Aviate, Navigate, Communicate: A Study of Usability, Popularization and Explicitation in English and French Translations of Press Releases on Aviation Accident Investigations

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A Study of Usability, Popularization and Explicitation in English and French Translations of Press Releases on Aviation Accident Investigations

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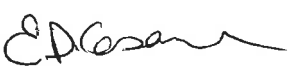
Lieu / date / signature : Genève / 16 juin 2017 / 

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Introduction

Aviate, navigate, communicate. For pilots, following this simple expression could mean life or death when trouble arises. The rule says that in such situations, the first priority of pilots is to maintain control of the aircraft; the second priority, to focus on where they are; and the third priority, to communicate. A similar approach can be said to apply to translators. First and foremost, translators should have a good bearing on the subject and a clear idea of the resources and processes required for their job. Next, they must understand the context of their translation, and above all, the nature of their target audience. Finally, translators must ensure that the message is properly conveyed and that the target text fulfils its intended function. It should go without saying that the first step toward proper communication is for target readers to actually understand the texts they are reading. However, this is an issue which deserves special attention when working with texts with technical or scientific subjects which are intended for general audiences. Essentially, such texts must be written in a way that enables non-expert readers to understand unfamiliar concepts. This means that translators must employ the right textual elements to ensure that their texts are accessible and "transparent" enough to meet readers' specific needs. Another issue is that between source and target texts, there could be differences in the use of such elements. In this connection, it is worth asking whether such changes arise in all translation situations or if they are attributable to the specific languages involved.

The purpose of this study is to determine whether French-English and English-French translations of press releases on aviation accident investigations contain differences in textual elements which influence readers' comprehension. It also seeks to identify whether such differences – that is to say, changes made by the translators – are attributable to the translation process itself or a specific language direction. Press releases on aviation accident investigations deal with the technical subject of aviation safety and are mainly intended for non-experts, specifically journalists and the general public. Thus, they may contain a number of elements aimed at facilitating readers' comprehension of difficult concepts. In this analysis, the elements of interest are those related to technical translation, popularization, explicitation and implicitation. Any differences or patterns in such elements can be said to arise from the translation process itself if they occur in both translation directions, or to be language-specific if

they occur in one direction only. If explicitation in particular is found to be bidirectional, this would support the Explicitation Hypothesis, which states that explicitation is a translation universal irrespective of the language direction. Overall, this study seeks to identify differences in the level of accessibility between the source and target texts, and whether these differences are translation-inherent or language-specific.

This paper is aimed at either supporting, challenging, or expanding on theories of usability in technical translation, popularization, and explicitation. In addition, this study could be useful for aviation experts, authors and translators who take part in the publication of the press releases, since it may demonstrate how the accessibility of such texts could be influenced by different languages or by the translation process in general.

Theoretical Framework

Theories on technical translation, popularization and explicitation describe the environment in which technical and popular texts are produced as well as the factors and constraints affecting the work of translators. It is important to understand the features of both technical and popular texts given that the press releases analyzed constitute a hybrid text type containing characteristics of both the technical and popular genres. Explicitation is also relevant to this study since it consists of operations which enhance the transparency of texts and comprehension among readers.

Technical Translation

In recent years, the range of technical texts being translated has grown significantly (Byrne, 2006, p. 2). In fact, technical translation represents a significant portion of the world's total translation output each year. This is due to the great importance attached to the availability of technical information in a variety of languages, the increasingly international focus of many companies, and furthermore, the various laws, directives and regulations worldwide that require

comprehensive, accurate and effective technical documentation in several languages. Rising international cooperation in scientific, technological and industrial activities has also contributed to the growing importance of technical translation, which has in turn facilitated some of the most significant scientific and technological advances in recent decades (Byrne, 2012, p. 1).

What is Technical Communication?

White (1996) states that technical texts are characterized by their "utilitarian, specialized focus" and that technical writing itself is a form of translation since it transforms "abstract-theoretical" information into the "concrete-actual" (p. 12). According to Byrne (2006), technical translation can be defined as translation which "deals with technological texts," and more specifically, which "deals with texts on subjects based on applied knowledge from the natural sciences" (p. 3). In other words, technical texts involve putting scientific knowledge into practical use. Markel (2003) states that "technical communication is not meant to express a writer's creativity or to entertain readers; it is intended to help readers learn or do something" (p. 8). Specifically, the main function of technical communication is to transmit information so that readers can understand it and use it safely, effectively and efficiently (Markel, 2001, p. 4). Byrne (2012, p. 28) echoes this, stating that technical documents are not supposed to entertain readers or serve as a means by which the author can express his or her literary skills. Rather, the purpose of technical documentation is found outside the texts themselves: they help readers do something else, whether it is performing a task, understanding a concept or making a decision.

In the same vein, Fontanet (2006, p. 310; 2013, n.p.) states that technical texts present neutral, objective information which reflects the "extra-linguistic" reality outside of the text, and that their aim is to enable readers to act within this reality. Unlike scientific texts, technical texts are not rhetorical or argumentative, and establish an "immediate relationship with reality." Technical texts do not resort to humour, do not contain connotative functions and do not intend to rouse the emotions of readers. Furthermore, technical texts do not have to "justify" their presence or promote their diffusion (2006, p. 310). This last characteristic does not apply to the press releases, given that the publishing agencies constantly remind readers of their mandate to

gather and diffuse accident-related information. Fontanet (2013, n.p.) also says that technical texts never indicate the authorship or origin and always maintain a neutral and objective tone. Although the press releases do have a neutral and objective tone, almost all of them indicate the author. Finally, the aim of technical texts is to provide information or instructions to readers in order for them to perform a technical task (ibid., n.p). This reveals an important discrepancy with the press releases since it is unlikely that readers read them to perform a technical task, specifically. Critically, Fontanet's (2013) discussion is based on what she describes as "purely technical texts" (n.p.). Since the press releases resemble purely technical texts in some ways and differ from them in others, they should be categorized as a hybrid text type. In addition, such texts also draw from features of popular texts, which will be explored later in the paper.

According to Markel (2003, p. 7-10), technical texts are more specific than most other text types when it comes to their target audience. Technical texts are produced taking into account the age, job, experience, knowledge, seniority, tasks, problems, and objectives of readers, all of which determine aspects such as content, approach, structure, level of detail, style, and terminology of the text. Moreover, the nature of the company, specifically its culture, goals and organization, also influence the types of documents it produces. Technical documents are highly complex because they are often produced in a collaborative process involving technical writers, editors, experts on subject matter, usability specialists, and of course, translators; and since they are produced using a variety of tools.

The choices made by technical writers ultimately influence the work of translators since the principal stylistic goals of technical writing must be the same as those of technical translation (Schubert, 2009, p. 26; Herman, 1993, p. 12). Nevertheless, Byrne (2012, p. 27) emphasizes that the similarities between technical writing and translation should not be overstated.

The Function of Technical Translation

The main function of technical translation is to transmit new information to target readers as clearly and effectively as possible. Translators must ensure that all relevant information is

conveyed and done so in such a way that readers can use the information easily and properly. Byrne (2006) suggests that reading technical translations is not an end in itself but a means to an end: people generally read a technical text because they want to understand it and use it in order to do something else, usually a task related to their daily work. In a way, the function of technical translation is precisely the same as that of technical writing, which serves as the basis or "raw material" for translation activities. Byrne describes technical translation as a "communicative service:" its purpose is to present new, comprehensible technical information to a new audience, and it is not intended to reproduce the source text *per se* by reflecting its particular style or language (p. 10-11).

Similarly, Fontanet (2006, p. 316) argues that technical translators should not attempt to produce what the source text author intended to say, but rather what the author should have said, given that the main goal of the text is to correspond as much as possible with the extra-linguistic context of the reader. Translators should constantly verify that the target audience's reality is indeed reflected in the text; therefore, they can disregard the author's intention or the source text's form if either one jeopardizes the link between the text and objective reality. This means that translators need not worry about reproducing formal or stylistic effects or subjective content intended by the author. Thus, compared to other translators, technical translators are freer to distance themselves from the source text provided that they have good reasons to do so (2013, n.p.).

Style in Technical Translation

Although there is a common belief that terminology is the most significant linguistic feature of technical texts, and although there is considerable attention devoted to terminology and lexical issues in technical translation, more important than terminology is that translators actually know how to write technical texts. Translators must be able to produce translations which read like technical texts produced by technical writers in the target language (Byrne, 2006, p. 3-4). This means that they must always bear in mind the asymmetries, including differences in style, syntax, and terminology, that exist between languages with respect to technical

communication. If they fail to comply with target language conventions, they risk undermining the credibility of the text, the author, and the information in the text. Thus, contrary to common belief, style is indeed one of the most important facets of technical translation (ibid.).

According to Pinchuck (1977, p. 218-219), technical language falls between scientific and general language: it is less regulated and literary than scientific language and is colloquial on occasions but strictly functional. Technology-based texts tend to be more concrete and often refer to products and processes in the external world. Therefore, they can largely rely on readers' world or background knowledge.

Since technical texts are often the work of several people – either during their initial drafting or during the subsequent revision by technical experts, marketing experts or lawyers – stylistic inconsistencies often occur as a result of individual writing styles or because collaborators do not necessarily adhere to style guidelines. This makes the work of translators all the more difficult, for example if they have to deal with source texts which contain different terms for the same concept, or situations whereby the style and clarity in the source text suddenly deteriorate (Byrne, 2012, p. 28-29).

Style and Usability

A key concept in Byrne's (2006, 2012) discussion of technical writing and translation is that of "usability." Usability refers to how easily an audience can read and understand a text in order to carry out a predetermined task (Byrne, 2012, p. 145). Just as technical writers must rebuild, reinterpret, remodel and restructure technical content so that it can be understood and used by readers, technical translators must also transform information from a form produced by and intended for speakers of the source language, into a form which can be understood by the target audience (2006, p.17-18). Here, it is worth restating that clarity and simplicity are the most important features of technical texts. Since the goal of readers is to understand the text in order to carry out another task, authors should not distract them by making them decipher overly complex, creative and ornate language (2012, p. 48). Fontanet (2006, p. 310-311; 2013, n.p.) also

points out that technical texts are above all characterized by precise and unambiguous language and that their form is based on efficiency, or more specifically, enabling readers' comprehension. Since the purpose of technical texts is to reflect the extra-linguistic reality of the reader and to enable them to operate within it, the translator must be aware of the differences between the source and target audiences' realities and must make all the necessary adjustments so that the target text refers to the target audiences' sphere of action. Although most "technical realities" are the same all over the world, some differences may indeed arise (2013, n.p.)

According to Byrne (2006, p. 17-18) and Fontanet (2013, n.p.), translators should distance themselves from the source text if it serves the purposes of logic, accuracy and clarity. This can be achieved by rephrasing, rearranging, adding and removing information, or even redefining some of its elements. Specific techniques to ensure clarity and simplicity include using declarative information instead of complex sentences, presenting information in chronological order, and using logical cause and effect structures. Explicitation can also make the target text clearer and more relevant to target audiences, and could be used to provide information to target readers who may have less expertise or background knowledge than source text readers. Conversely, translators can eliminate information if it is unnecessary, irrelevant or potentially confusing to target readers. Metaphors are also an excellent tool as they can help explain difficult concepts and complex processes by using notions which readers can relate to (Byrne, 2012, p. 124-125). Interestingly, such devices largely coincide with what other authors define as popularization techniques, which will be discussed later on.

In summary, while the principal goal of technical translators is to convey information which is accurate, they must also ensure that it is conveyed in the correct form, that it is complete and that it can be used properly and effectively. For this to be possible, the translator must have sufficient knowledge of target language conventions, text type conventions, register, and style, as well as a thorough understanding of the audiences and of how people learn and use information. Essentially, translators cannot merely present information to readers – they must also ensure that readers can assimilate the information with as little effort as possible (Byrne, 2006, p. 4-10, 15-18).

Readerships

While it is possible that source and target text readers share certain goals, sometimes such goals are achieved in different ways. Technical writers and translators must determine what their users want and how to achieve it, and can only do so if they first understand who the users are (Byrne, 2006, p. 14).

Horton (1994, p. 28-29) suggests that users of technical texts fall into several categories. First, there are *novices,* who have little background knowledge, who are curious to learn about the topic and who are cautious about making mistakes. *Occasional users* may have mastered the topic once but may have forgotten certain information due to infrequent use. *Transfer users* have knowledge in a similar subject area and try to apply this knowledge to a new context. There are then the categories of *expert users* and finally, *rote users,* who are instructed to use the texts in repetitive scenarios and may not understand the general context of why they are doing so. According to Byrne (2012), users differ in terms of their needs, attitudes and expectations. This will have various implications on the work of translators since their writing must be adapted to these differences (p. 32). Despite research on target audiences, however, it is still difficult to define audiences in a concrete way. This applies not only to technical translators but also to technical writers, who struggle to create detailed profiles of their audiences and therefore must find other ways to understand what their readers want, need and expect (p. 35). Rosenberg (2005, p. 9) suggests asking various useful questions, for example about what the audience already knows when it comes to the technology concerned. Such information is important for translators since it will determine many of their choices, including explicitation, implicitation, the use of specialized terms, and other choices which will be explored later in the paper. Other questions proposed by Rosenberg are what the readers' general level of education is, what experience and expertise they have, and how wide and diverse they are (ibid.).

Popularization

Popularization is defined by Calsamiglia & Van Dijk (2004) as "a vast class of various types of communicative events or genres that involve the transformation of specialized knowledge into 'everyday' or 'lay knowledge'" (p. 370). According to Calsamiglia (2003), lay people are different from science experts in that they are more concerned about the "application, utility and consequences of scientific findings in relation to their daily life" as opposed to the advancement of scientific theories and methods themselves (p. 139). Communication between experts and the lay public has received attention in many disciplines including linguistics, media studies and science communication. Studies have demonstrated that popularization is not a process of simplifying information; rather, it involves changing the context of information to make it coincide with lay readers' existing knowledge (Calsamiglia & Van Dijk, 2004, p. 371). According to Myers (2003), popularization is a process of information as well as interaction which involves "persons and identities as well as message" (p. 273). This perspective brings to light one major difference with technical texts, which are said to make no allusions to authorship and which always remain objective. Myers says that in popular texts, interaction is based on "an active construction of believable or discreditable identities, and alignments that might shift in the course of one interaction," and that interaction must be recognized by the relevant scientific authority if the text is to have the desired effect (ibid., p. 273). All in all, popular science texts form a genre of their own which is distinct from specialized texts. This is especially owing to their unique interactive features and overall communicative purpose (Liao, 2013, n.p.).

Popular Texts: A New Area of Discourse Analysis

The mid-20th century was characterized by the traditional view that scientific production was to remain in restricted circulation, namely within universities, research centres and the like. The register of scientific texts was far removed from what was comprehensible to the general public, and the ever-increasing specialization and technicality of scientific work over the century added to the perception that scientific texts were inaccessible to the general public. Toward the

end of the century, however, coverage on scientific progress was increasingly provided by the news media. Today, the news media can be described as a "meeting point" between science and society at large and significantly shapes the way in which science is represented among the general public. Democratization and globalization have also been obliging these two traditionally separate spheres to converge. The narrowing of this gap has come with a number of difficulties, however. For example, there is a very different way in which scientists and lay people regard scientific "objects:" on one hand, scientists are concerned with the "immanent value" (Calsamiglia, 2003, p. 140) of objects in scientific and specialized contexts, while on the other hand, the general public is concerned with the value of such objects *outside* of theories or methods, including their application, utility and consequences in people's lives. Although there is growing awareness of the importance of proper communication between experts and non-experts, there is also an increasing demand for the communication of contributions from specific scientific domains which is creating significant challenges. Undertaking such communication has led to questions such as: What needs to be said? (i.e., what is relevant and what must be selected?); How should it be said? (e.g., should specialized terms be used?); How to explain it?; How to motivate readers?; and more. In addition to the challenge of reformulating scientific content, there is the issue of bringing the work style of scientists closer to that of people in other professions. These include journalists, who are faced with deadlines, market demands, ideological slants of different news agencies, and growing competition from an ever-diversifying range of media. All of these issues have led to a new area of discourse analysis focused on popular science writing, which takes into account principles of scientific language as well as concepts from discourse linguistics (Calsamiglia, 2003, p. 140-141).

Defining Popular Texts

In his critique of how discourse studies traditionally define popular texts, Myers (2003) departs from the "dominant view" of popularization, which makes a distinction between two types of discourse: one within scientific institutions and one outside of them. Under the dominant view, scientific articles are considered as authoritative texts from which all knowledge originates, and popular texts are viewed as their simplified and distorted versions intended for a

public with a "blank slate" of culture. Myers argues that on the contrary, scientific discourse involves a number of genres and that popular texts constitute one of these genres (p. 265-271). He refers to Hilgartner's (1990, p. 528) claim that "popularization is a matter of degree" and emphasizes that specialist and popular genres overlap in terms of audiences, objectives and register. This continuum involves not only genres, but also a range of registers and repertoires within each genre which vary according to the different rhetorical purposes at stake. Myers underscores the notion of hybridity and stresses that discourse analysts should focus on the individual characteristics and aims of each text as opposed to assuming what similar texts in general are supposed to do (p. 271). This perspective is relevant to this study since the press releases analyzed in this paper do not perfectly coincide with what will be seen to be the standard definition of popular texts. Rather, they also have a number of unique parameters, such as target audience, and various characteristics typical of other genres.

