of using block language (see example 22).

Example 22:

C: CSA 4 Lima Mike, turn left (to) heading 3-6-0, (this is) vectoring (for the) ILS approach (for) runway 0-6.

C: Dobrý den CSA 7-0-1, (this is) Praha Radar, (I have) radar contact, descend (to) Flight Level 1-3-0, Papa (is) correct.

C: Aeroflot 2-0-2-4, reduce (your) speed (to) 2-2-0 knots.
6.5 Summary

The grammar and syntactic structure of the aviation phraseology is markedly simplified. The message is usually broken into chunks, often individual noun or verb phrases. The omission of prepositions, articles, operators and other elements means that the spoken phraseology resembles block language, which is, however, typically associated with written texts, especially in newspaper headlines and advertisements. Unlike in normal everyday communication, almost 50 per cent of the sentences are imperative.
7 Pragmatical level

This chapter deals with the pragmatic aspect of airspeak. Since the aviation phraseology consists of special lexicon, abbreviations and syntax, and is in fact a very simplified language with strict rules, it is very difficult for an outside listener to fully understand the meaning of what is being said, even if he or she can understand the individual words perfectly. Therefore, the role of shared knowledge of pilots and air traffic controllers and the immediate context is crucial.

7.1 Turn-taking

Nowadays, all of the aviation communication is done using 2-way radios (although there are plans to use text communication in the distant future). This means that only one person can speak at a time – if more stations try to transmit at the same time they mutually block each other out. It is therefore imperative that everyone involved knows precisely when they can begin their turn. In air traffic communication there are three basic types of exchange patterns.

Two turns initiated by the controller – the example shows a situation when a controller orders a crew of CSA 965 to begin descend from their current flight level to FL100 and proceed to navigation fix called RATEV. The pilot is then expected to read back the instruction, at the end of which he adds the call sign of their flight. At that point the frequency is clear for others to begin their transmission.

Example 23:


C: CSA 9-6-5, descend Flight Level 1-0-0, proceed to RATEV.

P: RATEV direct and descend Flight Level 1 hundred, CSA 9-6-5.

Three turns initiated by the controller – in this situation, the controller initiates his turn after he has checked that runway 30 is available for take-off and calls the crew of Luxwing 201 to make their decision. The crew agrees with runway 30 and expects to be given a new clearance, because they were previously cleared from runway 24, to which the controller replies with “standby,” meaning that the other station is not expected to transmit any further until called on.

Example 24:


C: Luxwing 2-0-1, runway 3-0 is available.

P: Thank you very much, in this case we request runway 3-0 for departure.

C: Standby.
Three turns initiated by the pilot – here the crew of a British Airways aircraft with Speedbird 856 call sign makes a request to reduce their airspeed because they were previously assigned a speed restriction which they can no longer keep. The standard reply to the request would be “resume normal speed” or “speed is yours”, but since the controller meant to call them anyway in order to instruct them to begin holding over RATEV point at FL130, he only says “roger” and continues with the holding instruction, because that one also cancels the speed restriction. Regardless of the controller’s response, the pilot is obliged to read back the instruction.

Example 25:

168 P: Speedbird 8-5-6, [ə:], request reducing speed.
169 C: Roger and hold at ERASU, Flight Level 1-3-0.
170 P: Hold ERASU, Speed... Flight Level 1-3-0, Speedbird 8-5-6.

7.2 Meaning in context

The meaning of some of the standard expressions have been already discussed in the chapter dealing with the specialized terminology. This subchapter attempts to further illustrate the meanings of these expressions in a wider context.

In the following example, the aircraft is descending towards its destination at Prague and is establishing an initial contact with the controller at Prague Radar after it has been handed-off by the Area Control Center (controlling the higher levels of the airspace).

Example 26:

5 P: Dobrý den, CSA 4 Lima Mike, passing 1-7-4 descending 1-4-0, Papa Romeo 7-4-2, Papa 1-0-1-2.
6 C: Dobrý den CSA 4 Lima Mike, Praha Radar, radar contact, roger, descend Flight Level 1-3-0, check Quebec, QNH still 1-0-1-2.

The utterance number 5, translated into “normal” language means: “This is a Czech Airlines aircraft, call sing CSA 4LM, we have been cleared by the previous controller to descend to 14,000 feet on standard pressure setting (1013.25 hPa) and our altimeter currently shows 17,400 feet. We are proceeding directly to waypoint PR742 on the standard arrival track and we are familiar with the current runway in use, transition level, weather and other relevant information, barometric pressure at the airfield adjusted to sea level is 1012 hectopascals.”
The controller’s reply is “CSA 4LM, I can see you position and correct altitude on my radar screen, I have received your message, continue with your descend to 13,000 feet on standard pressure setting, barometric pressure at the aerodrome is still 1012 hectopascals but the weather has changed, check the new information (called Quebec).”

In the next situation the Prague Radar controller has cleared Easy 19EB to descend to Flight Level 90 and updates the crew on the situation since there was a change of runway in use.

Example 27:

C: [Easy 19EB], expect vectoring ILS approach runway 0-6, correction runway 2-4, no delay, and there are clouds, overcast 4 hundred and broken 2 hundred 50 - - feet.

P: OK, that’s great, vectors for runway 2-4, thanks, Easy 1-9 Echo Bravo.

The message translated to plain English would be as follows: “I will provide you with vectors for instrument approach for runway 06 later on, I mean for runway 24. You will land will no delay relative to your flight plan and the weather conditions have been updated – the whole sky is covered with clouds with cloud base at 400 feet above the airport and there is another layer of clouds at 250 feet which covers approximately one half of the sky.”

The following exchange shows an aircraft parked at the gate after it has been loaded, refueled and the passengers have boarded. At that point the crew calls the frequency called Delivery and asks for clearance to their destination.

Example 28:

P: Luxwing 2-0-1, stand 0-9, QNH 1-0-1-2, for the ATC clearance.

C: Roger Luxwing 2-0-1, Romeo correct, QNH 1-0-1-3, time check 1-5, clearance to Bolzano, departure DOBEN 3 Echo, squawk 1-4-1-2.

The utterance number 259 means “This is Luxwing 201, we are located at stand number 9 and our altimeter is set to barometric pressure of 1012 hectopascals, we request clearance to the destination filled in our flight plan and departure instructions.”

The controller has already coordinated the departure with Prague Radar (because the airplane will enter its airspace after take-off) and can therefore issue the clearance right away: “Luxwing 201, I have received your request, information Romeo is current, set your altimeter to the barometric pressure of 1013 hectopascals, correct time is 15:15 UTC, you are allowed to
fly to destination Bolzano, after take-off follow DOBEN 3E standard instrument departure route and set your transponder to show code 1412.”