What is Popularization?

According to Dufay (2005, p. 34), popularization consists of four tasks: to inform, to explain, to incite a critical spirit, and to capture readers' attention. To inform means to convey new information to readers, and to explain is to develop a subject and provide the elements required for it to be understood. This may involve using devices such as words and pictures which enable as many people as possible to understand it, while at the same time substantially exploring the subject and respecting its content. An effective way of rendering content understandable is for the author to create relationships between the concepts at issue and the world of the readers. This can involve drawing comparisons and using examples by referring to concrete notions, experiences or intellectual reasoning. The task of explanation may therefore mean explaining another already understood notion and indicating the relationship between the difficult and easier concept. Next, popularization consists of allowing readers to objectively understand the content and inciting a critical spirit. Information must be conveyed in an impartial and transparent manner: the author must present facts, give their contexts, highlight essential elements, and present different opinions on the subject. Thus, the author presents all the information and issues necessary for encouraging reflection on the topic at hand. Finally,

popularization involves capturing attention. This means raising the curiosity of readers and creating a desire to understand the text (p. 34-37).

Popularization also consists of creating "new content." The author of a popular text – or "*connoisseur vulgarisateur*" – creates a text which must capture the attention and interest of the reader – or "*l'ignorant"* – to enable them to understand the subject. In order to convey new knowledge or resuscitate old knowledge, the author must reformulate the content according to the intellectual and social context of the reader and must also motivate the reader. The reader must be able to draw parallels with what he or she knows and furthermore, must experience pleasure and curiosity vis-a-vis their task if they are to preserve their knowledge. Popularization is thus a process of creation rather than "cold" mediation (p. 38). This is one way in which the press releases resemble technical texts more than popular texts, since the tone of the press releases is neutral and the purpose unlikely to be to entertain, motivate readers or incite critical thinking. Instead, the press releases have a purely utilitarian function of conveying new information.

Readerships

Dufay (2005) proposes two categories of readers of popular texts: informed readers ("*ignorants avertis*") and the public at large ("*très grand public*"). Informed readers regularly consult similar information, have background knowledge on the matter and have significant curiosity and motivation to access the texts and to be informed. Essentially, their goal is to preserve their knowledge. The public at large may lack significant knowledge on the subject, may feel unable to access such knowledge and may feel excluded from its general culture. Dufay does not consider the public at large in his discussion of popularization strategies (p. 40). Malavoy (1999) also proposes two types of (scientific) popularization according to their audiences. "High popularization" is aimed at a relatively narrow public which consists of people who are educated but who do not specialize in the subject. "Popularization for the general public" is aimed at a larger audience – the information is more "diluted" and readers are assumed to have less knowledge (p. 8).

Popularization in Translation

Studies on the translation of popularized texts involve some issues also related to scientific translation, for example the translation of terminology and the accuracy of scientific information. However, the most important factor in evaluating the translation of popularized texts is how accessible the text is to target readers (Liao, 2013, n.p.). Interestingly, this facet is very similar to Byrne's notion of usability in technical translations.

Another research topic is how translators manage the interaction or "relationship" between authors and readers. In a study of *Scientific American*, it was found that Chinese translators often added interactive features to indicate the involvement of writers (by using hedges), to encourage the participation of readers (by using second person pronouns), and to give a more vivid visualization of the textual world (by using proximal deixis *this, here* and *now*) (Liao, 2013, n.p.). It would be interesting to see if translators play the same intervening role in other language combinations.

Popularization is an emerging area of research which has provided new perspectives in the field of translation studies. Relevant issues include the translator's role in mediating between writers and target audiences as well as the pragmatic and interactive features of different languages. Another area for future research is how translations affect the dissemination of knowledge in target societies and how they might affect target language norms, for example in target cultures which do not have certain popular science genres (Liao, 2013, n.p.).

Explicitation and Implicitation

Explicitation and implicitation in translation also deserve close attention since they may also influence readers' comprehension of texts. Explicitation is the technique of making explicit in the target text information which is implicit in the source text (Klaudy, 2008, p. 104). Conversely, implicitation is a translation technique whereby explicit information in the source

text is made implicit in the target text. In other words, in the target text, the meaning is conveyed through the context or situation (Vinay and Darbelnet, 1958/1995 p. 344). Explicitation can be considered as a translation device which increases target readers' comprehension since it consists of providing them with more communicative clues. Explicitation in the target text involves adding information to compensate for readers' perceived lack of background knowledge, explaining concepts in order to make them clearer, using elements to improve the flow and readability of the text, and emphasizing the logical relationship between text units. According to Byrne (2012), explicitation especially helps create clearer, more comprehensible texts in technical translations (p. 124-125). Before delving into the specific operations and effects of explicitation and implicitation, it is worth exploring the different views on whether explicitation is a universal translation strategy or if it is specific to language pairs.

The Explicitation Hypothesis

The Explicitation Hypothesis was formulated by Blum-Kulka in 1986. It states that explicitation is a product of the translation process itself, more so than differences between specific languages. According to the hypothesis, translations tend to be more explicit than their source texts and more explicit than non-translations published in the same language (Pym, 2005, n.p.). Blum-Kulka's research focuses on explicitation connected with shifts in cohesion and coherence in translations which arise from differences in the use of cohesive markers. Although she recognizes that differences in cohesive markers can be partly attributed to differences in languages' grammatical systems or stylistic preferences for certain types of cohesive markers, her hypothesis states that it is the translation process itself which bears the major part of such shifts:

> The process of interpretation performed by the translator on the source text might lead to a TL text which is more redundant than the SL text. This redundancy can be expressed by a rise in the level of cohesive explicitness in the TL text. This argument may be stated as 'the explicitation hypothesis,' which postulates an observed cohesive explicitness from SL to TL texts regardless of the increase traceable to differences between the two linguistic and

> textual systems involved. It follows that explicitation is viewed here as inherent in the process of translation (Blum-Kulka 1986, p. 19).

According to Séguinot (1988, p. 108-109), Blum-Kulka's definition of explicitness is too narrow since explicitness cannot necessarily be equated with redundancy. For example, the greater number of words used in a French translation of an English text can be attributed to well-documented stylistic differences. Explicitation should therefore only constitute additions which cannot be attributed to structural, stylistic or rhetorical differences between two languages. Furthermore, explicitation techniques are not limited to additions. Explicitation can also take place when "something which was implied or understood through presupposition in the source text is overtly expressed in the translation, or an element in the source text is given greater importance in the translation through focus, emphasis, or lexical choice" (p. 108). In Séguinot's study of French-English and English-French translations, both translation directions reveal greater explicitness in the translations as a result of clearer links between topics and comments, the addition of cohesive markers and the inclusion of information in subordinate clauses of the source text into main or coordinate clauses in the target text. Her findings suggest that the increased explicitation is not due to the structural or stylistic differences between the languages, but to the editing by revisers (p. 109).

The Explicitation Hypothesis has received great attention in translation studies. Nevertheless, some researchers have contested it. For example, House (2004) provides a competing hypothesis that differences in "linguistic-stylistic conventions" between source and target languages account for explicitation in translation as opposed to a universal tendency of translators to explicitate (p. 193). Some researchers believe that this position and the view that explicitation is universal are mutually exclusive; however, others suggest that they are compatible: language pair-specific explicitation can co-exist with translation-inherent explicitation (Becher, 2010, n.p.). Klaudy (2008, p. 106-107) takes this stance, proposing four types of explicitation.

Types of Explicitation

According to Klaudy (2008), explicitation can be broken down into four categories: obligatory explicitation, optional explicitation, pragmatic explicitation, and translation-inherent explicitation. Obligatory explicitation is governed by differences in the syntactic and semantic structures of languages. Without syntactic and semantic explicitation, the target text would be ungrammatical. Syntactic explicitation usually involves an increase in the number of words in the target text and semantic explicitation consists of using words that have a more specific meaning. Obligatory semantic explicitation can occur, for instance, when the translator is required to use more specific words because they are the only appropriate words available in the target language (p. 106).

Optional explicitation is due to differences in the text-building strategies and stylistic preferences of languages. Without explicitation, target texts would remain grammatical but would be clumsy and unnatural. Examples of optional explicitation include the addition of cohesive markers, the use of relative clauses instead of long nominal constructions, and the addition of emphasizers to show sentence-perspective, among others (ibid., p. 106). According to House (2004, p. 185-208) and Baumgarten, Meyer and Özçetin (2008, p. 198-199), explicitation may seem like a universal tendency just because of the high frequency of this type of explicitation, which is clearly language pair-specific.

Pragmatic explicitation is the explicitation of implicit cultural information of the source text. It is employed when there are differences in cultural or world knowledge between the two language communities. Specifically, target readers may not share what is considered to be common knowledge among source text readers; therefore, this information must be rendered explicit or explained in the target text (Klaudy, 2008, p. 106-107).

Finally, translation-inherent explicitation "can be attributed to the nature of the translation process itself." This type of explicitation is completely independent of the language systems involved and "is explained by […] the necessity to formulate ideas in the target

language that were originally conceived in the source language" (ibid., p. 107). Klaudy provides no examples for this type of explicitation.

According to Becher (2010, n.p.), whereas obligatory and pragmatic explicitation are easy to identify, it is more difficult to distinguish between optional and translation-inherent explicitation. Blum-Kulka (1986) also warns about this problem. She states that empirical research can indeed help ascertain to what extent explicitation applies universally to translations and to what extent it can be attributed to language-pair features. However, in order to distinguish between optional explicitation and translation-inherent explicitation, "it would be necessary to first carry out a large scale contrastive stylistic study (in a given register) […] and then to examine translations to and from both languages to investigate shifts […] that occur in translation" (p. 33). Basically, it is necessary to know where stylistic differences between a given language pair lie in the first place in order to identify explicitation due to stylistic norms versus explicitation due to the translation process. According to Becher, studies of explicitation have largely ignored Blum-Kulka's warning (2010, n.p.).

The Asymmetry Hypothesis

The Asymmetry Hypothesis put forth by Klaudy (2001) postulates that explicitation in the language 1 → language 2 direction is not always counterbalanced by implicitation in the language 2 → language 1 direction because translators, when they have a choice, prefer to use techniques involving explicitation and tend to avoid implicitation. If this hypothesis were shown to be correct, it would support the notion that explicitation is a universal strategy of translation, independent of language pairs and the direction of translation (Klaudy, 2008, p. 107).

Klaudy's research demonstrates that obligatory explicitation, dictated by grammatical differences between languages, is generally symmetrical: explicitation in one language direction is generally matched by implication in the opposite direction. Optional explicitation in one direction may also be symmetrical with implicitation in the opposite direction; however, given its optional nature, this counterbalance does not always occur (2008, p. 107). Studies show that

translators prefer adding words to subtracting words, splitting to contraction and turning phrases into clauses and not vice-versa. Translators also commonly include information to "fill the gaps in the background knowledge" of target text readers, but rarely omit information which is presumably evident to target text readers (2009, p. 287-288, 290).

Reasons for Explicitation as a Translation Universal

Supposing there was a general agreement on the consistent, frequent use of explicitation and its status as a translation universal, a number of researchers have offered explanations as to why explicitation might be a translation-inherent phenomenon. Although Nida (1964) does not use the term explicitation specifically, he offers some reasons behind "gains in linguistic form" in translations:

> The gain results from the fact that we normally assume that everything in the original must be rendered in some way or another, in addition to what occurs in the source text, certain obligatory features of the receptor language must be introduced. Furthermore, while the original author can assume a good deal of background information on the part of his audience […] the translator cannot make the assumption, since the audience receiving the translation more often than not represents a very different cultural setting (Nida 1946, p. 174).

Klaudy (2009, p. 300-301) proposes another reason for explicitation, which is that translators are partly motivated by Grice's (1975) principle of cooperation in communication. This principle states that conversational contributions follow certain maxims in order for messages to be understood by interlocutors (p. 41-58). Although it is based on face-to-face communication with both parties present, the principle can also apply to written translation situations, where cooperation takes place with a receiver who is absent. Since the target text's reception does not take place directly and immediately, the translator cannot verify whether the information provided is sufficient for the message to be comprehensible. As a result, the translator will use a variety of means (additions, specifications, etc.) to ensure that the message is

indeed understood. The translator will make the greatest possible use of explicitation, rely less on the reader's imagination than the author of the source text did, and will avoid implicitation, even where it is possible or desirable (Klaudy, 2009, p. 300-301).

Pym (2005) attempts to explain explicitation in terms of risk management. In communication situations, the most critical risks are those which might restrict communication between interlocutors. Translations tend to involve more risks that non-translations since the readers of translations may understand fewer cultural references than readers of original texts. Since translators deal with higher-risk situations, they will make greater use of techniques for risk minimization, namely the inclusion of more communicative clues (n.p.).

Heltai (2005) takes a different view by questioning the relationship between explicitness and readability. His main concern is that translations, although they tend to be more explicit than source texts, are generally harder to read. In other words, while explicitation increases redundancy, redundancy does not always make target texts easier to read. Heltai addresses this issue by examining the effect of redundancy and ellipsis on the readability of translated texts (p. 45-75).

Some Research Pitfalls

According to Becher (2010, n.p.), most studies claiming to support the explicitation hypothesis suffer from two major methodological shortcomings. First, such studies do not make a sufficient distinction between translation-inherent explicitation on one hand and the other types of explicitation (as proposed by Klaudy) on the other hand. Studies have not been able to properly isolate translation-inherent explicitation from the other types mainly because of the methodological difficulty involved, as described by Blum-Kulka. In Becher's view, this problem has hardly been addressed and has led to many ambiguous results. The second shortcoming is that some studies either fail to provide a definition of explicitation at all or introduce a definition and apply it inconsistently. This is another issue which may affect the validity of findings. All in all, although many studies provide interesting results and insightful suggestions for further

research, researchers must pay closer attention to language-pair-specific explicitation and take other similar precautions.

Method

Corpus

In this study, translation choices related to usability, popularization, explicitation and implicitation are analyzed in the translations of press releases related to aviation accident investigations. The translations analyzed are published by the Transportation Safety Board (TSB) of Canada and the Bureau d'Enquêtes et d'Analyses (BEA) pour la Sécurité de l'Aviation civile in France. Both are government agencies in charge of implementing and overseeing investigations of aviation accidents which occur in their respective countries, and in the case of the BEA, which also occur in other countries. After the investigations, both agencies are tasked with publishing accident investigation reports which are made available to the public. At the same time, the agencies publish press releases on their websites with information on the investigation and/or the report. Such press releases are translated from English to French at the TSB, and from French to English at the BEA. Both the TSB and BEA translations were published after 2004 and are available online. In this study, 20 translations by the TSB and 20 translations by the BEA are analyzed.

At the TSB, most of the investigation reports are originally published in English and some reports are originally published in French. The French reports are subsequently translated into English and the press releases are written in English based on the translated reports. In all cases, the original language of the press releases is English (TSB, personal communication, 23 March 2017). The subset of press releases which were written based on the translated reports has not been analyzed specifically. Any particularities which they may contain could be examined in a future study.

Readership

The target audiences of the TSB press releases are journalists, the general public and the aviation community. The main audiences are journalists and by extension, the general public. According to the agency, the primary objective of the press releases is therefore to be understandable to the general public but also relevant to the aviation community (TSB, personal communication, 23 March 2017).

According to the BEA, the main target audience of the press releases is the general public (BEA, personal communication, 9 May 2017). Although not confirmed by the agency, the target audience presumably includes journalists as well, since several press releases contain reminders and notices which seem relevant to that specific group. For example, on many occasions, the press releases contain warnings to readers that they should not draw conclusions from or disseminate non-validated information. In addition, the publications sometimes contain details on upcoming press conferences.

These target audiences could fall under any of the readership categories proposed by Horton (1994). Journalists, for example, may be novices or occasional users if they have never or seldom reported on these issues. They could be transfer users if they report on similar subjects or have similar expertise. Finally, some could be expert users if they often report on this subject or specialize therein. Readers from the aviation community may also fall into either of the categories, since aviation is a very large domain with many sub-fields unrelated to safety, air navigation and avionics. With regard to Dufay's (2005) classification, the readership at hand generally fits the profile of informed readers. First, it is possible that they regularly consult similar documents or information and that they therefore have some background knowledge on the matter. Although journalists may not be experts on aviation safety, it is often the task of news agencies to report on aviation accidents when they occur. Readers from the aviation community are also likely to have some background knowledge since their work is in the same general domain. Furthermore, readers are likely to be relatively curious and motivated to access the texts and be informed. With regard to journalists, this motivation arises from their required task of reporting on such information. As for the aviation community, readers may be motivated to learn

about safety issues and events which could have implications on their companies or organizations.