The last example shows an aircraft making an initial contact with the Tower controller as it nears the runway intersection.

Example 29:

306 P: «<5 to 6 sylls>» hello again 5 Yankee Mike, approaching holding point runway 2-4, on Bravo.
307 C: «<2 sylls>» 5 Yankee Mike, Ruzyně Tower, call me ready for departure.
308 P: We are ready.
309 C: «<1 syll>» 5 Yankee Mike roger, so behind landing Airbus 3-1-9, short final, line up runway 2-4 behind.

The first utterance would translate to “5YM is calling Delivery, our position is on taxiway Bravo, almost at the holding point (intersection) of runway 24.” The controller’s response is “5YM, this is Ruzyně Tower, let me know when you are ready for take-off.” The pilot announces that they are already ready and at that point he is anticipating the controller to give them another instruction, which is “5YM, I have received the information that you are ready. There is a landing traffic, type Airbus A319 currently positioned not further away than 3 nautical miles from the runway, you are allowed to enter runway 24 after the traffic has landed.”

7.3 Politeness

Although any non-essential words and phrases such as expressions of politeness and pleasantries should be generally avoided in air traffic communication, in reality they are relatively common. Let us take a look at some markers of politeness found in the corpus.

Form of address

Generally, there is no need to address the controller or the pilot in any other way than by using the call sign, e.g. Praha Radar, (Ruzyně) Tower, Delivery, Ryanair 8RQ etc. In some cases, however, both pilots and controllers address each other in a more personal way, especially in questions/requests and when the airspace is not busy. The usual form of address is a formal “sir” in case of men and “madam” or “ma’am” in case of women.

Example 30:

214 C: Iran Air 7-2-6, did you copy?
P: Yes, sir, cleared destination, [əːm], Victor Oscar Zulu 1 Echo departure, and squawk 4-1-1-0.

P: Ah ma’am CSA 6-7 Delta, just to be sure, are we cleared for land?

C: Good evening sir, are you ready for departure?

P: Affirm, we’re ready for departure, Ryanair 8 Romeo Quebec.

Social communication formulae

A great variety of expressions is used when greeting or saying goodbye, ranging from formal to very informal when the pilot and the controller know each other personally. It is also very common to greet the other speaker in his or her native tongue, which means that Czech controllers are likely to greet an Indian pilot with “namaste” and say “tschüs” when saying goodbye to a German pilot. Likewise, it is not uncommon to hear “dobrý den” in many different accents throughout a day. Despite this fact, the corpus showed that the most common greeting expression is “hello,” followed by “good afternoon/evening” and “good day,” which is an expression used for both greeting and saying goodbye. The most common leave-taking expression is “bye-bye.” In Czech the greetings are less formal, with “ahoj” (equivalent of “hi”) being used most frequently for both greeting and leave-taking.

Indirect speech acts

Indirectness should be generally avoided, but it is often used when asking for information, especially by native speakers. The correct way to ask for information, however, would be by using the phrase “request” as in “request EAT” or “request clearance.”

Example 31:

163 P: Can we get some EAT, please?

282 P: Stand 3-1 with information Quebec, could you tell us our clearance to Paris – Charles de Gaulle, please?

289 P: Easy 4-5 Yankee Tango, any chance we could depart from runway 0-6?

The formula please is sometimes used by pilots even when they correctly use the direct speech act as to at least make the request more polite, even though this is unnecessary.

Example 32:

254 P: [ə], say again the anti-icing, please?
7.4 Summary

The air traffic phraseology is highly context-dependent and is therefore difficult to decipher for anyone non interested in the field of aviation. It also uses a specific exchange structure, which is crucial for maintaining smooth communication in a busy airspace. In the interest of safety, indirectness and expressions of politeness are used only on rare occasions, although there is some general familiarity between the pilots and controllers.
Conclusion

The air traffic phraseology, also known as aviation phraseology or airspeak, is a special variety of English for specific purposes. In contrast to Standard English, the language of aviation contains many distinctive differences in phonetics, specialized lexicon, simplified grammar and is also highly dependent on mutual knowledge of its users.

The aim of this thesis was to analyze the discourse of air traffic phraseology in the relevant linguistic areas. The first part of the thesis introduced the concept of aviation phraseology, briefly described its history. It also explained the term ‘discourse analysis’ and provided necessary theoretical background for each of the levels of the discourse, which served as a basis for the practical part.

In order to be able to successfully conduct the analysis, I have created a corpus of the air traffic phraseology based on two hours of recordings of three different frequencies. In total 354 utterances were transcribed, which was a very time-consuming task – each of the thirty-minute segments involved approximately two hours of very close listening and transcribing due to a relatively poor quality of the original recordings. Nevertheless, the final result was more than satisfying and offered plenty of interesting pilot-controller exchanges for the analysis.

The first practical chapter analyzed the discourse from the phonetical and phonological points of view by comparing the prescribed phraseological pronunciation to that of standard English and then providing examples of its real usage in the Czech aviation environment. It was found that the real pronunciation differs in many cases from the officially recommended one, especially in terms of word stress and pronunciation of diphthongs in the final position.

The second chapter focused on analyzing the lexicon in terms of individual word classes and then explained the meanings of the so-called standard expressions found in the corpus. Special attention was paid to abbreviations, since they are a distinct part of the aviation phraseology. The analysis of the corpus confirmed how restricted the phraseology lexicon really is, as only about thirty lexical verbs and the same number of common nouns were found in the corpus. Examples of other word classes were present in very small numbers.

The third chapter in the practical part focused on the use of grammar in the phraseology, especially from the syntactical point of view. Firstly, the utterances from the corpus were analyzed in terms of sentence structure, sentence types and discourse functions. Secondly, the use of block language and ellipsis was examined. The analysis of the syntax revealed that the typical
pilot-controller exchanges are usually very short utterances, often broken into chunks consisting of isolated noun phrases, which is otherwise very atypical of spoken language. Moreover, the imperative is used considerably more in the phraseology than in everyday speech.

The last chapter examined the discourse at the level of pragmatics. Using examples from the corpus, it showed the principles of taking turns when communicating in the aviation environment and then explained the hidden meaning behind some of the utterances found in the corpus. Analyzing the pragmatic aspect was quite difficult a task since there was no course directly dealing with Pragmatics in the Bachelor study program. Luckily, an optional Conversation Analysis course in the fifth semester helped me a great deal to conduct at least some basic analysis in terms of speech acts and cooperation of the speakers.