Text Type

The press releases constitute a hybrid text type which draws from features of both technical and popular texts. Whereas some of these features pertain to both technical and popular texts, others are rather exclusive to either text type. First and foremost, the press releases resemble both technical and popular texts in that they are aimed at conveying information clearly and facilitating readers' comprehension. They are more similar to technical texts, however, in that they use neutral language as opposed to creative or embellished language. Popular texts, on the other hand, try to engage readers by using vivid language, humour, and other devices (Malavoy, 1999, p. 33). Moreover, the press releases do not seek to incite critical thinking on the part of the reader, which is a key characteristic of popular texts according to Dufay (2005). This is made evident by their constant reminders to readers to refrain from drawing hasty conclusions based on their content, for example. The press releases also differ from technical texts in some important ways. Although they aim to be neutral and objective (as stated in all of them), they also refer to their authorship, indicate their role in investigations and justify their diffusion. Finally, the agencies may also seek to protect their image in the press releases. This is factor which differentiates these publications from both technical and popular texts.

The readers of the press releases share characteristics with readers of both technical texts and popular texts in that they seek accurate information, in some cases in order to do something else, and because such information must be readable and transparent enough for them to understand it. The obvious task of journalists, for instance, is to diffuse intelligible, relevant and engaging information to the general public. In order to meet such needs, translators must in turn rely on textual elements related to both technical writing and popularization. Nevertheless, a unique audience means unique aims and expectations which do not necessarily pertain to readers of either technical or popular texts. The readership at hand differs from the readership of popular texts, for instance, since readers of popular texts read such texts to truly understand and learn

about subjects. The readers of the press releases are probably more interested in the actual *receiving* of information than expanding their own knowledge. Another unique feature of this readership is that it may include both non-experts (e.g. journalists and the general public) and experts (e.g. the aviation community). As a result, the press releases must be suitable for both readers who require sufficient communicative clues to understand the texts and readers who may have substantial background knowledge.

Analysis

Testing the Explicitation and Asymmetry Hypotheses

To investigate asymmetry between translation operations, a bidirectional comparison of translations with the same language pair must be carried out. This process can consist of comparing independent L1-L2 and L2-L1 translations, provided that all the relevant parameters (e.g. time, place, topic, genre) of the texts being studied are the same, or can involve comparing translations with their back translations (Klaudy, 2009, p. 289). In this study, a bidirectional comparison of independent translations was carried out.

According to Klaudy (2009), the first step in testing the asymmetry hypothesis is to make a distinction between "language-specific" and "non-language-specific" translation operations. Language-specific operations arise from differences between the linguistic systems of the L1 and L2, and non-language-specific operations are due to differences in the cultural, historical and social background knowledge of the L1 and L2 audiences. Conducting systematic research on non-language-specific operations is difficult, however, given the immeasurable vastness of the different domains of background knowledge. On another note, language-specific operations are often perceived as uninteresting in asymmetry hypothesis research since there is a common misconception that differences in the SL and TL systems automatically determine the TL solutions (p. 290). The author stresses that on the contrary, translators do have a choice in these situations, given that such differences exclude only *some* options in the TL but still leave room

for others. Klaudy proposes three subgroups within the category of language-specific operations (ibid.):

1. Operations which are obligatory in both directions
2. Operations which are obligatory in only one direction (semi-obligatory)
3. Operations which are optional in both directions

The second and third sub-groups are of most interest in testing the hypothesis because translators must make subjective choices in such cases. With respect to semi-obligatory operations, attention should be drawn to the translation choices made in the direction in which explicitation is optional. Operations which are optional in both directions are the most interesting since the choices of translators may be reflected in both directions. The first sub-group, that of obligatory operations in both directions, is not of interest since the choices made by translators are completely based on objective, linguistic reasons which are out of their control (p. 291). As stated previously, when explicitation operations are obligatory, explicitation in one direction will most likely be counterbalanced by implicitation in the opposite direction.

Choices Analyzed in the Texts

As mentioned previously, this study investigates translation choices related to usability, popularization, explicitation and implicitation. With regard to explicitation and implicitation in particular, this study seeks to identify only those which are optional. Optional operations include the explicitation of cultural and historical information (Klaudy's "pragmatic explicitation") and explicitation to meet the stylistic preferences of the target language, among others. Although some researchers believe the latter type of explicitation is mechanical and consists of automatic solutions in the target text, the view taken here is similar to that of Klaudy's, which is that translators can still make a choice of whether or not to explicitate when faced with stylistic constraints. On the contrary, obligatory operations – those required to render the target text grammatical – are not included in the analysis.

Research on popularization also provides examples of textual elements related to the text's structure and content. Since this paper deals with translations, it is assumed that variation in terms of structure and content is quite limited, however. Even in cases where a considerable amount of content (e.g. whole sentences) is removed or added, such decisions are likely to be due to overarching issues such as the different legal requirements of the source and target texts. In other words, substantial modifications are presumably out of the translators' control and thus not a result of their own translation choices or tendencies. Thus, choices related to structure and content will not be treated in this paper. Finally, words and expressions which may enhance comprehension in some respects but impede comprehension in others are also excluded from the findings since they have an unclear effect.

The focus of this study is to identify differences in textual choices and to determine whether these differences are specific to language direction. Once all of the instances of such differences are identified, their frequency will be recorded according to the type of textual element. Both language directions will be compared to identify any patterns which may be specific to them, and in addition, to verify whether explicitation is asymmetric.

The status, availability and equivalents of terms in English and French were verified using the Government of Canada's terminology database TERMIUM Plus (www.btb.termiumplus.gc.ca) and the Glossary for Pilots and Air Traffic Services Personnel and Civil Aviation Terminology System, both found on Transport Canada's website. In some cases, the TSB website (www.tsb.gc.ca) was also checked for usage. As for the terms in the BEA publications, the InterActive Terminology for Europe website (http://iate.europa.eu), the terminology database of the European Union, was also consulted.

Use of a Comparable Corpus

In the study, several words and expressions in the target texts are compared to similar units which appear in the source texts written in the same language (which are used in this study). Attention is given to target text units which show a clear departure from the usage in the

source texts, which are presumed to demonstrate the standard usage. In follow-up studies, comparable corpora consisting of texts with a similar subject, readership, or function, could also be used to check for inherent differences in technicity and register according to the language. It would also be interesting to examine corpora consisting of aviation-related texts aimed exclusively at non-expert or expert readerships.

Limitations

Although the TSB and BEA publications contain many similar parameters, the translation choices made might be influenced by other factors not accounted for in this study. These include the house style of the agencies, word limits, and other writing guidelines specific to the agencies. Follow-up studies could analyze the translations from other similar agencies in Canada and France, translations with the same subject or even translations dealing with other aviation-related subjects.

Findings

This study identifies many instances whereby textual elements influencing readers' comprehension undergo changes in the translations. These elements, which are extensively discussed in the literature, include specialized and non-specialized terms, lexical repetition and variation, and active and passive voice. The translations also reveal a number of operations related to explicitation and implicitation.

Use of Non-Specialized and Specialized Terms

Although specialized terminology in technical texts may be necessary to avoid ambiguity and to communicate ideas and concepts accurately (Byrne, 2006, p. 85; Malavoy, 1999, p. 26), specialized terminology can also be an "irritation and hindrance when misused" (White, 1996, p.

192). Specifically, specialized terminology can be misused in cases where readers are not familiar with it. In such cases, specialized words and jargon should be used with caution and in consideration of the reader's knowledge. According to Dufay (2005, p. 107), in order to communicate effectively to non-specialist readers, authors should employ common words and simple expressions. Specialized terms make the text unclear and jargon makes readers feel excluded from the world of the expert/author. If the author has no choice but to use sophisticated, specialized vocabulary, it should be properly defined (Byrne, 2006, p. 85; Malavoy, 1999, p. 26). In addition, the author should refrain from introducing uncommon vocabulary at the beginning of text, using scientific Latin terms and defining uncommon terms with other uncommon words and concepts (Dufay, 2005, p. 108). Below are selected examples from the corpus whereby specialized terms in the source text are translated as non-specialized terms in the target text, and vice-versa.

Use of Non-Specialized Terms

English to French

The aircraft was below radar coverage, and air traffic control (ATC) attempted to assist the aircraft in locating a suitable aerodrome. 15 March 2016[1]	L'aéronef volait sous la couverture radar, et le contrôle du trafic aérien (ATC) a essayé d'aider le pilote à localiser un aéroport convenable.

Here, it should be noted that French also has the technical term *aérodrome* (www.btb.termiumplus.gc.ca; *Glossary for Pilots and Air Traffic Services Personnel*).

[1] The target texts have the same publication date as the source texts, except where indicated.

Just after midnight, during the landing sequence, the aircraft travelled through the grass on the western side of the runway, eventually coming to a stop on the runway centerline. The passengers were deplaned on the runway and transported by bus to the terminal. 25 February 2017	Peu après minuit, au cours de l'atterrissage, l'aéronef a circulé sur le gazon en bordure ouest de la piste pour éventuellement s'immobiliser sur l'axe de piste. Les passagers sont descendus sur la piste et ont été transportés jusqu'à l'aéroport par autobus.

French has the equivalent technical terms *ordre d'atterrissage* and *séquence d'atterrissage* (www.btb.termiumplus.gc.ca; *Glossary for Pilots and Air Traffic Services Personnel*). Although both *aircraft* and *aéronef* constitute a rather formal register, they are not highly specialized terms and are often used in non-specialized contexts.

Despite a marginal performance during the check flight, the pilot had successfully passed a pilot proficiency check, and TC had approved the individual's appointment to the position of chief pilot. 17 August 2016	Malgré un rendement marginal au cours du contrôle de compétence sur aéronef, le pilote a réussi le contrôle de la compétence du pilote, et TC a approuvé sa nomination au poste de pilote en chef.

French has the equivalent technical terms *vol de vérification de compétence* and *vol de contrôle de la compétence* (*Civil Aviation Terminology System*). As opposed to using the technical terms, which do not clearly express the nature of the test (e.g. the participants or location), the translator uses a rendering which helps the reader visualize the situation – that of a test relating to the pilot's competency while physically on board. Although the use of *aéronef* in French has a formal register, it is used in order to avoid a rather opaque specialized term.

On the early morning of 16 August 2014, during the hours of darkness, a Piper PA-31 aircraft operated by Atlantic Charters was returning to Grand Manan from Saint John New Brunswick following a medevac flight. 12 February 2016	Tôt le matin du 16 août 2014, durant les heures de noirceur, un aéronef Piper PA-31 exploité par Atlantic Charters rentrait à Grand Manan en provenance de Saint John, au Nouveau-Brunswick, après avoir effectué un vol aéromédical.

French also has the acronym *MEDEVAC* to describe medical evacuation (www.btb.termiumplus.gc.ca; *Glossary for Pilots and Air Traffic Services Personnel*).

French to English

Accident survenu dans la région de Gossi (Mali) le 24 juillet 2014 à l'avion McDonnell Douglas DC-9-83 (MD-83), immatriculé EC-LTV , exploité par Swiftair SA, vol AH 5017 - information du 28 juillet 2014 18 July 2014	Accident to the McDonnell Douglas MD-83, registered EC-LTV, on 24 July 2014 in the Gossi area (Mali) - information on July, 28 2014

By removing a part of the aircraft model number (which is redundant in the source text since the two alphanumerical labels are two ways to refer to the same aircraft), the translator removes one obstacle which may impede comprehension among non-experts.

• rupture au sol de plusieurs torons, vraisemblablement au parking sous l'effet du souffle d'un gros porteur (jet blast) ; 4 December 2008	An on-the-ground failure of several strands, likely on the apron under the effect of jet blast from a heavy aircraft;

Equivalents of the specialized term *gros porteur* are *wide-body aircraft* and *wide-body aeroplane* in English (www.btb.termiumplus.gc.ca; *Civil Aviation Terminology System*).

Use of Specialized Terms

English to French

In its investigation report (A15O0015) released today, the Transportation Safety Board of Canada (TSB) determined that the continuation of an unstable approach following a loss of visual reference led to a Jazz Aviation LP aircraft contacting the surface short of the runway at the Sault Ste. Marie Airport, Ontario, in February 2015. 9 March 2017	Dans son rapport d'enquête aéronautique (A15O0015) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a déterminé que l'aéronef exploité par Jazz Aviation LP a effectué un atterrissage avant le seuil de piste et a heurté le relief à l'aéroport de Sault Ste. Marie (Ontario) en février 2015 parce que l'approche non stabilisée s'est poursuivie après la perte de repères visuels.

The translator uses the French equivalent of the English technical term *runway threshold* (www.btb.termiumplus.gc.ca; *Civil Aviation Terminology System*) instead of opting for a non-technical term like in the English.

"In Canada, Transport Canada requires medium and large commercial aircraft to be equipped with onboard flight recorders, but there are still no requirements for such recorders on smaller aircraft," said Kathy Fox, Chair of the TSB. 17 October 2016	« Au Canada, Transports Canada exige que les aéronefs commerciaux de taille moyenne et les gros porteurs soient munis d'enregistreurs de bord, mais de tels enregistreurs ne sont toujours pas exigés à bord des aéronefs plus petits, a déclaré Kathy Fox, présidente du BST.

Here, the French translator reaches for the equivalent of the English technical term *wide-body aircraft* (www.btb.termiumplus.gc.ca; *Civil Aviation Terminology System*) instead of opting for a less specialized term as in the English.

It was determined that the engine had been shut down after high power operation, without sufficient time for its internal temperatures to reduce at lower power. July 5, 2016	On a déterminé que le moteur avait été arrêté après un fonctionnement à régime élevé, sans que ses températures internes aient eu suffisamment le temps de baisser à régime moins élevé.

The French uses the technical term *régime élevé,* which is the equivalent of *high running speed* in English (www.btb.termiumplus.gc.ca). Again, the French departs from the English, which uses a more common expression.

In 2013, following its investigation into the March 2011 loss of control/in-flight break-up occurrence, northeast of Mayo, Yukon (TSB Aviation Investigation Report A11W0048), the TSB found that if cockpit or data	En 2013, après son enquête sur un incident de perte de maîtrise et de désintégration en vol survenu au nord-est de Mayo (Yukon) en mars 2011 (rapport d'enquête aéronautique A11W0048 du BST), le BST a

recordings are not available to an investigation, the identification and communication of safety deficiencies to advance transportation safety may be precluded. 13 July 2016	constaté que, dans le cadre d'une enquête, l'absence d'enregistrement des conversations dans le poste de pilotage ou d'enregistrement des données de vol peut empêcher la détermination et la communication de lacunes de sécurité servant à l'amélioration de la sécurité des transports.

The French uses the equivalent technical terms of *cockpit voice recording* and *flight data recording* in English (www.btb.termiumplus.gc.ca).

French to English

27 juillet – 17 août 2009 : recherches sous-marines à l'aide d'un sonar à balayage latéral et d'un robot sous-marin pour localiser l'épave de l'avion. 18 June 2012	27 July – 17 August 2009: undersea searches with side-scan sonar and a Remotely Operated Vehicle (ROV) to locate the site of the aeroplane wreckage.

The technical term *Remotely Operated Vehicle (ROV)* is the equivalent of the technical terms *véhicule télécommandé* (http://iate.europa.eu) and *véhicule téléguidé (VTG)* (www.btb.termiumplus.gc.ca), for example.

L'avion part brusquement en roulis à gauche jusqu'à atteindre 140° d'inclinaison, et à piquer jusqu'à 80°.	The aeroplane rolled suddenly to the left until it reached a bank angle of 140°, and a nose-down pitch of 80°

2 April 2015	

The technical term *bank angle* is the equivalent of *angle de roulis* and *angle d'inclinaison latérale* in French (www.btb.termiumplus.gc.ca; http://iate.europa.eu).

Par ailleurs, le drone sous-marin appartenant à la société Geomar doit maintenant participer à une campagne scientifique. 4 May 2010	In addition, the AUV belonging to Geomar must now participate in scientific research.

The abbreviation *AUV* is an equivalent of *véhicule sous-marin autonome* in French (http://iate.europa.eu).

• rupture au sol de plusieurs torons, vraisemblablement au parking sous l'effet du souffle d'un gros porteur (jet blast) ; 4 December 2008	• An on-the-ground failure of several strands, likely on the apron under the effect of jet blast from a heavy aircraft;

The specialized term *apron* is the equivalent of the specialized term *aire de trafic* in French (www.btb.termiumplus.gc.ca, *Glossary for Pilots and Air Traffic Services Personnel;* http://iate.europa.eu).

Acronyms and Abbreviations

Like technical terms, acronyms and abbreviations can reduce the clarity and accessibility of a text, especially if they are uncommon (Byrne, 2006, p. 86; Malavoy, 1999, p. 24). Acronyms

and abbreviations should be spelt out, either in the text or in a glossary (Byrne, 2006, p. 86). Below is an example of when the translator chooses to spell out abbreviations which are unexplained in the source text, in the case of the English to French translations:

• Taken possession of the CVR and FDR. These will be sent to the TSB Lab in Ottawa for further analysis. 25 February 2017	• pris possession de l'enregistreur de conversations de poste de pilotage (CVR) et de l'enregistreur de données de vol (FDR). Ils seront envoyés au Laboratoire du BST à Ottawa aux fins d'analyses plus poussées;

Register

Informal Register

The use of an informal or familiar register can also help lay readers understand texts. According to Dufay (2005), a key technique of popularization is to use commonplace, accessible vocabulary and to avoid formal vocabulary whenever possible (p. 107-108). The press releases reveal a number of instances whereby the translator uses a more informal register compared to the source text.