To conclude, I believe that the thesis can be helpful in understanding how the aviation phraseology is structured and how it works in comparison to the everyday language, especially the fact that even complex meanings can be often expressed by simple phrases, provided that the speakers share some common knowledge of the topic. Even though the thesis has already fulfilled its aim by providing the reader with a concise analysis of an authentic aeronautical discourse, it could be still expanded in many ways. For example, it would be interesting to study the use of questions more in depth, however, that would require much more extensive corpus to work with.
Works Cited

Printed sources


Online sources


**Appendices sources**

Appendix A


Appendix B

Appendix C
Appendices

Appendix A:

The Corpus of Air Traffic Phraseology

Appendix B:

ICAO Language Proficiency Rating Scale

Appendix C:

The International Phonetic Alphabet
Appendix A

Sample 1: LKPR APP, 29/2/2016, 1500 - 1530 UTC

C: CSA 3 Delta Alfa, reduce speed 1-6-0 knots and maintain till 4 miles DME.
P: Speed 1-60 till 4 DME, CSA 3 Delta Alfa.
C: Correct, contact Ruzyně Tower 1-1-8 decimal 1, naslyš.
P: 1-1-8-1, CSA 3 Delta Alfa, naslyš.
P: Dobrý den, CSA 4 Lima Mike, passing 1-7-4 descending 1-4-0, Papa Romeo 7-4-2, Papa 1-0-1-2.
C: Dobrý den CSA 4 Lima Mike, Praha Radar, radar contact, roger, descend Flight Level 1-3-0, check Quebec, QNH still 1-0-1-2.
P: QNH 1-0-1-2, descending Flight Level 1-3-0, check Quebec.
C: Praha radar.
P: <<unintelligible>>, descending 1-7-0, inbound Papa Romeo 7-4-2, <<unintelligible>>.
C: Eurowings 1-7-7-8, Praha Radar, hello, roger, radar contact, descend Flight Level 1-3-0, no speed restrictions and check Quebec.
P: Will check Quebec, down 1-3-0 and no speed restrictions, Eurowings 1-7-7-8.
C: Praha Radar.
C: CSA 4 Lima Mike, descend Flight Level 1-0-0.
P: Descending Flight Level 1-0-0, CSA 4 Lima Mike.
C: Eurowings 1-7-7-8, descend Flight Level 1-0-0.
P: Descending 1-0-0, Eurowings 1-7-7-8.
C: CSA 4 Lima Mike, turn left heading 3-6-0, vectoring ILS approach runway 0-6.
P: Left heading 3-6-0, CSA 4 Lima Mike.
C: Eurowings 1-7-7-8, descend Flight Level 8-0.
P: Descending Flight Level 8-0, Eurowings 1-7-7-8.
C: CSA 4 Lima Mike, turn left heading 3-3-0.
P: Left heading 3-3-0, CSA 4 Lima Mike.
C: Eurowings 1-7-7-8, descend Flight Level 7-0.
P: Descending Flight Level 7-0, Eurowings 1-7-7-8.
C: CSA 4 Lima Mike, descend Flight Level 9-0.
P: Descending Flight Level 9-0, CSA 4 Lima Mike.
C: Eurowings 1-7-7-8, descend 4 thousand feet, QNH 1-0-1-2, cleared ILS approach runway 0-6, report established.
P: 4 thousand feet, 1-0-1-2 and cleared ILS approach 0-6, call you established, Eurowings 1-7-7-8.
C: Roger.
C: CSA 4 Lima Mike, you will cross localizer to intercept from the left side due to request from Tower.
P: No problem.
C: CSA 4 Lima Mike, descend Flight level 7-0.
P: Descend Flight Level 7-0, CSA 4 Lima Mike.
P: And Departure good day, Transavia 5-2-3-6, passing 2 thousand 3 hundred.
C: Transavia 5-2-3-6, Praha Radar, hello, radar contact, climb Flight Level 1-6-0.
P: <<unintelligible>> 5-2-3-6.
C: CSA 4 Lima Mike, descend Flight Level 7-0 and turn right heading 0-3-0.
P: Descending 7-0 and right heading 0-3-0, CSA 4 Lima Mike.
C: CSA 4 Lima Mike, descend 5 thousand feet, QNH 1-0-1-2.
P: Descending 5 thousand feet, QNH 1-0-1-2, CSA 4 Lima.
P: Praha Radar, CSA 7-3 Bravo, [əː] good, dobré odpoledne, descending Flight Level 1-5-0 passing 2-1-0, on course to Papa Romeo [Sedum] Seven Four Two, information Quebec 1-0-1-2.
C: Dobré odpoledne, CSA 7-3 Bravo, Praha Radar, radar contact, roger, descend Flight Level 1-3-0, no speed restrictions and we have Quebec, QNH 1-0-1-2 correct.
P: Descending Flight Level 1-3-0, no speed restrictions, CSA 7-3 Bravo.
C: CSA 4 Lima Mike, descend 4 thousand feet, turn right heading 1-3-0.
P: Right heading 1-3-0, descending 4 thousand feet, CSA 4 Lima.
C: Transavia 5-2-3-6, turn left to RAPED.
P: RAPED, Transavia 5-2-3-6.
P: Eurowings 1-7-7-8, we’re established on the localizer.
C: Eurowings 1-7-7-8, roger, continue approach and contact Ruzyně Tower, 1-1-8 decimal 1, ahoj.
P: Continue the approach and 1-1-8-1, Eurowings 1-7-7-8, ahoj.
C: CSA 4 Lima Mike, turn left heading 0-9-0, cleared ILS approach runway 0-6, report established on localizer.
P: Left 0-9-0 for ILS 0-6, call you loc established, CSA 4 Lima Mike.
C: Transavia 5-2-3-6, contact Praha Radar 1-2-0 decimal 2-7-5, ahoj.
P: 2-0-2-7-5, roger, Transavia 5-2-3-6.
P: Hello, Emirates 1-4-0, passing 4 thousand 4 hundred, climbing up to 5 thousand.
C: Hello, Emirates 1-4-0, Praha Radar, radar contact, climb Flight Level 1-6-0, no speed restrictions.
P: 1-6-0 and no speed, Emirates 1-4-0.
C: [double click]
P: Fully established, CSA 4 Lima Mike.
C: CSA 4 Lima Mike, roger, continue approach and start reducing 1-6-0 knots.
P: Reducing 1-60, CSA 4 Lima Mike.
C: Emirates 1-4-0, turn right to Vožice.
P: Right to Victor Oscar Zulu, Emirates 1-4-0.
C: Praha Radar.
C: CSA 7-3 Bravo, descend Flight Level 1-0-0.
P: Descending Flight Level 1 hundred, CSA 7-3 Bravo.
C: CSA 4 Lima Mike, [ː], maintain speed 1-6-0 knots until 4 miles DME, contact Ruzyně Tower 1-1-8 decimal 1, ahoj.
P: 1-60 until 4 miles, CSA 4 Lima Mike, hezkou službu.
C: [double click]
C: Emirates 1-4-0, contact Praha Radar 1-2-7 decimal 1-2-5, ahoj.
P: <<unintelligible>> Emirates 1-4-0, ahoj.
C: CSA 7-3 Bravo, check Romeo.
P: Check Romeo, CSA 7-3 Bravo.
P: Prague Radar, hello, Easy 1-9 Echo Bravo, <<unintelligible>>, information Quebec, descending Flight Level 1-7-0 to Papa Romeo 7-4-2.
C: Easy 1-9 Echo Bravo, Praha Radar, hello, radar contact, descend Flight Level 1-3-0, no speed restrictions, Romeo information is correct, QNH is 1-0-1-3.
P: Affirm, Flight Level 1-3-0, free speed and the QNH is 1-0-1-3, Easy 1-9 Echo Bravo.
C: Praha Radar.
C: CSA 3-7 Bravo (sic), descend 4 thousand feet, QNH 1-0-1-3, cleared ILS approach runway 06.
P: Descending 4 thousand feet, QNH 1-0-1-3, cleared for ILS approach runway 0-6, CSA 7-3 Bravo.
C: Easy 1-9 Echo Bravo, descend Flight Level 1-0-0.

P: Descend Flight Level 1-0-0, Easy 1-9 Echo Bravo.

C: Easy 1-9 Echo Bravo, so, there is change, expect ILS approach runway 2-4, due to, [ə:], change of runway in use, so when reaching Flight Level 1-0-0 maintain and proceed to Praha, Oscar Kilo Lima.

P: OK, expecting runway 2-4, level off at Flight Level 1 hundred and <<unintelligible>> direct to Oscar Kilo [ˈli:vəʊ]. Can we’ve got the latest wind at the moment, please? Easy 1-9 Echo Bravo.

C: It is 0-1-0 degrees 1-0 knots, and stand by for runway 2-4.

P: OK, thanks.

C: It is 0-2-0-9 degrees for runway 2-4, but is probably due to snow… shower. Over the airport.

P: OK, that was copied, yeah, we’re gonna level off at FL 1 hundred direct to Oscar Kilo Lima, Easy 1-9 Echo Bravo.

C: Praha Radar.

P: [ə:] dobrý den Praho, CSA 9-6-5, information Romeo, 1-0-1-2 and we are descending Flight Level 1-5-0, AKEVA direct.

C: Dobrý den, CSA 9-6-5, Praha Radar, radar contact, roger, so it is change, expect runway 2-4, ILS approach, and, from present position proceed to… [ə:], continue present heading and I will call you.

P: OK, present heading and ILS 2-4, CSA 9-6-5, any speed control for us?

C: No speed restrictions.

P: OK, high speed in this case, CSA 9-6-5.

C: CSA 7-3 Bravo, contact Ruzyně Tower 1-1-8 decimal 1, naslyš.

P: 1-1-8 decimal 1, CSA 7-3 Bravo, naslyšenou.

C: CSA 9-6-5, descend Flight Level 1-0-0, proceed to RATEV.

P: RATEV direct and descend Flight Level 1 hundred, CSA 9-6-5.

C: Easy 1-9 Echo Bravo, after Oscar Kilo Lima proceed to ERASU.

P: Direct to ERASU after the Oscar Kilo Lima, Easy 1-9 Echo Bravo.

C: Praha Radar.

C: Easy 1-9 Echo Bravo, change, proceed to ERASU from present position.

P: Direct to ERASU from present position, Easy 1-9 Echo Bravo.

C: Praha Radar.

C: Easy 1-9 Echo Bravo, descend Flight Level 9-0.
P: Descend Flight Level 9-0, Easy 1-9 Echo Bravo.

C: [ə:], correct, and expect vectoring ILS approach runway 0-6, correction runway 2-4, no delay, and there are clouds, overcast 4 hundred and broken 2 hundred 50 -50 feet.

P: OK, that’s great, vectors for runway 2-4, thanks, Easy 1-9 Echo Bravo.

C: Roger.

C: And Easy 19 Echo Bravo and CSA we have Lima information.

P: [Easy 19EB] Roger, thank you.

C: CSA 9-6-5, descend [ə:] 5 thousand feet, QNH 1-0-1-3.

P: And descending 5 thousand feet, 1-0-1-3, CSA 9-6-5.

C: Easy 1-9 Echo Bravo, descend 4 thousand feet, QNH 1-0-1-3.

P: Descend altitude 4 thousand feet, QNH 1-0-1-3, Easy 1-9 Echo Bravo.

C: CSA 9-6-5, turn right heading 3-6-0 vectoring ILS approach runway 2-4.

P: OK, heading 3-6-0 and vectors for ILS 2-4, CSA 9-6-5.

C: CSA 9-6-5, turn right heading 0-2-0.

P: Heading 0-2-0, CSA 9-6-5.

Sample 2: LKPR APP, 29/2/2016, 1630 - 1700 UTC

P: Ah Praha dobrý den, CSA 5 Charlie Tango, descending Flight Level 1-7-0.

C: Dobrý den, CSA 5 Charlie Tango, Praha Radar, radar contact, descend Flight Level 1-3-0, information Papa.

P: 1-3-0, information Papa, CSA 5 Charlie Tango.

C: CSA 5 Charlie Tango, proceed to Papa Romeo 5-3-0.

P: Papa Romeo 5-3-0, any speed limit?

C: No speed limit.

P: CSA 5 Charlie Tango, Papa Romeo 5-3-0, our speed.

P: Praha good evening, Aeroflot 2-0-2-4 inbound GOLOP flight level <<unintelligible>> descending 1-3-0 with Mike 1-0-1-3.

C: Aeroflot 2-0-2-4, Praha Radar, radar contact, descend Flight Level 1-0-0, information Papa.

P: Flight Level 1-0-0, with Papa, Aeroflot 2-1…2-0-2-4.

P: Aeroflot 2-0-2-4, information Papa on board.