English to French

TSB reminds aircraft passengers to buckle up after 21 people injured during a severe turbulence encounter in December 2015 20 February 2017	Le BST rappelle aux passagers de boucler leur ceinture en vol après que de fortes turbulences aient fait 21 blessés en décembre 2015

In the source text, the term *encounter* gives the text a relatively formal quality. Although the expression *rencontre avec la turbulence* also exists in French, the translator opts for a more informal rendering (www.btb.termiumplus.gc.ca).

The Cessna 185 pilot was uninjured, though the aircraft sustained substantial damage. 20 October 2016	Le pilote du Cessna 185 n'a pas été blessé, mais l'aéronef a subi des dommages considérables.

In this case, the translator could have used the more formal French expressions *est indemne* or *est resté indemne,* which correspond to the formal register in the English. Instead, the translator employed a more familiar register.

French to English

Les travaux de recherche en mer avaient permis de récupérer l'enregistreur phonique (CVR) et différentes pièces de l'avion, dont les moteurs, une partie de l'empennage et des éléments du cockpit. 11 October 2007	Undersea searches made it possible to recover the Cockpit Voice Recorder (CVR) and various parts of the airplane, including the engines, a part of the tail and parts of the cockpit.

English has the terms *tail unit* and *empennage* which are equivalents of the French term (www.btb.termiumplus.gc.ca; http://iate.europa.eu). Although *tail* is also an official term, it gives a more general and easily-understood image of what is being referred to (the back of the plane). A French equivalent for *tail* is simply *queue,* for instance (www.btb.termiumplus.gc.ca).

Formal Register

Creating a formal register by using uncommon and refined vocabulary may impede lay readers' comprehension of texts (Dufay, 2005, p. 107-108). The press releases also contain a number of instances whereby the translator uses a more formal register compared to the original.

English to French

The limitations of the "see-and-avoid" principle in preventing collisions were illustrated once again in the Transportation Safety Board of Canada (TSB) investigation report (A15W0087) into a June 2015 mid-air collision between two small aircraft near Fort McMurray, Alberta. 20 October 2016	Les limites du principe voir et éviter dans la prévention des collisions ont été illustrées une fois de plus dans le rapport d'enquête (A15W0087) du Bureau de la sécurité des transports du Canada (BST) sur la collision en vol survenue en juin 2015 entre deux petits aéronefs près de Fort McMurray (Alberta).

Here, the use of quotation marks in English helps readers identify the term as potential jargon or a coined technical expression. According to APA stylistic guidelines, one of the functions of quotation marks is to introduce a word or phrase as slang or as an invented or coined expression (Publication Manual of the American Psychological Association, 2010, p. 91). Here, the French translator removes the quotation marks and as a result, fails to include a warning sign of something that may be difficult to understand. Instead, readers of the target text are expected to read the sentence as would a specialist.

On 10 June 2013 at 1700 Eastern Daylight Time, a Beechcraft King Air 100 operated by Aviation Flycie Inc. took off from the Montréal/St-Hubert Airport (CYHU),	Le 10 juin 2013, à 17 h, heure avancée de l'Est, un Beechcraft King Air 100 exploité par Aviation Flycie Inc. a décollé de l'aéroport de Montréal/St-Hubert (Québec) pour effectuer

Quebec, with one pilot and three passengers on board for a test flight. 17 August 2016	un vol de vérification avec un pilote et trois passagers à son bord.

In this case, the translator could have chosen less formal synonyms such as *vol d'essai, essai en vol* (www.btb.termiumplus.gc.ca) or *test en vol* (*Glossary for Pilots and Air Traffic Services Personnel*).

The autopilot was being used to control the aircraft throughout the flight. 13 July 2016	Le pilote automatique était embrayé durant tout le vol.

The word *embrayé* would better correspond to the more formal word *engaged* in English.

What we know 13 July 2016	Données factuelles

Here, the English heading contains a more personal, subjective tone as opposed to the French, which uses a scientific, objective tone.

Should the investigation team uncover a safety deficiency that represents an immediate risk to aviation, the Board will communicate immediately so that it may be addressed quickly and the aviation system made safer.	Au cas où l'équipe d'enquêteurs découvrirait une lacune de sécurité qui présente un risque immédiat à l'aviation, le Bureau communiquera celle-ci immédiatement pour

13 July 2016	que l'on y remédie promptement afin de rendre le réseau aérien plus sûr.

The French term *réseau aérien* corresponds more to the term *aviation network* in English. Essentially, the translation is more precise and serious than the common, general term *system* in English.

Words Connoting Human Experiences

Another device used in the translations which facilitates readers' comprehension consists of words which connote personal or human experiences. These also include words which personify the subject. According to Dufay (2005), creating comparisons with concrete objects in the everyday lives of readers is a very effective way of fostering their comprehension (p. 91). Words and expressions connoting human experiences may enable readers to relate to their own experiences or the experiences of others. By making such parallels, readers may better understand the concepts being described.

English to French

The aircraft returned to the centreline before taxiing to the terminal gate, where the passengers disembarked without further event. 28 March 2017	L'aéronef a retrouvé l'axe de piste avant de rouler jusqu'à la porte de l'aérogare, où les passagers ont débarqué sans autre incident

Unlike the English rendering, the expression *a retrouvé* personifies the subject (the aircraft).

There were no reported injuries, and apparent damage to the aircraft at this point is minor. 25 February 2017	On n'a signalé aucun blessé, et les dommages visibles à l'aéronef semblent mineurs.

The use of the third person singular *on* is the most common example of this type of device in the French translations. In all the similar examples, the French rendering is a clear contrast with the relatively objective and neutral English. It should be noted that *on* is often used when the source text contains a passive construction. Therefore, it is also possible that this particular solution is employed to avoid using the passive voice in the target text.

Approximately 30 nautical miles south of the Sudbury Airport, […] the pilot advised air traffic control that there was a problem and that the aircraft was returning to Sudbury. 3 October 2016	À environ 30 milles marins au sud de l'aéroport de Sudbury […] le pilote a informé le centre de contrôle de la circulation aérienne qu'il y avait un problème et qu'il retournait à Sudbury.

The use of *il* in French refers to the pilot and thus presents the reader with a personal experience.

The investigation found that the pilot's qualifications had expired [….] and that he had been experiencing levels of chronic stress and fatigue, and consequently that he was neither qualified nor fit to undertake the flight. The pilot, who was no longer proficient at flying in instrument meteorological	L'enquête a révélé que les qualifications du pilote étaient expirées […] et qu'il souffrait de stress et de fatigue chroniques, de sorte qu'il n'était ni qualifié ni apte à entreprendre le vol. Le pilote, qui n'avait plus les compétences pour piloter dans des conditions météorologiques de vol aux instruments, a

conditions, likely became spatially disoriented after entering cloud in a descending turn, and lost control of the aircraft. 3 October 2016	probablement été frappé de désorientation spatiale après avoir pénétré un nuage en effectuant un virage en descente, et a perdu la maîtrise de l'aéronef.

The expressions *souffrait* (for *experiencing*) and *été frappé de* (for *became*) also have connotations of the human experience since they allude to human emotions. Readers are thus presented with a personal experience to which they can relate.

In its investigation report (A14O0217) released today, the Transportation Safety Board of Canada (TSB) determined that a faulty navigation receiver […] led the pilot of an aircraft to become lost, and eventually collide with terrain near Whitney, Ontario. 15 March 2016	Dans son rapport d'enquête (A14O0217) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a déterminé qu'une défectuosité du récepteur de radionavigation et […] ont fait que le pilote d'un aéronef était perdu avant de percuter le relief à Whitney (Ontario).

The expression *était perdu*, as opposed to *s'est perdu*, for example, alludes more to the pilot's psychological state than the objective situation that the pilot physically got lost.

French to English

Les travaux du groupe vont commencer très rapidement, et devraient être achevés à la fin du mois de décembre 2011. Ses réflexions	The group's work will begin very soon and should be completed by the end of December 2011. Its thinking will take into account input

seront nourries par les travaux du groupe « Opérations » et ceux du groupe « Systèmes avions ». 7 September 2011	from both the «Operations» and the «Airplane Systems» groups.

Here, the word *thinking* in English personifies the subject (the group). Whereas the English word choice is rather uncommon and marked, the French use of *réflexions* in this context is more common.

Le BEA mettra à disposition - par l'ECPA-D via le SERT/Globecast - une bande-éléments sur le navire et ses équipements dans les meilleurs délais à la suite du départ du navire du port de Dakar. 19 April 2011	The BEA will do its best to ensure that video footage of the ship and its equipment in Dakar will be provided to the media as soon as possible after the ship's departure. This video footage will be available from ECPA-D via SERT/Globecast.

The use of *will do its best* personifies the subject since it connotes the effort of people themselves in completing the task.

Removal of Words Connoting Human Experiences

French to English

Ces opérations seront vraisemblablement délicates en raison de la profondeur et des courants marins ainsi que de l'état de l'épave	These operations will likely be very delicate due to the depth and the currents, as well as the condition of the wreckage, about which we currently have no definite information.

sur lequel nous n'avons pour l'heure aucune certitude. 17 August 2007	

In this example, the French expression has more human characteristics than the English expression, which is more formal and objective.

Lexical Repetition

The repetition of words and phrases throughout a document helps build clarity since it reinforces information and helps readers to remember or do something (Bryne, 2006, p. 87). Using specialized terminology consistently (if it must be used) and avoiding polysemy is also important in ensuring clarity (Byrne, 2012, p. 145; Malavoy, 1999, p. 24). In the example below, whereas synonyms are used in the source text, the same word is used in the translation to refer to the concept at hand.

English to French

The investigation revealed that during the extension of the landing gear, a wire bundle became entangled around the landing gear rotating torque shaft, preventing full extension. The operator submitted a safety deficiency report to Transport Canada, and also issued a maintenance advisory to its staff to check for proximity of wiring harnesses to surrounding rotating parts.	L'enquête a révélé que durant la sortie du train, un faisceau de câbles s'était emmêlé autour du tube de torsion rotatif et avait empêché la sortie complète du train d'atterrissage. L'exploitant a remis un rapport de manquement à la sécurité à Transports Canada et a émis un avis d'entretien à son personnel lui rappelant de vérifier la

14 January 2016	proximité des faisceaux de câbles aux pièces rotatives avoisinantes.

French also has several synonyms for this concept (www.btb.termiumplus.gc.ca).

Lexical Variation

Conversely, lexical variation may cause confusion about what concept is being referred to and may thus reduce the text's clarity. In the example below, the translator uses synonyms to refer to the same concept whereas in the source text, the same word is repeated.

English to French

After departure, the aircraft deviated north of its intended track into Canadian airspace to avoid a line of thunderstorms, and climbed to its cruising altitude with the intention of navigating its way through them. The aircraft flew through a large thunderstorm that it could not avoid and encountered severe turbulence. 6 July 2016	Après le départ, l'aéronef s'est dérouté au nord de sa trajectoire prévue dans l'espace aérien canadien pour éviter une ligne d'orages et a monté à son altitude de croisière dans le but de passer entre ces orages. L'aéronef a traversé une grande cellule orageuse qu'il n'a pas pu éviter et il a été secoué par de la forte turbulence.

The French term *cellule orageuse* is also more formal than the common English word *thunderstorm.*

Active and Passive Voice

The passive voice reduces the clarity of sentences since it is more difficult for the reader to identify the actor and since as a result, there is "delayed meaning" (Byrne, 2006, p. 91). Using the active voice instead of passive constructions may therefore improve clarity and promote readers' comprehension of the text.

Use of the Active Voice

English to French

The investigation also found that, even though a safety management system (SMS) and processes were in place, an understaffed management structure during organizational changes likely led to excessive workload for existing managers, and contributed to risks not being addressed through the operator's SMS. 14 July 2016	Enfin, l'enquête a également souligné le fait que, même si un système de gestion de la sécurité (SGS) et des processus étaient en place, une structure organisationnelle en sous-effectif durant des changements organisationnels a probablement donné lieu à une surcharge de travail chez les gestionnaires en place, et a fait en sorte que l'exploitant n'a pas utilisé son SGS pour examiner les risques.

By using this structure in the target text, the translator also creates clearer connections between the sentence parts: the operator is the agent of the SMS and the addressing of risks is the clear consequence of the action.

Logical Reasoning

In a text, logical reasoning is conveyed by demonstrating cause and effect relationships. Logical reasoning helps develop concepts and enables readers to use previous knowledge to assimilate new information. It also obliges the author to use precise language, to limit the scope of the subject, and to distinguish between personal opinions, explanations and contradictory statements, between fact and hypothesis, etc. (Dufay, 2005, p. 100). Some differences in logical reasoning appear in the translations analyzed.

Increase in Logical Reasoning

English to French

However, there is a risk that pilots will be unprepared to avoid or mitigate abnormal situations in flight if CRM training is not provided, as called for in a TSB recommendation **A09-02**. 12 February 2016	Dans sa recommandation **A09-02**, le BST a demandé que les pilotes reçoivent une formation CRM, car les pilotes qui ne la suivent pas risquent de ne pas savoir comment éviter ou atténuer les situations anormales durant un vol.

In this example, the French contains a clearer, more linear cause and effect relationship. Specifically, it is made clear that the recommendation has a requirement, and that if that requirement is not met, then there will be a risk. In English, the elements of the phrase seem to go from effect to cause. The English also uses the passive voice in a few instances: …*as called for in a TSB recommendation A09-02* and …*if CRM training is not provided*…; whereas the French uses the active voice and introduces an agent: *Dans sa recommendation A09-02*, *le BST a demandé que*… and …*que les pilotes reçoivent une formation CRM*.

Decrease in Logical Reasoning

After crossing the runway threshold, the intensity of the rain suddenly increased, causing the pilot flying to have very few visual references. 28 March 2017	Après que l'aéronef eut franchi le seuil de piste, l'intensité de la pluie a augmenté soudainement, et le pilote aux commandes a perdu la plupart de ses repères visuels.

The use of the coordinating conjunction in French removes the emphasis of cause and effect which is present in the English.

Explicitation

Klaudy (2009) defines explicitation as a wide process of techniques including lexical specification, lexical division (division of the meaning of verbs), lexical addition, grammatical specification (the use of specific grammatical categories), and grammatical addition (e.g. the addition of missing subjects or articles) (p. 288). In the translations analyzed, lexical specification, explicitation by adding words and pragmatic explicitation occur on a number of occasions. It should be recalled that the analysis takes into account only instances in which the translator most likely had a choice in resorting to such techniques, and that such choices were not made to comply with language-specific grammatical rules. For example, grammatical additions are not considered since such operations are required by morpho-syntactic differences between languages and are therefore obligatory in most cases (Klaudy, 2009, p. 292-293).

Lexical Specification

Explicitation can take place when a SL unit with a more general meaning is replaced by a TL unit which has a more specific meaning (Klaudy and Károly, 2003, n.p.). In this paper, this operation is referred to as lexical specification. According to Byrne (2012), more specific words are sometimes necessary for readers to fully understand the text and to carry out some action.

Hyponyms are especially useful if the equivalent generic terms in the target language are too broad, may introduce too much ambiguity or have connotations which are undesirable in the target text (p. 127). Ambiguity can arise from "ordinary," non-specialized words for a number of reasons, for example if a word has more than one meaning in a particular context or if pronoun references are unclear (Byrne, 2006, p. 87). Since this study considers subjective translation choices only, attention is given to cases where the target language contains both words with a narrower semantic scope than those in the source text and words with the same semantic scope, and where the translator opts for the former. In her discussion of technical translation, Fontanet (2006, p. 314) points out that differences in semantic fields between languages is a common challenge for translators.

In the press releases, lexical specification sometimes consists of general vocabulary in the source text being translated as specialized terminology in the target text. Although Byrne (2006, p. 85) recognizes the importance of specialized terminology in communicating accurately, he also says that misusing it can impede readers' understanding. At first sight, there seems to be a conflict in evaluating these operations: while lexical specification is considered to help avoid ambiguity and thus provide better communicative clues to readers, the use of specialized terminology can impede comprehension. It is therefore important to recognize that although specialized terminology enhances *accuracy*, greater accuracy does not necessarily enable or facilitate comprehension. Thus, a clear distinction must be drawn between specialized terminology, which enhances accuracy but hinders comprehension (if not properly defined); and lexical specification which facilitates comprehension. It is possible that the press releases are aimed at ensuring the highest possible level of both accuracy and transparency, given that their function is to disseminate information which is both factual and understandable.

It is also worth noting the distinction between lexical specification and what is referred to in this paper as lexical explicitation: lexical specification occurs when the target text refers to a concept which has a smaller scope of meaning, and lexical explicitation occurs when the target text refers to the same concept and scope of meaning, but using more words (e.g. redundant words). Below are some examples of lexical specification in the target text.