C: [ə:], correct, thank you.
P: Praha Radar, CSA 7-0-1, dobré odpoledne, Flight Level 2-1-8 descending 1-7-0, information Papa.

C: Dobrý den CSA 7-0-1, Praha Radar, radar contact, descend Flight Level 1-3-0, Papa correct.

P: Descending Flight Level 1-3-0.

C: CSA 5 Charlie Tango, descend Flight Level 9-0.

P: Descending Flight Level 9-0, CSA 5 Charlie Tango.

C: CSA 5 Charlie Tango, contact Ruzyně Radar 1-1-9 decimal 0, naslyšenou.

C: Aeroflot 2-0-2-4, descend Flight Level 9-0.

P: Descend Flight Level 9-0, Aeroflot 2-0-2-4.

C: Aeroflot 2-0-2-4, reduce speed 2-2-0 knots.

P: Reduce speed 2-2-0 knots, Aeroflot 2-0-2-4.

C: CSA 7-0-1, descend Flight Level 1-0-0.

P: Descending Flight Level 1-0-0, CSA 7-0-1.

C: CSA 7-0-1, reduce speed 2-2-0 knots.

P: Reducing 2-20, CSA 7-0-1.

P: Prague, hello, Speedbird 8-5-6, descending Flight Level 1-7-0, 3-20 with Mike.

C: Dobrý den, Speedbird 8-5-6, Praha Radar, radar contact, descend Flight Level 1-3-0, information Quebec.

P: Descend Flight Level 1-3-0, Speedbird 8-5-6.

P: Radar CSA 7 Kilo Golf, dobrý den, descending Flight Level 1-3-0, information Papa QNH 1-0-1-3.

C: Dobrý den CSA 7 Kilo Golf, Praha Radar, radar contact, descend Flight Level 1-0-0, Quebec correct.

P: Dobrý den, descending Flight Level 1-0-0, Quebec, CSA 7 Kilo Golf.

C: CSA 7-0-1, descend Flight Level 9-0, hold at RATEV, expect 1 holding.

P: Descending Flight Level 9-0, hold over RAPED, CSA 7-0-1.

C: [ə:] CSA701, [ə:], expect delay more than half hour … because runway will be closing in about ten minutes and then 3-0 minutes, [ə:], cleaning.

P: [ə:], roger, Speedbird 8-5-6.

C: CSA 7-0-1, did you copy?

P: Yeah, <<2 sylls>> copied, CSA 7-0-1.

C: Roger stop descend Flight Level 1-0-0, hold RATEV.

P: Stop descend Flight Level 1-0-0, hold over RATEV, CSA 7-0-1.
C: Aeroflot 2-0-2-4, [ə:], hold at ERASU, expect delay 4-0 minutes due to runway cleaning.

P: <<hold at ERASU>>, delay 4-0 minutes, Aeroflot 2-0-2-4.

P: [ðɜːsɜː] Prague Speedbird 8-5-6?

C: Speedbird 8-5-6, go ahead.

P: Can we get some EAT, please?

C: [ə:], stand by, just, I guess 4 min… 40 minutes from now and … I will update as soon as possible.

P: 40 minutes from now, [ə:], Speedbird, uhm, … 8-5-6.

C: CSA 7 Kilo Golf, descend Flight Level 1-2-0, hold at ERASU.

P: Descend Flight Level 1-2-0, hold at ERASU, CSA 7 Kilo Golf.

P: Speedbird 8-5-6, [ə:], request reducing speed.

C: Roger and hold at ERASU, Flight Level 1-3-0.

P: Hold ERASU, Speed… Flight Level 1-3-0, Speedbird 8-5-6.

P: Radar, CSA 7 Kilo Golf, we would like to perform hold over ERASU, Flight Level 1-5-0 if you’re able.

C: [ə:], CSA 7 Kilo Golf, roger, [ə:], stop descend Flight Level 1-5-0, hold at ERASU 1-5-0.

P: Will hold at ERASU at Flight Level 1-5-0, CSA 7 Kilo Golf, díky.

P: [ə:] CSA 6-1-8, dobrý den, passing 2 thousand feet, BALTU 2 Alfa.

C: Dobrý den CSA 6-1-8, Praha Radar, radar contact, climb Flight Level 1-2-0.

P: <<Flight level>> 1-2-0, CSA 6-1-8.

C: CSA 6-1-8, turn right to VARIG.

P: To VARIG, CSA 6-1-8, díky.

C: Aeroflot 2-0-2-4, contact Ruzyně Radar 1-1-9 decimal 0, good bye.

P: 1-1-9 decimal 0, Aeroflot 2-0-2-4, good day.

C: CSA 6-1-8, climb Flight Level 1-6-0.

P: <<1>>6-0, CSA 6-1-8.

C: CSA 6-1-8, contact Praha Radar 1-2-0 decimal 2-7-5, [ə:], naslyšenou.

P: 2-5, CSA 6-1-8, naslyš.

P: Prague Radar, hello, Easy 9-7 Romeo Delta, 2 thousand 900 feet, climbing 5000 feet <<1 syll>> BALTU 2 Alfa.

C: Hello Easy 9-7 Romeo Delta, Praha Radar, radar contact, climb Flight Level 1-2-0.

P: 2-0, Easy 97 Romeo Delta.
C: Easy 9-7 Romeo Delta, turn right, proceed to RAPED.
P: To RAPED, Easy 9-7 Romeo Delta.
C: [ə] CSA 7-0-1 [ə:] expect [ə:] estimate approach time at 3-2.
P: [ə:] estimate approach time 3-2, CSA 7-0-1.
C: Speedbird 8-5-6, expect [ə] estimated a… approach time at… at 3-5.
P: [ə:], 3-5, Speedbird [ə:m] 8-5-6.
C: CSA 7 Kilo Golf estimate approach time, [ə:], 3-7.
P: At 3-7, CSA 7 Kilo Golf.
C: Easy 9-7 Romeo Delta, climb Flight Level 1-6-0.
P: 6-0, Easy 9-7 Romeo Delta.
C: Easy 9-7 Romeo Delta, contact Praha Radar, 1-2-0 decimal 2-7-5, good bye.
P: 1-2-0-2-7-5, Easy 9-7 Romeo Delta, goodbye.
P: Departure dobrý den, CSA 7-3-2-2, passing 2 thousand 5 hundred.
C: Dobrý večer CSA 7-3-2-2, Praha radar contact, climb Flight Level 1-4-0.
P: Climbing Flight Level 1-2-0, CSA 7-3-2-2.
P: Dobrý den Praha, passing 1 thousand 9 hundred feet.
C: CSSA (sic) 2 Mike Delta, Praha radar contact, climb Flight Level 1-4-0.
P: Climb Flight Level 1-4-0, CSA 2 Mike Delta.
C: CSA 7-3-2-2, disregard.
C: CSA 2 Mike Delta, direct RUDAP.
P: CSA 2 Mike Delta, děkuju.

Sample 3: LKPR DEL, 29/2/2016, 1500 - 1530 UTC

P: Delivery, good afternoon, Iran Air 7-2-6.
C: Iran Air 7-2-6, Delivery?
P: [ə:], request ATC, destination Oscar India India Echo.
C: [ə:] roger, information Papa, timecheck the hour, clearance to Teheran, departure Vožice 1 Echo, squawk 1-4-1-0.
P: Delivery, hello, Lufthansa 8 Juliett Whiskey.
C: Iran Air 7-2-6, did you copy?
P: Yes, sir, cleared destination, [ə:m], Victor Oscar Zulu 1 Echo departure, and squawk 4-1-1-0.
C: 1-4-1-0.
P: 1-4-1-0, roger.
C: Call me ready.
P: Roger.
C: Lufthansa 8 Juliett Whiskey?
P: 8 Juliett Whiskey, [ɐː], can you put us to queue for de-ice?
C: Sorry, say again.
P: We just need DE-ICE later on.
C: Roger, I expect de-icing, [əː] <<1 syll> five.
P: 8 Juliett Whiskey, thanks.
P: Delivery, Iran Air 7-2-6?
C: Iran Air 7-2-6?
P: [ɐː], roger, Echo 6, we are fully ready for push and the start.
C: [ɐː], roger, but your TSAT /tiː sat/ is 1-5-2-0. You have to wait or contact your handling to send new TOBT.
P: Roger.
P: Ruzyně Deliver, good afternoon, Vueling 6-1 Tango Quebec?
C: Vueling 6-1 Tango Quebec, Delivery?
P: We are position <<2 sylls>>, and we request our clearance to Rome.
C: Vueling 6-1 Tango Quebec, Quebec information, time check 0-6, clearance Roma Fiumicino, departure DOBEN 3 Echo, squawk 1 thousand.
P: ATIS on board, runway 0-6, cleared to Rome [əː] Fiumicino, DOBEN 3 Echo, squawking 1 thousand, Vueling 6-1 Tango Quebec.
C: Are you ready?
P: In 2 minutes we will be ready, Vueling 6-1 Tango Quebec.
C: Call me.
P: Call you, thank you.
P: Delivery, Iran Air 7-2-6?
C: Iran Air 7-2-6?
P: OK, we are on stand-by for your clearance, anyway.
C: Roger, call you.
P: Ruzyně Delivery, dobrý den, CSA 9-0-4, stand 1-5, information Papa, ready for start-up, destination Moscow.
C: Dobrý den CSA 9-0-4, delivery, <<2 sylls>> time check 0-8, start-up approved, clearance to Sheremetyevo, departure ARTUP 1 Echo, squawk 1-4-1-1.
P: Cleared to Moscow Sheremetyevo ARTUP 1 Echo, squawk 1-4-1-1, CSA 9-0-4.
C: OK, naslyşenou.
P: Naslyşenou.
P: Delivery, Iran Air 7-2-6?
C: Iran Air 7-2-6, check /your [ə]/ Quebec information, start-up approved and call Ground.
P: Roger, cleared for start, call Ground.
P: Ruzyně Tower, Vueling 6-2-1 Tango Quebec, stand 3-0, we are ready for push and start and for your information, we’ll perform de-icing.
C: Roger Vueling 6-1 Tango Quebec, start-up approved and expect de-icing bed 4.
P: [ə], say again the anti-icing please?
C: De-icing stand 4, start-up approved, change to ground 1-2-1-9.
P: Roger, start-up approved, de-icing stand 4 and 1-2-1-9, Vueling 6-1 Tango Quebec, ahoj.
P: Delivery, good afternoon, Luxwing 2-0-1.
C: Luxwing 2-0-1, Delivery?
P: Luxwing 2-0-1, stand 0-9, QNH 1-0-1-2, for the ATC clearance.
C: Roger Luxwing 2-0-1, Romeo correct, QNH 1-0-1-3, time check 1-5, clearance to Bolzano, departure DOBEN 3 Echo, squawk 1-4-1-2.
P: Cleared to Bolzano, DOBEN 3 Echo, squawking 1-4-1-2, Luxwing 2-0-1, any chance to have runway 3-0?
C: [ə], standby, I’ll check it.
C: Luxwing 2-0-1, runway 3-0 is available.
P: Thank you very much, in this case we request runway 3-0 for departure.
C: Standby.
C: Luxwing 2-0-1, I’m changing your aufgang… outbound clearance, runway 3-0, when airborne continue straight ahead, climb 5 thousand feet altitude, squawk is the same.
P: Roger, after departure climbing straight ahead, 5 thousand feet, squawk the same 1-4-1-2, Luxwing 2-0-1, thank you very much, call you back when ready to start.
P: Delivery, Air France 9-1-4 Foxtrot, stand 1-7 and we are fully ready now.
C: Air France 9-1-4 Fox, Delivery, check Romeo information, QNH 1-0-1-3, start-up approved and call ground.
P: We’ll check Romeo information, QNH 1-0-1-3 and ground 1-2-1-9, Air France 9-1-4 Foxtrot, good day.

C: Good day.

P: Delivery, Lufthansa 8 Juliett Whiskey, for information Kilo, request start-up clearance to Munich.

C: Lufthansa 8 Julie Whiskey, standby, call you.

C: Lufthansa 8 Juliett Whiskey?

P: Go.

C: /iz [ə:] time check 2-2, QNH 1-0-1-3 and runway in use 2-4 now, and clearance to Munich, departure DOBEN 2 Alfa, squawk 1 thousand.

P: 8 Juliett Whiskey, runway 2-4, cleared to Munich, DOBEN 2 Alfa departure, flight plan route, squawk 1 thousand.

C: OK, start-up approved and call Ground.

P: Start-up approved, 8 Juliett Whiskey, ciao.

P: Ruzyně Delivery, <<Good evening>> Easy 4-5 Yankee Tango?

C: Easy 4-5 Yankee Tango, Delivery.

P: Stand 3-1 with information Quebec, could you tell us our clearance to Paris – Charles de Gaulle, please?

C: Sorry, transmitting very weak, unreadable, say again.

P: OK, that’s Easy 2 /iː/, sorry, 4-5 Yankee Tango on Stand 3-1, requesting clearance to Paris – Charles de Gaulle.