English to French

We have requested the aircraft's maintenance history. 27 February 2017	Nous avons demandé les dossiers d'entretien de l'aéronef.

In French, the more general expressions *historique d'entretien* and *antécédents d'entretien* also exist (www.tsb.gc.ca).

French to English

Le pilote automatique commande alors une augmentation de l'assiette de l'avion pour maintenir l'altitude malgré cette perte de vitesse. 2 April 2015	The autopilot then commanded an increase in the aeroplane's pitch attitude in order to maintain the altitude in spite of this loss of speed.

The French term *assiette* refers to the relationship between the aircraft's longitudinal axis (fuselage) and lateral axis (wings) and the earth's surface or another plane (the English equivalent being *attitude).* The English term *pitch attitude* refers specifically to the relationship between the aircraft's longitudinal axis and a chosen reference line or other plan as seen from the side (the French equivalent being *assiette longitudinale*, for example) (*Civil Aviation Terminology System*, www.btb.termiumplus.gc.ca; http://iate.europa.eu).

Puis l'avion part en virage à gauche et perd rapidement de l'altitude, avec des	The aeroplane then turned left and quickly lost altitude, with large changes in pitch and bank.

changements d'inclinaison et d'assiette très importants. 5 August 2014	 7 August 2014

Similar to the previous example, neither *inclinaison* or *assiette* specify the type of angle – either can refer to the plane's longitudinal or lateral axis (the terms *inclinaison longitudinale, inclinaison laterale, assiette longitudinale,* and *assiette laterale* also exist, for instance). In English, the term *bank* refers specifically to the lateral inward inclination of an airplane when it rounds a curve (www.btb.termiumplus.gc.ca; http://iate.europa.eu).

Les pièces de l'épave ont pu être repérées, notamment la partie arrière qui contenait l'enregistreur. 31 August 2007	The positions of parts of the wreckage have been identified, in particular the rear section of the airplane that contained the cockpit voice recorder (CVR).

In the French, the preceding context does not specify which recorder is being referred to.

Overuse of Lexical Specification

Lexical specification can also impede comprehension if it is overused. According to Byrne (2012, p. 146), the overuse of explicitation occurs when readers are confused with too many unnecessary details. In the case of lexical specification in particular, this may arise when more generic familiar terms are rendered as specialized terms, for instance.

English to French

Lightweight flight recording systems In 2013, following its investigation into the March 2011 loss of control/in-flight break-up occurrence, northeast of Mayo, Yukon (TSB Aviation Investigation Report A11W0048), the TSB found that if cockpit or data recordings are not available to an investigation, the identification and communication of safety deficiencies to advance transportation safety may be precluded. 13 July 2016	Systèmes d'enregistrement des données de vol légers En 2013, après son enquête sur un incident de perte de maîtrise et de désintégration en vol survenu au nord-est de Mayo (Yukon) en mars 2011 (rapport d'enquête aéronautique A11W0048 du BST), le BST a constaté que, dans le cadre d'une enquête, l'absence d'enregistrement des conversations dans le poste de pilotage ou d'enregistrement des données de vol peut empêcher la détermination et la communication de lacunes de sécurité servant à l'amélioration de la sécurité des transports.

In the English title, the term used by the author includes both cockpit and data recording systems. By specifying and referring only to data recording systems (*Systèmes d'enregistrement des données de vol*) in the French, the translator misleads the readers regarding what is to follow since the paragraph relates to both cockpit and data recorders.

Phrases to Clauses

Translators can also explicitate by extending or "elevating" source text phrases to clauses in the target text (Klaudy and Károly 2003, n.p.). Below is an example from the French to English translations.

Le pilote automatique passe alors en mode de maintien d'altitude et l'auto-manette en mode de maintien de vitesse (Mach). 2 April 2015	The autopilot then switched to the mode that maintains the altitude and the autothrottle to the mode that maintains the speed (Mach).

Lexical Explicitation

Another explicitation technique is to express the same concept or meaning in the source text by using more words in the target text. In this paper, this is referred to as lexical explicitation. Lexical explicitation also includes the translation of source text pronouns as nouns (i.e. repeating the referent) and the rearrangement of sentence parts to make their relationship clearer. Finally, lexical explicitation also occurs when the target text introduces an agent which is implicit in the source text. Since this is often achieved by using the active voice instead of the passive voice (which is used in the source text), such instances of lexical explicitation can also be viewed as solutions to structural-related problems: the translator employs them to avoid passive constructions.

English to French

• Gathered airborne radar, ground radar and audio data from Air Traffic Control. 25 February 2017	• recueilli des données du radar embarqué, du radar de surveillance au sol, et des données audio du contrôle de la circulation aérienne;

French also has the equivalent and relatively obscure terms *radar sol* and *radar terrestre* (www.btb.termiumplus.gc.ca; *Civil Aviation Terminology System*).

Following the release of its investigation report (A15F0165) today, the Transportation Safety Board of Canada is reminding aircraft passengers to comply with flight and cabin crew instructions and to wear their seat belts after 21 people were injured during a turbulence event encountered by Air Canada flight ACA088 in December 2015. 20 February 2017	Le Bureau de la sécurité des transports du Canada (BST) a publié aujourd'hui son rapport d'enquête (A15F0165) sur le vol Air Canada ACA088 à bord duquel 21 personnes ont été blessées en raison de fortes turbulences en décembre 2015. De ce fait, le BST rappelle aux passagers de respecter les consignes de l'équipage de conduite et du personnel de cabine et de boucler leur ceinture de sécurité.

Here, the French translator explicitates the topic of the investigation report by placing the topic description as a complement of *son rapport d'enquête (A15F0165)*. In the English, the link is not as explicit.

Both pilots were conducting visual flight rules (VFR) flights and relying primarily on the see-and-avoid principle to avoid collisions with other aircraft operating under VFR. 20 October 2016	Les deux pilotes effectuaient un vol selon les règles de vol à vue (VFR), se fondant essentiellement sur le principe voir et éviter pour éviter les collisions avec d'autres aéronefs volant en mode VFR.

In French, the more opaque expression *en VFR* has also been found to occur (www.tsb.gc.ca).

On 17 March 2015, a privately registered Piper PA-32RT-300T, with the pilot and two passengers on board, departed Sudbury, Ontario, on an instrument flight rules flight to Winston Salem, North Carolina. 3 October 2016	Le 17 mars 2015, un Piper PA-32RT-300T privé avec à son bord le pilote et deux passagers a quitté Sudbury (Ontario) pour effectuer un vol selon les règles de vol aux instruments à destination de Winston Salem (Caroline du Nord).

Official terms in French for this type of flight are *vol de règles de vol aux instruments* or *vol IFR* (www.btb.termiumplus.gc.ca). By using the word *selon*, the translator makes the relationship between *vol* and *règles de vol aux instruments* more explicit.

During the flight, the pilot did not monitor the fuel gauges and, when returning to the airport, decided to extend the flight to practise a simulated instrument landing approach, without noticing there was insufficient fuel to complete it. 17 August 2016	Pendant le vol, le pilote n'a pas surveillé les jauges de carburant et, alors qu'il revenait se poser à l'aéroport, le pilote a décidé de prolonger le vol pour pratiquer une approche simulée à l'aide du système d'atterrissage aux instruments sans se rendre compte qu'il n'y avait pas suffisamment de carburant à bord pour compléter l'approche.

This segment pair contains five instances of lexical explicitation. Especially interesting is the use of *à l'aide du* to link *approche simulée* and *système d'atterrissage aux instruments,* which explicitates the connection between the two sentence parts. In fact, the more implicit expression *approche au système d'atterrissage aux instruments* is also found to occur in French (www.tsb.gc.ca). Furthermore, the expressions *approche aux instruments* and *approche ILS* are also acceptable in French (www.tsb.gc.ca). The use of the more "complete" term *système d'atterrissage aux instruments* is therefore another instance of explicitation.

The Transportation Safety Board of Canada (TSB) today released its investigation report (A14P0132) into the accident in August 2014 in which an Air Tractor AT 802A Fire Boss Amphibian stalled on takeoff and crashed into Chantslar Lake, British Columbia. 14 July 2016	Le Bureau de la sécurité des transports du Canada (BST) a publié aujourd'hui son rapport d'enquête (A14P0132) sur l'accident d'un Air Tractor AT 802A Fire Boss avec flotteurs amphibies, qui a décroché durant le décollage avant de percuter Chantslar Lake (Colombie-Britannique), en août 2014.

Whereas the English describes the aircraft type using only *Amphibian* (which, for non-experts, does not mean much), the French translator explicitates by stating *avec flotteurs amphibies.* Essentially, the French indicates that it is a plane with floats which can therefore have contact with water. Alternatively, the translator could have opted for *avion amphibie* or simply *amphibie* (www.btb.termiumplus.gc.ca).

On 14 August 2014, the Air Tractor, operating as Tanker 685, was carrying out wildfire management operations during daylight near Chantslar Lake. 14 July 2016	Le 14 août 2014, l'Air Tractor, exploité sous l'indicatif Tanker 685, effectuait de jour des opérations de gestion de feux de végétation près de Chantslar Lake.

The particular concept of *indicatif* – referred to as *identification* (www.btb.termiumplus.gc.ca) or *aircraft call sign* (*Glossary for Pilots and Air Traffic Services Personnel*) in English – is implicit in the source text and rendered explicit in the translation.

The floats then struck the water and separated from the fuselage as the aircraft yawed 270 degrees to the right. 14 July 2016	Les flotteurs ont ensuite percuté la surface de l'eau et se sont séparés du fuselage, et l'aéronef a effectué un mouvement de lacet vers la droite sur 270 degrés.

A French equivalent of the English verb *yaw* is *engager en lacet* (www.btb.termiumplus.gc.ca). By inserting *mouvement*, the translator attempts to make it even clearer that *lacet* refers to a movement of the aircraft.

A site survey was completed and the wreckage was transported to the TSB Engineering Laboratory (Lab) in Ottawa. 13 July 2016	Après un examen du site, l'épave a été transportée au Laboratoire technique du BST à Ottawa.
Should the investigation team uncover a safety deficiency that represents an immediate risk to aviation, the Board will communicate immediately so that it may be addressed quickly and the aviation system made safer. 13 July 2016	Au cas où l'équipe d'enquêteurs découvrirait une lacune de sécurité qui présente un risque immédiat à l'aviation, le Bureau communiquera celle-ci immédiatement pour que l'on y remédie promptement afin de rendre le réseau aérien plus sûr.

In the examples above, the insertion of the chronological link *Après* and the logical link *afin de* illustrate the stylistic preference of French to establish clear logical transitions between sentence parts, which is not so much the case in English (Jemielity, 2015, p. 4).

Shortly before the accident, the pilot entered a shallow descent, possibly in an effort to	Peu avant l'accident, le pilote a amorcé une descente contrôlée à faible pente, peut-être

maintain visual flight in deteriorating weather, and as a result, the aircraft struck a heavily treed area. 15 March 2016	dans le but de continuer en vol à vue étant donné que les conditions météorologiques se détérioraient.

Although the insertion of *controlée* in French appears to be an addition of new information entirely, the fact that the manoeuver was controlled is implicit from the English context, specifically from the phrase *the pilot entered*.

Following this occurrence, ExpressJet Airlines improved dispatcher use of flight-following software, and developed policy and procedures related to adverse weather phenomena. July 6, 2016	Après cet événement, ExpressJet Airlines a amélioré l'utilisation que fait le régulateur des vols du logiciel de suivi des vols, et a établi une politique et des procédures sur les phénomènes liés au mauvais temps.

To translate *dispatcher*, the translator could have opted for the French equivalent *régulateur* (www.btb.termiumplus.gc.ca; *Civil Aviation Terminology System*).

French to English

A la suite de la publication du rapport d'étape le 20 septembre 2014 à Bamako (Mali), les travaux d'enquête se sont poursuivis à partir de l'analyse des paramètres du vol de l'accident.	Following the publication of the Interim Report on 20 September 2014 in Bamako (Mali), investigative work has continued, based on the analysis of the accident flight parameters.

2 April 2015	

In all the English source texts published by the TSB, the term *accident flight* is used on only one occasion. On all the other occasions, the flight which has undergone the accident concerned is simply referred to as *the flight.* Thus, the English translation is a departure from the conventional, implicit expression used in the original English publications.

Aucune indication sur un éventuel problème n'avait été donnée à l'organisme du contrôle aérien, quand il a cessé de répondre aux appels de celui-ci et s'est d'abord mis en montée puis en descente jusqu'à son impact avec la mer. A ce stade de l'enquête, rien ne permet encore d'expliquer l'accident. 3 December 2008	The crew gave no indications of any possible problems to the Air Traffic Control organisation, when they stopped answering calls from ATC. At this stage of the investigation, none of the information gathered explains why the airplane then deviated from its flight path and crashed into the sea.

This segment pair has four instances of explicitation in English. Particularly interesting is the translation of the passive construction *n'avait été donnée* as *The crew gave,* which is an example of explicitation also involving a switch to the active voice. Furthermore, the English expression *crashed into the sea* also gives a more precise depiction of the event compared to the French *impact avec la mer,* which essentially only means that the aircraft made contact with the sea.

L'accident s'est produit après le décollage, au moment de la rentrée des volets. Le pilote a perdu le contrôle de l'avion qui s'est mis en piqué et a percuté la surface de l'eau. 4 December 2008	The accident occurred after takeoff, at the time of flap retraction. The pilot lost control of the airplane, which dived down and struck the surface of the water.

The expression *surface of the water* is more explicit than what appears to be the standard expression in English. In the English source texts published by the TSB, aircraft are in every instance described to impact *water,* and on no occasion the *surface of the water.* Although the English rendering is uncommon and rather artificial, it still suggests an attempt by the translator to provide more communicative clues to readers.

• les règles de remplacement des câbles en acier inoxydable sur une base calendaire, sans prise en compte de l'activité de l'avion au regard de ce type d'exploitation. 4 December 2008	• The rules for replacement of stainless steel cables on a calendar basis, without taking into account the activity of the airplane in relation to its type of operation.

In French, the preceding context does not refer to any precise operation. The English translator, by adding a possessive pronoun, is perhaps attempting to explicitate that the operation concerned is one which carried out by the aircraft.

Overuse of Lexical Explicitation

Lexical explicitation can also confuse readers if too many unnecessary details are included (Byrne, 2012, p. 146). Below are some examples.

English to French

At the same time, a privately operated Cessna 185 on amphibious floats was descending through the practice area on its way to the Fort McMurray airport. 20 October 2016	Au même moment, un aéronef Cessna 185 sous immatriculation privée muni de flotteurs amphibies effectuait sa descente dans la zone d'exercice en direction de l'aéroport de Fort McMurray.

The French translation provides more details to readers than the original and does not necessarily help them understand the overall message.

These include flying along published VFR routes, actively providing and listening for traffic advisories on the radio, and using aircraft collision avoidance systems to detect aircraft flying nearby. 20 October 2016	[…] notamment emprunter des itinéraires de vol VFR publiés, fournir des avis de circulation et écouter activement les avis diffusés par radio, et utiliser les systèmes anticollision pour détecter les aéronefs à proximité.

Here, the French explicitates the object of both *fournir* and *écouter*. Again, this makes the sentence longer and harder to process without having a "clearer" picture than in the English. On the contrary, with *des avis de circulation* after the first verb and *les avis diffusés par radio* after the second verb, readers may even be confused as to whether they refer to the same thing.

French to English

Le 27 novembre 2008, à 16 h 46, heure locale, un Airbus A 320, immatriculé D-AXLA (Allemagne), s'est abîmé en mer au cours de son approche sur l'aérodrome de Perpignan, dont il avait décollé environ une heure plus tôt pour un vol circulaire. 27 November 2008	On 27 November 2008, at 16 h 46 local time, an Airbus A 320 registered D-AXLA (Germany), crashed into the sea during its approach to Perpignan airport, from where it had taken off an hour earlier on a Perpignan to Perpignan flight.

The English rendering could be initially confusing since in common usage, this type of wording usually describes two different locations (location of departure and arrival). On the other hand, the French expression gives a better visual representation of the plane's intended path.

Addition of Cohesive Markers

The addition of cohesive markers is another explicitation technique which improves the flow of the text and helps show the logical connections between units. Cohesive elements should be used with caution, however, as they may produce ambiguous relationships. This includes using coordinating conjunctions such as *and* when what is meant to be expressed is a subordinate relationship (White, 1996, p.190).

English to French

On the MU-2 instrument-approach profile, the standard speed prior to the initial approach fix is 150 knots, slowing to a final approach speed of 125 knots past the final approach fix.	D'après le profil d'approche aux instruments du MU-2, la vitesse standard avant le repère d'approche initiale est de 150 nœuds, avant de ralentir à la vitesse d'approche finale de 125 nœuds, au-delà du repère d'approche finale.

13 July 2016	

This translation may also be explained by the stylistic preference of French to explicitate logical connections between sentence parts.