C: [ə:], Easy 4-5 Yankee Tango, information Lima, time check 2-6, QNH 1-0-1-3, clearance to Paris – Charles de Gaulle, departure BALTU 2 Alfa, squawk 1 thousand.

P: BALTU 2 Alfa, squawk 1 thousand, QNH 1-0-1-3 now, Easy 4-5 Yankee Tango, thank you, and we’ll be a de-icing.

C: <<4 sylls>> to contact your handling agency.

P: Wilco.

P: Easy 4-5 Yankee Tango, any chance we could depart from runway 0-6?

C: Negative.

C: Runway 3-0 or 2-4.

P: Roger.

C: Luxwing 2-0-1, check Lima information, start-up approved and call Ground 1-2-1-9.
C: Austrian 7-1-1 Hotel, runway 2-4 cleared to land, wind 2-9-0 degrees 4 knots.
P: Cleared to land 2-4, 7-1-1-9.
C: <<1-2 sylls>> 2-5-2-3, taxi via Delta, cross runway 1-2 and after crossing contact Ground 1-2-1 decimal 9, bye-bye.
P: Cleared on Delta, cleared to cross 1-2, after crossing 1-2-1-9, good night.
C: Austrian 7-1-1 Hotel, contact Ground 1-2-1 decimal 9, bye-bye.
P: 1-2-1-9, Austrian <<7-1-1 Hotel>>.
C: <<1 to 2 sylls>> 2-5-2-3, cross runway 1-2 and after crossing Ground, bye-bye.
P: Bye-bye, thanks.
P: Tower, CSA 6-7 Delta, dobrý večer, ILS 2-4.
C: CSA 6-7 Delta, Tower, dobrý večer, runway 2-4 cleared to land, wind 2-8-0 degrees, 4 knots.
P: Cleared to land runway 2-4, CSA 6-7 Delta.
P: <<5 to 6 sylls>> hello again 5 Yankee Mike, approaching holding point runway 2-4, on Bravo.
C: <<2 sylls>> 5 Yankee Mike, Ruzyně Tower, call me ready for departure.
P: We are ready.
C: <<1 syll>> 5 Yankee Mike roger, so behind landing Airbus 3-1-9, short final, line up runway 2-4 behind.
P: After the landing traffic, [ə:], Airbus 3-1-9, line up runway 0-4 and wait <<4 sylls>>.
P: Ah ma’am CSA 6-7 Delta, just to be sure, are we cleared for land?
C: CSA 6-1 Delta affirm, runway 2-4 cleared to land and wind is 2-7-0 degrees 4 knots.
P: Cleared to land runway 2-4, CSA 6-7 Delta, děkujem.
C: <<1 syll>> 5 Yankee Mike, runway 2-4 cleared for take-off, wind 2-7-0 degrees 5 knots, bye-bye.
P: Cleared for take-off runway 2-4 and bye-bye, ahoj, <<1-5-0, 4 sylls>>.
C: Ahoj.
C: CSA 6-7 Delta, taxi Fox, cross runway 1-2, after crossing Ground 1-2-1-9, hezký večer.
P: Fox, cross 1-2, after crossing 1-2-1-9, CSA 6-7 Delta, hezký večer i vám.
P: Ruzyně Tower, CSA 6-1-9, dobrý večer, established ILS 2-4, we have 6 and a half miles.
C: CSA 6-1-9, Ruzyně Tower, dobrý večer, continue approach.
P: Continue, CSA 6-1-9.
C: And CSA 6-1-9, runway 2-4 cleared to land, wind 2-7-0 degrees 5 knots.
P: Cleared to land runway 2-4, CSA 6-1-9.
P: Tower good day, Transavia 0-5-2, taxiing out on Alfa to holding point runway 2-4, call you ready.
C: Transavia 0-5-2, Ruzyně Tower, roger, and behind landing Airbus 3-1-9, short final, line up runway 2-4 behind.
P: Behind the A 3-19 on short final runway 2-4 line up runway 2-4 behind, Transavia 0-5-2.
C: Transavia 0-5-2, runway 2-4 cleared for take-off, wind 2-7-0 degrees 5 knots, bye-bye.
P: Cleared for take-off runway 2-4 and good bye, Transavia 0-5-2.
C: CSA 6-1-9, taxi Delta, cross runway 1-2, after crossing Ground 1-2-1-9, hezký večer.
P: Continue Delta, cross runway 1-2, after crossing 1-2-1 decimal 9, vám taky naslyšenou, CSA 6-1-9.
P: Ruzyně Vež, dobrý den, CSA 7-8-9, ILS approach 2-4.
C: CSA 7-8-9, Tower, dobrý večer, continue approach.
P: Continue approach, CSA 7-8-9.
C: CSA 7-8-9, runway 2-4 cleared to land, wind 2-8-0 degrees 5 knots.
P: Runway 2-4 cleared to land, CSA 7-8-9.
C: CSA 7-8-9, contact Ground 1-2-1 decimal 9, hezký večer.
P: 1-2-1-9, CSA 7-8-9, hezký večer i vám, dobrou.
C: Ryanair 8 Romeo Quebec, Tower?
P: Yeah, go ahead, Ryanair 8 Romeo Quebec.
C: Good evening sir, are you ready for departure?
P: Affirm, we’re ready for departure, Ryanair 8 Romeo Quebec.
C: Ryanair 8 Romeo Quebec, line up runway 2-4.
P: Lining up runway 2-4, Ryanair 8 Romeo Quebec.
P: Tower, good evening, Easy 9-5 Alfa X-Ray, holding point Alfa, ready.
C: Good evening Easy 9-5 Alfa X-Ray, roger.
C: And Ryanair 8 Romeo Quebec, runway 2-4 cleared for take-off, wind 2-6-0 degrees 6 knots, bye-bye.
P: Runway 2-4 cleared for take-off, Ryanair 8 Romeo Quebec, goodbye.
C: Easy 9-5 Alfa X-Ray, line up runway 2-4 and wait.
P: Via Alfa line up 2-4, and wait, Easy 9-5 Alfa X-Ray.
P: Praha Radar, good aft-evening, Ryanair 8 Romeo Quebec, passing 3 thousand 1 hundred climbing 5000 feet, BALTU 2 Alfa.
C: This is Tower, call Departure 1-2-0 decimal 5-2-5, bye-bye.
P: 1-2-0-5-2-5, sorry, 8 Romeo Quebec.
C: Easy 9-5 Alfa X-Ray, runway 24 cleared for take-off, wind 2-6-0 degrees 6 knots, bye-bye.
P: Cleared for take-off 24, goodbye Easy 9-5 Alfa X-Ray.
### Appendix B

<table>
<thead>
<tr>
<th>Level</th>
<th>Pronunciation</th>
<th>Structure</th>
<th>Vocabulary</th>
<th>Fluency</th>
<th>Comprehension</th>
<th>Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expert 6</strong></td>
<td>Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.</td>
<td>Both basic and complex grammatical structures and sentence patterns are consistently well controlled.</td>
<td>Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.</td>
<td>Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.</td>
<td>Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.</td>
<td>Interacts with case in nearly all situations. Is sensitive to verbal and non-verbal cues and responds to them appropriately.</td>
</tr>
<tr>
<td><strong>Extended 5</strong></td>
<td>Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.</td>
<td>Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.</td>
<td>Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work-related topics. Paraphrases consistently and successfully.</td>
<td>Able to speak at length with relative ease on familiar topics but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.</td>
<td>Comprehension is accurate on common, concrete, and work-related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.</td>
<td>Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.</td>
</tr>
<tr>
<td><strong>Operational 4</strong></td>
<td>Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.</td>
<td>Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances but rarely interfere with meaning.</td>
<td>Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics, but range is limited and the word choice often inappropriate. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.</td>
<td>Produces stretches of language at an inappropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formalistic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.</td>
<td>Comprehension is mostly accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.</td>
<td>Responses are usually immediate, appropriate, and informative. Can initiate and maintain exchanges with familiar topics and in predictable situations. Generally adequate when dealing with an unexpected turn of events.</td>
</tr>
<tr>
<td><strong>Pre-operational 3</strong></td>
<td>Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation and usually interfere with ease of understanding.</td>
<td>Basic grammatical structures and sentence patterns associated with language are not always well controlled. Errors are frequently interfere with meaning.</td>
<td>Vocabulary range and accuracy are often sufficient to communicate effectively on common, concrete, or work-related topics, but range is limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.</td>
<td>Produces stretches of language, but pausing and pausing are often inappropriate. Hesitations and prolongation are frequent. Speech processing may prevent effective communication. Fillers are sometimes distracting.</td>
<td>Comprehension is often accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.</td>
<td>Responses are sometimes immediate, appropriate, and informative. Can initiate and maintain exchanges with familiar topics and in predictable situations. Generally inadequate when dealing with an unexpected turn of events.</td>
</tr>
<tr>
<td><strong>Elementary 2</strong></td>
<td>Pronunciation, stress, rhythm, and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.</td>
<td>Shows only limited control of a few simple grammatical structures and sentence patterns.</td>
<td>Limited vocabulary range consisting only of isolated words and memorized phrases.</td>
<td>Can produce very short, isolated, memorized utterances with frequent pauses and a distracting use of fillers to search for expressions and to articulate less familiar words.</td>
<td>Comprehension is limited to isolated, memorized phrases when they are carefully and slowly articulated.</td>
<td>Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.</td>
</tr>
<tr>
<td><strong>Pre-elementary 1</strong></td>
<td>Performs at a level below the Elementary level.</td>
<td>Performs at a level below the Elementary level.</td>
<td>Performs at a level below the Elementary level.</td>
<td>Performs at a level below the Elementary level.</td>
<td>Performs at a level below the Elementary level.</td>
<td>Performs at a level below the Elementary level.</td>
</tr>
</tbody>
</table>

*Note*: The Operational Level (Level 4) is the minimum required proficiency level for radiotelephony communication. Levels 1 through 3 describe Pre-elementary, Elementary, and Pre-operational levels of language proficiency, respectively, all of which describe a level of proficiency below the ICAO language proficiency requirement. Levels 5 and 6 describe Extended and Expert levels, at levels of proficiency more advanced than the minimum required Standard. As a whole, the scale will serve as benchmarks for training and testing, and in assisting candidates to attain the ICAO Operational Level (Level 4).
## Appendix C

### THE INTERNATIONAL PHONETIC ALPHABET (revised to 2005)

#### CONSONANTS (PULMONIC)

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Postalveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Pharyngeal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p b</td>
<td>t d</td>
<td>t d g</td>
<td>c j</td>
<td>k g g q q g</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m m̃</td>
<td>n ñ</td>
<td>n ñ</td>
<td>ñ</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td>B B̂</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tap or Flap</td>
<td>V̞</td>
<td>ɹ</td>
<td>t</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>φ β</td>
<td>f v</td>
<td>θ ð</td>
<td>s z</td>
<td>s z</td>
<td>j x y c k h f h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral fricative</td>
<td>h h̃</td>
<td>h h̃</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td>v j</td>
<td>l j</td>
<td>l j</td>
<td>j w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral approximant</td>
<td>l l̃</td>
<td>l l̃</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

#### CONSONANTS (NON-PULMONIC)

<table>
<thead>
<tr>
<th>Clicks</th>
<th>Voiced implosives</th>
<th>Ejectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilabial</td>
<td>d k</td>
<td>p k</td>
</tr>
<tr>
<td>Dental</td>
<td>d k</td>
<td>p k</td>
</tr>
<tr>
<td>POSTALVEolar</td>
<td>d k</td>
<td>p k</td>
</tr>
<tr>
<td>PALATAL</td>
<td>d k</td>
<td>p k</td>
</tr>
<tr>
<td>ALVEOLAR lateral</td>
<td>d k</td>
<td>p k</td>
</tr>
</tbody>
</table>

#### OTHER SYMBOLS

- Voiceless labial-velar fricative: c z
- Voiced labial-velar approximant: h j
- Voiced labial-palatal approximant: h j
- Voiced epiglottal fricative: k p
ts
- Voiceless epiglottal fricative: k p
ts

#### DIACRITICS

- Voiced
- Breathy voiced
- Creaky voiced
- Apical
- Linguolabial
- Laminal
- Labialized
- Velarized
- Lateral release
- No audible release
- Pharyngealized

#### VOWELS

- Close: i y
- Close-mid: e o
- Open-mid: æ œ
- Open: æ œ

Where symbols appear in pairs, the one to the right represents a rounded vowel.

#### SUPRASEGMENTALS

- Primary stress
- Secondary stress
- Long
- Half-long
- Extra-short
- Minor (foot) group
- Major (intonation) group
- Syllable break
- Linking (absence of a break)

#### TONES AND WORD ACCENTS

- Extra high
- High
- Mid
- Low
- Extra low
- Downstep
- Upstep
- Global rise
- Global fall