Addition

Another technique to provide more communicative clues to readers is to add to the target text information which is not present in the source text. Adding information may be necessary, for instance, to disambiguate concepts or to provide additional information to target readers who may not share the same background knowledge as source text readers (Pinchuck, 1977, p. 66). In his discussion of technical translation and usability, Byrne (2006, p. 18) cites Göpferich (1993, p. 52), who suggests that sometimes it is necessary to add information to the text so that readers could use it as effectively as possible. He also refers to Pinchuck (1977, pp. 206-207; 210-201), who says that texts should not contain more or less information than necessary, as both scenarios could lead to confusion or unnecessary effort on the part of the reader.

It should be noted that addition refers to cases where a concept which is neither implicit or explicit in the source text is added to the target text. This is distinguished from explicitation: although explicitation does involve adding meaningful lexical units, it consists of explicitating information which is implicit in the source text. The following is an example of explicitation and not addition:

Additionally, as a result of incomplete weight and balance calculations, the aircraft was found to be 342 pounds above its certified maximum weight for flight into known icing conditions, and the aircraft's centre of gravity was also not within limits.	En outre, en raison de calculs de masse et de centrage incomplets, l'aéronef pesait 342 livres de plus que la masse maximale certifiée au décollage pour un vol dans des conditions givrantes connues, et le centre de gravité de l'aéronef ne se trouvait pas à l'intérieur des limites.

24 March 2016	

Although the French translator added the meaningful unit *au décollage,* the translator is not adding new information since both the source text and target text expressions are referring to the exact same concept. The only difference is that the concept is conveyed more explicitly in the French than in the English.

Below is an example of addition:

Additionally, the investigation found that Transport Canada's (TC) surveillance activities of Atlantic Charters had not identified the discrepancies in the company's operating practices related to continuing airworthiness. 12 February 2016	L'enquête a également permis de déterminer que les activités de surveillance de Transport Canada (TC) n'avaient pas permis de constater les écarts dans les pratiques d'exploitation de la compagnie liées à la masse et au centrage, et au maintien de la navigabilité.

Here, the French translator adds a concept which is not present in the source text.

Concision: Always a Good Thing?

Previously, this paper explored the view that technical texts must contain concise language in order to be efficient (Fontanet, 2006, p. 311; 2013, n.p.). Technical translators often abide by this rule and tend to look out for and remove excessive verbiage (Sykes, 1971, p. 6). Some researchers have pointed out that excessively concise language also has its dangers, however, since it can cause the text to become incomprehensible or ambiguous (Byrne, 2006, p. 83). This is echoed by Ramey (1989, p. 388), who suggests that overly condensed sentences can have Escher effects: they can end up having multiple meanings and may force readers to closely study the text in order to ascertain which meaning is the intended one. Thus, by attempting to

make translations as concise and simple as possible (e.g. by removing words or omitting information), translators also run the risk of producing an obscure text.

Implicitation

According to Klaudy (2009), implicitation techniques include lexical generalization, lexical contraction, lexical omission, grammatical generalization, and grammatical omission (p. 288). When translators implicitate, fewer communicative clues are provided in the target text than in the source text. Implicitation is therefore an operation which may reduce readers' comprehension of texts.

Lexical Generalization

Implicitation can take place when a SL unit with a more specific meaning is replaced by a TL unit which has a more general meaning (Klaudy and Károly, 2003, n.p.). In this paper, this operation is referred to as lexical generalization. According to Byrne (2012), this technique may be necessary if non-specialist target readers are presumably unfamiliar with more specific words. However, if specific concepts in the source text are essential for comprehension and cannot reasonably be inferred from the translation's context, using more generic words or hypernyms in the target text can prevent readers from fully understanding the message or from carrying out a particular task (p. 127). Even if specific meanings are indeed inferable (i.e. implicit) in the translation's context, the translation, since it is providing less communicative clues, is less efficient in conveying the message and may require more effort among readers to understand the content, compared to if the meaning were left explicit.

Lexical generalization is different from lexical implicitation, which occurs when the target text refers to the same concept and scope of meaning as that referred to in the source text, but by using fewer words and other devices to render the meaning implicit. Lexical implicitation will be discussed later in more detail.

English to French

As part of its investigation (A05H0002) into the 2005 Air France runway overrun in Toronto, the TSB issued a recommendation (A07-01) calling on Transport Canada (TC) to establish clear standards for limiting approaches and landings in convective weather. 28 March 2017	Dans son enquête (A05H0002) sur la sortie en bout de piste d'un aéronef d'Air France à Toronto en 2005, le BST avait émis une recommandation (A07-01) qui demandait à Transports Canada (TC) d'établir des normes précises pour limiter les approches et les atterrissages dans des activités convectives.

The expression *temps convectif* also occurs in French (www.tsb.gc.ca).

Air Canada also developed new guidance for its flight crews regarding approach and visibility requirements. 28 March 2017	Air Canada a également établi de nouvelles lignes directrices pour ses équipages de conduite sur les conditions d'approche et de visibilité.

Although one of the meanings of the French *conditions* is generally the same as *requirements*, the French press releases often use terms such as *conditions météorologiques*, *conditions de vol,* and so on, which refer to the natural circumstances of the situation. Consequently, the use of *conditions* for *requirements* may cause ambiguity.

• send selected components to the TSB Engineering Laboratory in Ottawa, Ontario, for further analysis; 27 February 2017	• Envoyer des morceaux de l'épave au laboratoire du BST à Ottawa (Ontario) aux fins d'analyses plus poussées

The French term for this facility, as used by the agency, is *Laboratoire technique* (www.tsb.gc.ca).

Transport Canada (TC) has recently developed CRM training standards for these operators and plans to publish them in 2016. 20 January 2016	Transports Canada (TC) a récemment rédigé des normes de formation en CRM pour les exploitants, et prévoit les publier en 2016.

In both the source and target texts, the preceding sentence refers to a certain category of operators. Whereas the English makes a specific reference to them, the French, by using *les,* does not make such a specific reference.

Lexical Generalization Which Facilitates Comprehension

Lexical generalization can also make the text more accessible if formal or technical words in the source text are replaced by more informal, commonplace words in the target text.

English to French

After departure, the aircraft deviated north of its intended track into Canadian airspace to avoid a line of thunderstorms, and climbed to	Après le départ, l'aéronef s'est dérouté au nord de sa trajectoire prévue dans l'espace aérien canadien pour éviter une ligne d'orages

its cruising altitude with the intention of navigating its way through them. 6 July 2016	et a monté à son altitude de croisière dans le but de passer entre ces orages.
There were two pilots, a paramedic and a nurse on board. While attempting to land a second time on Runway 24, the aircraft contacted a road approximately 1500 feet from the runway, continued through 100 feet of brush, became briefly airborne and struck the ground approximately 1000 feet from the runway threshold. 12 February 2016	Durant une deuxième tentative d'atterrissage sur la piste 24, l'aéronef a heurté une route à environ 1500 pieds de la piste d'atterrissage, a poursuivi sa course à travers 100 pieds de broussailles, a rebondi brièvement, puis a heurté le relief à environ 1000 pieds du seuil de la piste.

In these cases, although the message in the translation is not as precise as in the original, it is more understandable than the original. As mentioned earlier, it is important to differentiate between the precision and comprehensibility of a text. If a text is more precise or accurate, it is not necessarily more understandable. The most obvious example of this is when a technical word is translated as a non-technical word. In the examples above, the translator makes the target texts more understandable by rendering the words *navigating* and *airborne* as more general, familiar expressions.

French to English

La mission, conduite sous la coordination du Haut-commissaire de la République en Polynésie française, s'est déroulée en concertation permanente avec l'autorité judiciaire et en présence d'Officiers de Police	The mission, conducted with coordination from the French Republic's High Commissioner in Polynesia, has been undertaken in close collaboration with the judicial authorities and in the presence of

Judiciaire (OPJ) de la Gendarmerie des Transports Aériens. 6 September 2007	senior police officers from the Air Transport Gendarmerie.
Ils seront en place sous une dizaine de jours et seront mis en oeuvre sous l'autorité du BEA et le contrôle de représentants de la Justice. 17 August 2007	It will be put in place within about ten days under the authority of the BEA and under the control of representatives of the judicial authorities.

Here, the translations refer to generic as opposed to specific bodies. The translations are more transparent for two reasons: 1) they describe the nature of the officials (senior in the first case and judicial in the second case); and 2) like when specialized terms are used, lay readers who are outside this particular domain and unfamiliar with these entities may not know what the proper names refer to. Using familiar concepts avoids making readers feel like outsiders.

Clauses to Phrases

Implicitation can also take place if clauses in the source text are reduced to phrases in the target text (Klaudy and Károly, 2003, n.p.).

English to French

A fly-by at the airport provided visual confirmation that the landing gear was not fully extended. 14 January 2016	Un survol à l'aéroport a permis de confirmer visuellement la sortie partielle du train.

In this example, the English subordinate clause is translated as a noun phrase.

Lexical Implicitation

Lexical implicitation occurs when concepts in the source text are translated using fewer words in the target text. In these cases, translators draw together the meaning of several words used in the source text and convey that same meaning using fewer words in the translation (Klaudy and Károly 2003, n.p.). Lexical implicitation also includes the use of less descriptive words and the translation of nouns as pronouns.

English to French

In addition, during the final approach, weather conditions had changed rapidly to those requiring runway lighting. 28 March 2017	De plus, durant l'approche finale, les conditions météorologiques avaient changé rapidement et à un point tel que le balisage de piste était devenu essentiel.

Alternatively, the translator could have used the equally explicit term *balisage lumineux de piste* (www.btb.termiumplus.gc.ca).

A Tecnam P2006T twin-engine aircraft, operated by Mount Royal University, departed Calgary/Springbank Airport, AB (CYBW) at 1635 (Mountain Standard Time), during daylight hours. 27 February 2017	Un aéronef bimoteur Tecnam P2006T exploité par Mount Royal University a décollé de CYBW à 16 h 35 (heure normale des Rocheuses), durant les heures de clarté.

In the target text, the full name of the airport is not mentioned previously. This is also an instance whereby the translator uses only an abbreviation instead of the full term.

Fuel exhaustion led to forced landing in a field near the St-Mathieu-de-Beloeil Airport, Quebec, in June 2013 17 August 2016	Une panne sèche a mené à un atterrissage forcé dans un champ près de l'aéroport de St-Mathieu-de-Belœil (Québec) en juin 2013

French equivalents for *fuel exhaustion* also include the more descriptive synonyms *panne de carburant* and *épuisement de carburant* (www.btb.termiumplus.gc.ca, www.tsb.gc.ca), which explicitate the notion of fuel. Here, the translator opted for a relatively implicit rendering.

It was in a group of three similar aircraft working in formation, and was second in line for the touch-and-go runs to scoop water from the lake. 14 July 2016	Il faisait partie d'un groupe de trois aéronefs semblables qui travaillaient en formation, et il était le deuxième en ligne pour effectuer des posés-décollés et écoper l'eau du lac.

In this case, the translator uses the equivalent of the relatively implicit English term *touch-and-gos* (*Glossary for Pilots and Air Traffic Services Personnel*). Whereas the source text author uses a more explicit expression, the French translator uses the standard implicit expression.

In its investigation report (A14Q0068) released today, the Transportation Safety Board of Canada (TSB) found that the failure of an engine oil feed tube seal led to the turbine rotor failure, and a	Dans son rapport d'enquête (A14Q0068) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a découvert que la défaillance d'un joint du tube de lubrification du moteur a provoqué la

subsequent fire, during Bombardier engine ground tests at the Montréal International (Mirabel) Airport, Quebec. July 5, 2016	panne de rotor de turbine et, subséquemment, un incendie, au cours d'essais au sol des moteurs par Bombardier à l'aéroport international de Montréal – Mirabel (Québec).

In the target text, the term *joint* does not demonstrate that the object is a seal. A more explicit and precise term is *joint d'étanchéité,* for example (www.btb.termiumplus.gc.ca).

French to English

Le 8 juin 2014, l'avion MD-83 immatriculé EC-JUG de la compagnie Swiftair qui effectuait un vol de transport de passagers au niveau de vol FL 330, a subi une diminution de la vitesse alors qu'il évoluait de jour au-dessus de la couche nuageuse et que l'auto-manette était engagée. L'équipage a détecté le problème, mis l'avion en descente et activé les systèmes de protection contre le givrage des moteurs avant d'atteindre la situation de décrochage, puis a poursuivi son vol. 2 April 2015	On 8 June 2014, the MD83 registered EC-JUG belonging to Swiftair, which was performing a passenger transport flight at flight level FL 330, suffered a drop in speed while it was flying during the daytime above the cloud layer. The crew detected the problem, put the aeroplane into a descent and activated the engine anti-ice systems without reaching a stall situation, then continued the flight.

In the last instance, the English connector *without* does not express the chronological and causal relationship between the sentence parts, which is explicit in the French.

Cette équipe, dirigée par le directeur de l'enquête, Alain Bouillard, assisté de trois enquêteurs du BEA, sera composée : 19 April 2011	This team, directed by Investigator-in-Charge Alain Bouillard, assisted by three BEA Safety Investigators, will be made up of:

In French, the referent of *assisté* is clear since the gender is marked, whereas in English, the referent could be either *The team* or *Alain Bouillard.* It could be argued that is an example of obligatory grammatical generalization, since English does not have a grammatical category for gender. Nevertheless, the translator could have found another solution to explicitate the referent of *assisted*, for example by rewording or including a relative pronoun.

Lexical Implicitation Which Facilitates Comprehension

Lexical implicitation can also render the message clearer in the target text. This could be achieved if redundant words in the source text are omitted or if long or unclear phrases are translated using more concise phrases, for instance. According to Malavoy (1999, p. 23), using shorter sentences could facilitate comprehension since long sentences are sometimes difficult to read and understand.

English to French

While on approach to Runway 30, in conditions of twilight and reduced visibility due to blowing snow, the aircraft touched down approximately 450 feet prior to the runway threshold. 9 March 2017	Alors que l'aéronef approchait de la piste 30, au crépuscule et dans des conditions de visibilité réduite en raison de la poudrerie, il s'est posé environ 450 pieds avant le seuil de piste.

The word-for-word translation of *conditions of twilight* would be clunky and redundant in French. The translator therefore made a good decision to implicitate.

These include flying along published VFR routes, actively providing and listening for traffic advisories on the radio, and using aircraft collision avoidance systems to detect aircraft flying nearby. 20 October 2016	[…] notamment emprunter des itinéraires de vol VFR publiés, fournir des avis de circulation et écouter activement les avis diffusés par radio, et utiliser les systèmes anticollision pour détecter les aéronefs à proximité.

The English and French expressions are both official terms for these systems. While French also has the synonyms *système de prevention des collisions* and *système d'évitement de collision* (www.btb.termiumplus.gc.ca), the translator opted for a more clear and concise term which does not deprive the reader of any information required for comprehension.

Removal of Cohesive Markers

Removing cohesive markers may obscure the logical connection between phrases and other units in the text. Below is an example from an English to French translation:

As a result, recovery time and altitude loss were increased. 6 July 2016	La perte d'altitude et le temps de rétablissement s'en sont trouvés accrus.

This example is particularly interesting since the English cohesive marker emphasizes a cause and effect relationship. In French, such emphasis is lost.

Omission

Omission is the removal in the target text of information which is present (either explicitly or implicitly) in the source text. Translators could use this technique if they want to exclude source text information with cultural, social or historical connotations which are considered as irrelevant or insignificant for target text readers, for example (Klaudy, 2009, p. 293). Byrne (2006, p. 18) cites Göpferich (1993, p. 52), who suggests that information should sometimes be omitted or condensed if it might be less important for the target audience, less relevant to their situation, or because it may lead to confusion. In technical texts in particular, information could be removed if it is legally inappropriate for the target audience or if it does not apply to the audience for technical reasons (Byrne, 2006, p. 21). In all other situations, however, omission is likely to make the message less transparent given that it involves providing less information on the concept or idea being described. Thus, this operation is considered here to impede readers' comprehension of texts.

It is important to note that omission occurs when information in the source text is removed in such a way that it is neither explicit or implicit in the target text. In cases of implicitation, on the other hand, the information from the source text is maintained in an implicit form in the target text. Below is an example of omission in an English to French translation:

On 3 October 2014, the Bombardier DHC-8-400, operating as Sky Regional Airlines flight 7519, departed Montréal/Pierre Elliott Trudeau International Airport, Quebec, for a regularly scheduled flight to Billy Bishop Toronto City Airport, Ontario. 10 January 2017	Le 3 octobre 2014, le Bombardier DHC-8-400, qui effectuait le vol Sky Regional Airlines 7519, a quitté l'Aéroport international Pierre-Elliott-Trudeau de Montréal (Québec) à destination de l'aéroport Billy Bishop de Toronto (Ontario).

Although it is arguable whether the translation prevents readers from understanding the overall message, this change nevertheless consists of the removal of a communicative clue.

Other Observations

The press releases reveal a number of other translation choices which may influence the clarity and accessibility of the texts. These include the use of untranslated proper names, substantial additions and omissions, and the specific use of certain specialized terms. Such choices have not been factored into the final calculation of instances since they are most likely due to other constraints such as the writing guidelines of the agencies or legal requirements. Nevertheless, a few examples will be looked at.

Use of Untranslated Proper Names

English to French

In October 2005, the FAA began a safety evaluation of the MU-2's accident history. As a result, in 2008, it issued a **Special Federal Air Regulation** (SFAR 108) that requires MU-2 pilots to complete a standardized training program and to use a standardized checklist. 13 July 2016	En octobre 2005, la FAA a lancé une évaluation de la sécurité portant sur l'historique des accidents du MU-2. Par conséquent, en 2008, l'organisme a émis une **Special Federal Air Regulation** (SFAR 108) selon laquelle les pilotes de MU-2 doivent suivre un programme de formation normalisée et utiliser un aide-mémoire normalisé.

French to English

Communiqué du BEA et de la **commission d'Enquêtes Accidents et Incidents de l'Aviation Civile (Mali)**	Press release from the BEA and the **Commission d'Enquêtes Accidents et Incidents de l'Aviation civile (Mali)**

2 April 2015	
Le BEA a rencontré, à leur demande, des représentants de l'association **« Entraide et Solidarité AF 447 »** ce matin pour faire un point de la situation sur les recherches en mer. 4 May 2010	This morning, the BEA met with the representatives of the **« Entraide et Solidarité AF 447 »** association, at their request, to give an update on the sea searches.

By keeping some of the source language, the translator makes both the precise concept and overall message more difficult to understand. These choices probably reflect the writing and/or translation guidelines of the agencies, since proper names are left in the source language on several occasions. With regard to the French to English translations, however, there are also some instances whereby entity names are translated into English. A follow-up study could look more closely at such discrepancies.

Additions

French to English

Accident survenu dans la région de Gossi (Mali) le 24 juillet 2014 à l'avion McDonnell Douglas DC-9-83 (MD-83), immatriculé EC-LTV , exploité par Swiftair SA, vol AH 5017 - information du 5 août 2014 5 August 2014	Accident to the McDonnell Douglas MD-83, registered EC-LTV, on 24 July 2014 in the region of Gossi (Mali) - information on August, 7 2014 **Published with the agreement of the President of the Mali Commission of Inquiry** 7 August 2014

[End of document] 6 December 2007	**The investigation is continuing.**
Accident survenu à Moorea le 9 août 2007 10 August 2007	Accident **to the DHC6 – 300 off the coast of the island of Moorea (French Polynesia)** on 9 August 2007

The last segment pair consists of source and target text titles used for a series of press releases on the same investigation. In each case, the English title is much longer than the French title.

Omissions

English to French

Further, it is important not to draw conclusions or speculate as to causes at this time. There are often many factors that can contribute to an accident. **Additional updates will be provided as required.** 27 February 2017	En outre, il importe de ne pas tirer de conclusion ni faire des suppositions quant aux causes de l'accident à l'heure actuelle. Il y a souvent de nombreux facteurs qui peuvent contribuer à un accident.

Given their substantial nature, these additions and omissions are considered to be based on constraints beyond the translator's control. Such constraints could include legal grounds or a political motivation to add information when writing for a specific foreign audience (in the case of the French to English translations).

Specialized Terminology

In its investigation report (A14A0067) released today, the Transportation Safety Board of Canada (TSB) found that a lack of visual references and low visibility due to **weather** led to a collision with terrain involving a Piper PA-31 in Grand Manan, New Brunswick 12 Feb 2016	Dans son rapport d'enquête (A14A0067) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) conclut que l'absence de repères visuels et une faible visibilité attribuable aux **conditions météorologiques** ont mené à la collision avec le relief d'un Piper PA-31 à Grand Manan, au Nouveau-Brunswick.

This is another example of a translation involving the choice between a non-specialized and specialized word. In the English to French translations, the word *weather* is translated as *conditions météorologiques* for nearly every occurrence throughout the corpus. Although the translator opted for a formal rendering instead of the more familiar *temps,* the word *temps* may be ambiguous since it also means time. Thus, this choice could in one respect be seen as impeding comprehension, since it is a more formal, and in another respect as facilitating comprehension, since it avoids ambiguity.

Other Popularization Techniques

Writers can use a number of other devices in order to communicate difficult subjects to non-expert readerships. These include euphemisms, neologisms, parallel structures (Byrne, 2006, p. 86-88), examples (Dufay, 2005, p. 93; Malavoy, 1999, p. 29), footnotes (Malavoy, 1999, p. 35), and metaphors (Dufay, 2005, p. 91; Liao, 2013, n.p.; Malavoy, 1999, p. 33). Most of these devices are not further explored in this study since they do not undergo any changes. The use of

metaphors, however, does vary in the translations. Nevertheless, such variations are likely due to fact that the metaphors exist in one language and not in the other. Since they are not governed by subjective choices of the translator, differences in the use of metaphors are therefore excluded from the final analysis as well. Metaphors do deserve some attention, however, since a number of authors agree on their effectiveness in facilitating comprehension and since many metaphors constitute official terms in the field of aviation.

Use of Metaphors

Metaphors are useful in explaining difficult concepts to lay readers since they help readers understand such concepts through more familiar ones (Dufay, 2005, p. 91; Liao, 2013, n.p.; Malavoy, 1999, p. 33). In the press releases, metaphors occur in both English and French and in every case, constitute official terms. Interestingly, the metaphors in the source texts are generally not "reproduced," either by similar or different metaphors, in the target texts. This is seemingly due to the fact that in the target language, metaphors do not exist for the concepts (as official terms, at least). The opposite situation also occurs: in a few cases, the source term which is not a metaphor is replaced by a metaphor in the translation. Again, this seems to be owing to the fact that one language does not have a metaphor for the concept, while the other language does. Although many agree that metaphors foster readers' comprehension, Dufay (2005, p. 107) warns that words used figuratively can also be misinterpreted.

English to French

The fourth aircraft jettisoned its load, rejected its takeoff, and **taxied** to pick up the pilot who had been slightly injured. 14 July 2016	Le quatrième aéronef a largué sa charge, a interrompu son décollage, puis a **circulé sur l'eau** pour récupérer le pilote, légèrement blessé.
This caused a loss of control moments after liftoff and resulted in both the right-hand	Cet état a entraîné une perte de maîtrise quelques secondes après l'envol et a fait que

wing tip contacting the water and a subsequent **water-loop**. 14 July 2016	l'extrémité de l'aile droite a percuté le plan d'eau et causé subséquemment le **tête-à-queue** sur l'eau.
Also, if the aircraft is operated outside of the demonstrated **flight envelope**, there is a risk pilots will be exposed to aircraft performance for which they are not prepared. 14 July 2016	De plus, si l'on utilise l'aéronef à l'extérieur du **domaine de vol** établi, il y a un risque que les pilotes soient exposés à une performance de l'aéronef pour laquelle ils ne sont pas préparés.

In the last example, although both the English and French use a rather opaque specialized term, they nevertheless reveal another instance of variation in the use of metaphors.

French to English

L'avion part brusquement en roulis à gauche jusqu'à atteindre 140° d'inclinaison, et à **piquer** jusqu'à 80°. 2 April 2015	The aeroplane rolled suddenly to the left until it reached a bank angle of 140°, and a **nose-down** pitch of 80°

In all the above cases, the discrepancies in the use of metaphors probably occur because one language has an established metaphor for the concept and the other does not. All of the terms used, except for those in the first example, are official equivalents in English and French (www.btb.termiumplus.gc.ca).

Overview and Discussion

The last step in this study is to consider the total number of instances of translation choices which constitute changes in the textual elements discussed. The tables below indicate the total number of instances of each translation choice for both language directions. One table contains translation choices which facilitate the accessibility and comprehension of the text and one table contains choices which impede the accessibility and comprehension of the text. Instances in which the exact same source text units are translated identically are counted as one instance. Furthermore, translations which reflect more than one translation choice are counted under one type only.

English to French Translations

Choices which facilitate comprehension

Choice	**No. of Instances**
Use of non-specialized terms	6
Explanation of acronyms and abbreviations	3
Use of informal register	6
Inclusion of Words Connoting Human Experiences	21
Lexical repetition	1
Use of active voice	9
Increase in logical reasoning	1
Explicitation	
Lexical specification	14
Phrases to clauses	1
Lexical explicitation	65
Addition of cohesive markers	1
Addition	1
Implicitation	
Generalization which facilitates comprehension	2
Lex. implicitation which facilitates comprehension	6

Choices which impede comprehension

Choice	**No. of Instances**
Use of specialized terms	8
Use of acronyms and abbreviations	0
Use of formal register	9
Removal of Words Connoting Human Experiences	0
Lexical variation	5
Use of passive voice	0
Decrease in logical reasoning	1
Implicitation	
Lexical generalization	22
Clauses to phrases	3
Lexical implicitation	33
Removal of cohesive markers	3
Omission	2
Explicitation (Overuse)	
Overuse of lexical specification	1
Overuse of lexical explicitation	2

French to English Translations

Choices which facilitate comprehension

Choice	**No. of Instances**
Use of non-specialized terms	2
Explanation of acronyms and abbreviations	0
Use of informal register	1
Inclusion of Words Connoting Human Experiences	2
Lexical repetition	2
Use of active voice	0
Increase in logical reasoning	0
Explicitation	
Lexical specification	32
Phrases to clauses	2
Lexical explicitation	51
Addition of cohesive markers	0
Addition	1
Implicitation	
Generalization which facilitates comprehension	2
Lex. implicitation which facilitates comprehension	0

Choices which impede comprehension

Choice	**No. of Instances**
Use of specialized terms	5
Use of acronyms and abbreviations	1
Use of formal register	1
Removal of Words Connoting Human Experiences	2
Lexical variation	1
Use of passive voice	0
Decrease in logical reasoning	0
Implicitation	
Lexical generalization	13
Clauses to phrases	0
Lexical implicitation	21
Removal of cohesive markers	3
Omission	2
Explicitation (Overuse)	
Overuse of lexical specification	0
Overuse of lexical explicitation	1

As regards the translation choices related to usability and popularization (those listed above explicitation and implicitation) among the EN-FR translations, there are significant differences between the use of words connoting human experiences (21 instances) and the removal thereof (0 instances), and between the use of active voice (9) and use of the passive voice (0) in the translations. The large discrepancy in terms of the inclusion and removal of words connoting human experiences could be due to the frequent use of the third person singular *on* in the French translations, however. Among the FR-EN translations, although the differences are not very marked, choices which impede comprehension are in some cases more frequent than those which foster comprehension (e.g. the use of specialized terms, acronyms and abbreviations). If the translation choices in this sub-group are considered all together, among the EN-FR translations, choices which facilitate comprehension occur 47 times while those which impede comprehension occur 23 times. For FR-EN, choices which facilitate comprehension occur 7 times and those which impede comprehension occur 10 times. Thus, among this group of operations, the tendency to introduce elements which enhance comprehension as opposed to those which impede comprehension only applies to the EN-FR translations.

With respect to explicitation and implicitation, significant differences have been found in both language directions. In the EN-FR translations, lexical explicitation occurs almost twice as often as lexical implicitation. Lexical specification, however, occurs less often than lexical generalization. As for the FR-EN translations, both lexical specification and lexical explicitation occur more than twice as often as lexical generalization and lexical implicitation, respectively.

If all the explicitation operations are combined and compared to all of those of implicitation, then a very interesting pattern can be found. For EN-FR, there are a total of 81 instances of explicitation and 61 instances of implicitation. For FR-EN, there are a total of 85 instances of explicitation and 37 instances of implicitation. Thus, in both directions, explicitation is more frequent than implicitation (although the difference is more marked for FR-EN). Critically, when comparing the two language directions, explicitation and implicitation are in an asymmetric relationship: the frequent occurrence of explicitation in one direction is not counterbalanced by a relatively frequent occurrence of implicitation in the opposite direction. These findings confirm Klaudy's Asymmetry Hypothesis and therefore support the Explicitation

Hypothesis, which postulates that explicitation is a translation universal that occurs regardless of the language direction. It is worth pointing out, however, that if the sub-category of lexical specification is singled out, it reveals a symmetric relationship: the frequent occurrence of specification in FR-EN is indeed counterbalanced by a relatively frequent occurrence of generalization in EN-FR. Thus, lexical specification can be viewed as the only operation which is language specific – i.e. specific to the FR-EN direction. On another note, implicitation which facilitates comprehension is more frequent than explicitation which impedes comprehension in both language directions.

One notion discussed in explicitation research is that translators tend to provide more communicative clues in target texts since target readers may understand fewer cultural references than source text audiences. Thus, the fact that the FR-EN translations show a particularly strong tendency to explicitate rather than to implicitate could be attributable to their particular translation situation. Whereas the EN-FR translations published in Canada may be intended for audiences living in the same country, the FR-EN translations published in France are intended for foreign audiences who most likely understand fewer cultural and social references than readers in France. Nevertheless, both language directions show a preference for explicitation over implicitation.

In terms of addition versus omission, omission occurs more frequently (2 times) than addition (1 time) in both language directions. Such findings depart from the general trend here that the translators prefer to create more transparent target texts. Since the total number of additions and omissions observed is generally quite low, however, it could be useful to study more translations to find a clearer pattern of such choices.

Considered altogether, operations which facilitate comprehension in EN-FR occur a total of 137 times while operations which impede comprehension occur 89 times. For FR-EN, operations which facilitate comprehension occur a total of 95 times while those which impede comprehension occur 50 times. Therefore, both the EN-FR and FR-EN translation directions show a tendency of translators to make changes which enhance readers' comprehension.

Conclusion

This study demonstrates that textual elements related to usability and popularization can be affected by translation and that translators' choices in using such elements, along with those of explicitation and implicitation, are generally aimed at creating clearer and more understandable target texts. In the press releases analyzed, choices which facilitate readers' comprehension are preferred over those which impede comprehension in both the English-French and French-English translation directions. With regard to explicitation in particular, this study supports the theory that explicitation is inherent to the translation process itself, since operations of explicitation are more common than those of implicitation in both language directions.

The texts examined in this study consist of a hybrid text type with a specific function and unique target audience. Further research could be conducted on other aviation-related texts in order to find more evidence or to make up for some of the limitations encountered. Some publications worth investigating are similar publications issued by other institutions, including other government agencies, airlines, aerospace companies, or the news media; publications with different topics but issued by the same agencies; or any other aviation-related publications. It could also be useful to study similar texts strictly intended for either non-expert or specialist readerships. Such research could provide more insight into the phenomena observed here and could also expose some of the linguistic issues and other factors affecting texts in this particular subject area.

Aviation is a technical field which has significant contact with the public at large. One can see this simply by looking at the news media, which is tasked with disseminating relevant information on various topics including aviation safety. In journalism and all other contexts involving interaction between the world of aviation and the public, it is important to recognize that effective communication can only take place by determining readers' level of expertise and background knowledge and by producing texts which meet their needs and expectations. This study will hopefully inform aviation experts, authors and translators alike on some of the issues that may arise in this complex task.

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Annex

Use of Non-Specialized Terms

English to French Translations

English	French
Just after midnight, during the landing sequence, the aircraft travelled through the grass on the western side of the runway, eventually coming to a stop on the runway centerline. The passengers were deplaned on the runway and transported by bus to the terminal. 25 February 2017	Peu après minuit, au cours de l'atterrissage, l'aéronef a circulé sur le gazon en bordure ouest de la piste pour éventuellement s'immobiliser sur l'axe de piste. Les passagers sont descendus sur la piste et ont été transportés jusqu'à l'aéroport par autobus.
On 10 June 2013 at 1700 Eastern Daylight Time, a Beechcraft King Air 100 operated by Aviation Flycie Inc. took off from the Montréal/St-Hubert Airport (CYHU), Quebec, with one pilot and three passengers on board for a test flight. 17 August 2016	Le 10 juin 2013, à 17 h, heure avancée de l'Est, un Beechcraft King Air 100 exploité par Aviation Flycie Inc. a décollé de l'aéroport de Montréal/St-Hubert (Québec) pour effectuer un vol de vérification avec un pilote et trois passagers à son bord.
Despite a marginal performance during the check flight, the pilot had successfully passed a pilot proficiency check, and TC had approved the individual's appointment to the position of chief pilot. 17 August 2016	Malgré un rendement marginal au cours du contrôle de compétence sur aéronef, le pilote a réussi le contrôle de la compétence du pilote, et TC a approuvé sa nomination au poste de pilote en chef.
The aircraft was below radar coverage, and air traffic control (ATC) attempted to assist the aircraft in locating a suitable aerodrome. 15 March 2016	L'aéronef volait sous la couverture radar, et le contrôle du trafic aérien (ATC) a essayé d'aider le pilote à localiser un aéroport convenable.
On the early morning of 16 August 2014, during the hours of darkness, a Piper PA-31 aircraft operated by Atlantic Charters was returning to Grand Manan from Saint John New Brunswick following a medevac flight. 12 February 2016	Tôt le matin du 16 août 2014, durant les heures de noirceur, un aéronef Piper PA-31 exploité par Atlantic Charters rentrait à Grand Manan en provenance de Saint John, au Nouveau-Brunswick, après avoir effectué un vol aéromédical.

French to English Translations

French	English
Accident survenu dans la région de Gossi (Mali) le 24 juillet 2014 à l'avion McDonnell Douglas DC-9-83 (MD-83), immatriculé EC-LTV , exploité par Swiftair SA, vol AH 5017 - information du 28 juillet 2014 18 July 2014	Accident to the McDonnell Douglas MD-83, registered EC-LTV, on 24 July 2014 in the Gossi area (Mali) - information on July, 28 2014
• rupture au sol de plusieurs torons, vraisemblablement au parking sous l'effet du souffle d'un gros porteur (jet blast) ; 4 December 2008	An on-the-ground failure of several strands, likely on the apron under the effect of jet blast from a heavy aircraft;

Use of Specialized Terms

English to French Translations

English	French
In its investigation report (A15O0015) released today, the Transportation Safety Board of Canada (TSB) determined that the continuation of an unstable approach following a loss of visual reference led to a Jazz Aviation LP aircraft contacting the surface short of the runway at the Sault Ste. Marie Airport, Ontario, in February 2015. 9 March 2017	Dans son rapport d'enquête aéronautique (A15O0015)publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a déterminé que l'aéronef exploité par Jazz Aviation LP a effectué un atterrissage avant le seuil de piste et a heurté le relief à l'aéroport de Sault Ste. Marie (Ontario) en février 2015 parce que l'approche non stabilisée s'est poursuivie après la perte de repères visuels.
A Tecnam P2006T twin-engine aircraft, operated by Mount Royal University, departed Calgary/Springbank Airport, AB (CYBW) at 1635 (Mountain Standard Time), during daylight hours. 27 February 2017	Un aéronef bimoteur Tecnam P2006T exploité par Mount Royal University a décollé de CYBW à 16 h 35 (heure normale des Rocheuses), durant les heures de clarté.
“In Canada, Transport Canada requires medium and large commercial aircraft to be equipped with onboard flight recorders, but there are still no requirements for such recorders on smaller aircraft,” said Kathy Fox, Chair of the TSB. 17 October 2016	« Au Canada, Transports Canada exige que les aéronefs commerciaux de taille moyenne et les gros porteurs soient munis d'enregistreurs de bord, mais de tels enregistreurs ne sont toujours pas exigés à bord des aéronefs plus petits, a déclaré Kathy Fox, présidente du BST.

While on its way back to the airport, 24 minutes after take-off, the aircraft ran out of fuel. 17 August 2016	Alors que l'appareil revenait se poser à l'aéroport, 24 minutes après le décollage, l'appareil a subi une panne sèche.
In 2013, following its investigation into the March 2011 loss of control/in-flight break-up occurrence, northeast of Mayo, Yukon (TSB Aviation Investigation Report A11W0048), the TSB found that if cockpit or data recordings are not available to an investigation, the identification and communication of safety deficiencies to advance transportation safety may be precluded. 13 July 2016	En 2013, après son enquête sur un incident de perte de maîtrise et de désintégration en vol survenu au nord-est de Mayo (Yukon) en mars 2011 (rapport d'enquête aéronautique A11W0048 du BST), le BST a constaté que, dans le cadre d'une enquête, l'absence d'enregistrement des conversations dans le poste de pilotage ou d'enregistrement des données de vol peut empêcher la détermination et la communication de lacunes de sécurité servant à l'amélioration de la sécurité des transports.
It was determined that the engine had been shut down after high power operation, without sufficient time for its internal temperatures to reduce at lower power. 5 July 2016	On a déterminé que le moteur avait été arrêté après un fonctionnement à régime élevé, sans que ses températures internes aient eu suffisamment le temps de baisser à régime moins élevé.

French to English Translations

French	English
L'avion part brusquement en roulis à gauche jusqu'à atteindre 140° d'inclinaison, et à piquer jusqu'à 80°. 2 April 2015	The aeroplane rolled suddenly to the left until it reached a bank angle of 140°, and a nose-down pitch of 80°
27 juillet – 17 août 2009 : recherches sous-marines à l'aide d'un sonar à balayage latéral et d'un robot sous-marin pour localiser l'épave de l'avion. 18 June 2012	27 July – 17 August 2009: undersea searches with side-scan sonar and a Remotely Operated Vehicle (ROV) to locate the site of the aeroplane wreckage.
Par ailleurs, le drone sous-marin appartenant à la société Geomar doit maintenant participer à une campagne scientifique.	In addition, the AUV belonging to Geomar must now participate in scientific research.

4 May 2010	
Le « Seabed Worker », équipé des deux véhicules sous-marins autonomes (AUV) de modèle Remus 6000 de l'institut océanographique américain WHOI (Woods Hole Oceanographic Institution) et du robot Triton, a quitté Recife le vendredi 30 avril au matin et est arrivé sur zone dans la nuit du 2 au 3 mai. 4 May 2010	The « Seabed Worker », equipped with two Remus 6000 autonomous underwater vehicles from the American Woods Hole Oceanographic Institution and the Triton ROV, left Recife on the morning of Friday 30 April and arrived in the zone during the night of 2 May. Operations began during the day of 3 May.
• rupture au sol de plusieurs torons, vraisemblablement au parking sous l'effet du souffle d'un gros porteur (jet blast) ; 4 December 2008	• An on-the-ground failure of several strands, likely on the apron under the effect of jet blast from a heavy aircraft;

Explanation of Acronyms and Abbreviations

English to French Translations

English	French
• Taken possession of the CVR and FDR. These will be sent to the TSB Lab in Ottawa for further analysis. 25 February 2017	• pris possession de l'enregistreur de conversations de poste de pilotage (CVR) et de l'enregistreur de données de vol (FDR). Ils seront envoyés au Laboratoire du BST à Ottawa aux fins d'analyses plus poussées;
• Analyzing data from FDR/CVR. 25 February 2017	• Analyser les données des enregistreurs de bord (FDR/CVR).

French to English Translations

No examples.

Use of Acronyms and Abbreviations

English to French Translations

No examples.

French to English Translations

English	French
Le dernier échange radio entre l'équipage et le contrôle brésilien a eu lieu à 1 h 35. 18 June 2012	The last radio communication between the crew and the Brazilian ATC took place at 1 h 35.

Use of Informal Register

English to French Translations

English	French
TSB reminds aircraft passengers to buckle up after 21 people injured during a severe turbulence encounter in December 2015 20 February 2017	Le BST rappelle aux passagers de boucler leur ceinture en vol après que de fortes turbulences aient fait 21 blessés en décembre 2015
Following the release of its investigation report (A15F0165) today, the Transportation Safety Board of Canada is reminding aircraft passengers to comply with flight and cabin crew instructions and to wear their seat belts after 21 people were injured during a turbulence event encountered by Air Canada flight ACA088 in December 2015. 20 February 2017	Le Bureau de la sécurité des transports du Canada (BST) a publié aujourd'hui son rapport d'enquête (A15F0165) sur le vol Air Canada ACA088 à bord duquel 21 personnes ont été blessées en raison de fortes turbulences en décembre 2015. De ce fait, le BST rappelle aux passagers de respecter les consignes de l'équipage de conduite et du personnel de cabine et de boucler leur ceinture de sécurité.
The Cessna 185 pilot was uninjured, though the aircraft sustained substantial damage. 20 October 2016	Le pilote du Cessna 185 n'a pas été blessé, mais l'aéronef a subi des dommages considérables.
In the release of its investigation report (A15O0031) today, the Transportation Safety Board of Canada (TSB) cited expired qualifications, a lack of recent experience, and an elevated level of fatigue as the likely causes of the loss of control […]. 3 October 2016	Dans son rapport d'enquête (A15O0031) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) mentionne l'expiration des qualifications, un manque d'expérience récente et une grande fatigue comme causes probables de la perte de maîtrise […].
The investigation found that the pilot's qualifications had expired [….] and that he had been experiencing levels of chronic stress	L'enquête a révélé que les qualifications du pilote étaient expirées […] et qu'il souffrait de stress et de fatigue chroniques, de sorte qu'il

and fatigue, and consequently that he was neither qualified nor fit to undertake the flight. The pilot, who was no longer proficient at flying in instrument meteorological conditions, likely became spatially disoriented after entering cloud in a descending turn, and lost control of the aircraft. 3 October 2016	n'était ni qualifié ni apte à entreprendre le vol. Le pilote, qui n'avait plus les compétences pour piloter dans des conditions météorologiques de vol aux instruments, a probablement été frappé de désorientation spatiale après avoir pénétré un nuage en effectuant un virage en descente, et a perdu la maîtrise de l'aéronef.
ExpressJet Airlines also developed a training module for all flight crew members to promote severe weather avoidance and weather radar utilization techniques to identify developing storm activity. 6 July 2016	ExpressJet Airlines a également conçu, à l'intention de tous les membres d'équipage de conduite, un module de formation qui favorise l'utilisation des techniques de radar météorologique pour identifier les tempêtes qui se forment et pour éviter le temps violent.

French to English Translations

French	English
Les travaux de recherche en mer avaient permis de récupérer l'enregistreur phonique (CVR) et différentes pièces de l'avion, dont les moteurs, une partie de l'empennage et des éléments du cockpit. 11 October 2007	Undersea searches made it possible to recover the Cockpit Voice Recorder (CVR) and various parts of the airplane, including the engines, a part of the tail and parts of the cockpit.

Use of a Formal Register

English to French Translations

English	French
The limitations of the "see-and-avoid" principle in preventing collisions were illustrated once again in the Transportation Safety Board of Canada (TSB) investigation report (A15W0087) into a June 2015 mid-air collision between two small aircraft near Fort McMurray, Alberta. 20 October 2016	Les limites du principe voir et éviter dans la prévention des collisions ont été illustrées une fois de plus dans le rapport d'enquête (A15W0087) du Bureau de la sécurité des transports du Canada (BST) sur la collision en vol survenue en juin 2015 entre deux petits aéronefs près de Fort McMurray (Alberta).

All three people on board were fatally injured and a post-crash fire destroyed most of the wreckage. 3 October 2016	Les trois personnes à bord ont été mortellement blessées, et l'incendie qui a suivi l'impact a détruit la majeure partie de l'épave.
On 10 June 2013 at 1700 Eastern Daylight Time, a Beechcraft King Air 100 operated by Aviation Flycie Inc. took off from the Montréal/St-Hubert Airport (CYHU), Quebec, with one pilot and three passengers on board for a test flight. 17 August 2016	Le 10 juin 2013, à 17 h, heure avancée de l'Est, un Beechcraft King Air 100 exploité par Aviation Flycie Inc. a décollé de l'aéroport de Montréal/St-Hubert (Québec) pour effectuer un vol de vérification avec un pilote et trois passagers à son bord.
The aircraft remained upright and slowly sank. 14 July 2016	L'aéronef est demeuré à la verticale et a coulé lentement.
Investigation update: Collision with terrain of a Mitsubishi MU-2B-60 in Îles-de-la-Madeleine, Quebec (A16A0032) 13 July 2016	Mise à jour sur l'enquête : Collision avec le relief d'un Mitsubishi MU-2B-60 aux Îles-de-la-Madeleine (Québec) (A16A0032)
The autopilot was being used to control the aircraft throughout the flight. 13 July 2016	Le pilote automatique était embrayé durant tout le vol.
Shortly after that, the autopilot was disconnected, and almost immediately the aircraft departed from controlled flight. 13 July 2016	Peu après, le pilote automatique a été débrayé et presque aussitôt, l'aéronef est devenu ingouvernable.
What we know 13 July 2016	Données factuelles
Should the investigation team uncover a safety deficiency that represents an immediate risk to aviation, the Board will communicate immediately so that it may be addressed quickly and the aviation system made safer. 13 July 2016	Au cas où l'équipe d'enquêteurs découvrirait une lacune de sécurité qui présente un risque immédiat à l'aviation, le Bureau communiquera celle-ci immédiatement pour que l'on y remédie promptement afin de rendre le réseau aérien plus sûr.

French to English Translations

French	English

En application des dispositions de l'Annexe 13, des représentants accrédités brésilien, américain, britannique, allemand et sénégalais ont été associés à l'enquête au titre de pays constructeurs des moteurs (NTSB) et parce que qu'ils apportaient des informations essentielles pour l'enquête […]. 18 June 2012	In accordance with the provisions of Annex 13, Brazilian, American, British, German and Senegalese accredited representatives were associated with the investigation as the State of the engine manufacturer (NTSB) and because they were able to supply essential information to the investigation […].

Words Connoting Human Experiences

English to French Translations

English	French
The aircraft returned to the centreline before taxiing to the terminal gate, where the passengers disembarked without further event. 28 March 2017	L'aéronef a retrouvé l'axe de piste avant de rouler jusqu'à la porte de l'aérogare, où les passagers ont débarqué sans autre incident
If approaches that require excessive deceleration below established stabilization heights are routinely flown, then there is a continued risk of an approach or landing accident. 9 March 2017	Si l'on effectue couramment des approches qui exigent une décélération excessive sous les hauteurs de stabilisation établies, le risque qu'il se produise des accidents à l'approche ou à l'atterrissage perdure.
There were no reported injuries, and apparent damage to the aircraft at this point is minor. 25 February 2017	On n'a signalé aucun blessé, et les dommages visibles à l'aéronef semblent mineurs.
Seat belt signs were turned on, and several announcements were made in English, French and Mandarin, stating that the flight was approaching an area of turbulence and asking the passengers to fasten their seat belts. 20 February 2017	On a allumé la consigne lumineuse ceintures, et on a fait plusieurs annonces en anglais, en français et en mandarin, pour informer les passagers que le vol approchait d'une zone de turbulence et leur demander de boucler leur ceinture de sécurité.
Once the turbulence subsided, first aid was provided on board the aircraft, as the flight diverted to Calgary, Alberta. 20 February 2017	Une fois la turbulence passée, on a prodigué les premiers soins à bord et dérouté l'aéronef vers Calgary (Alberta).
If training material does not contain complete information pertaining to all of the factors that	Si les documents de formation ne contiennent pas d'information complète sur

contribute to turbulence, then there is a risk that the best course of action will not be taken. 20 February 2017	tous les facteurs qui contribuent à la turbulence, il y a un risque que l'on n'opte pas pour la meilleure marche à suivre.
It was also determined that during a portion of the approach phase, the aircraft did not meet stabilized approach criteria as a result of being well above the desired approach path. 10 January 2017	On a également déterminé que durant une partie de la phase d'approche, l'aéronef n'était pas conforme aux critères d'approche stabilisée.
When continued to a landing, unstable approaches are known to increase the likelihood of a landing accident. 10 January 2017	On sait que lorsqu'elles sont poursuivies jusqu'à l'atterrissage, les approches non stabilisées augmentent la probabilité d'un accident à l'atterrissage.
The aircraft was subsequently inspected and the main landing gear shock absorbers were replaced as a precaution. 9 January 2017	L'aéronef a par la suite été inspecté et, par précaution, on a remplacé les amortisseurs du train d'atterrissage principal.
Approximately 30 nautical miles south of the Sudbury Airport, […] the pilot advised air traffic control that there was a problem and that the aircraft was returning to Sudbury. 3 October 2016	À environ 30 milles marins au sud de l'aéroport de Sudbury […] le pilote a informé le centre de contrôle de la circulation aérienne qu'il y avait un problème et qu'il retournait à Sudbury.
A search for the aircraft was initiated, and wreckage was located the following morning. 3 October 2016	On a alors lancé des recherches afin de le retrouver, et l'épave a été localisée le lendemain matin.
The aircraft had broken up in flight, and debris was found as far as 6500 feet from the main crash site. 3 October 2016	L'aéronef s'était désintégré en vol et on a trouvé des débris jusqu'à 6500 pieds du lieu principal de l'écrasement.
The investigation found that the pilot's qualifications had expired [….] and that he had been experiencing levels of chronic stress and fatigue, and consequently that he was neither qualified nor fit to undertake the flight. The pilot, who was no longer proficient at flying in instrument meteorological conditions, likely became spatially disoriented after entering cloud in a descending turn, and lost control of the aircraft.	L'enquête a révélé que les qualifications du pilote étaient expirées […] et qu'il souffrait de stress et de fatigue chroniques, de sorte qu'il n'était ni qualifié ni apte à entreprendre le vol. Le pilote, qui n'avait plus les compétences pour piloter dans des conditions météorologiques de vol aux instruments, a probablement été frappé de désorientation spatiale après avoir pénétré un nuage en effectuant un virage en descente, et a perdu la maîtrise de l'aéronef.

3 October 2016	
As noted, in this investigation, valuable information was extracted and is being analyzed. 13 July 2016	Comme nous l'avons souligné, dans ce cas-ci, de précieux renseignements ont été récupérés et font l'objet d'une analyse.
Should the investigation team uncover a safety deficiency that represents an immediate risk to aviation, the Board will communicate immediately so that it may be addressed quickly and the aviation system made safer. 13 July 2016	Au cas où l'équipe d'enquêteurs découvrirait une lacune de sécurité qui présente un risque immédiat à l'aviation, le Bureau communiquera celle-ci immédiatement pour que l'on y remédie promptement afin de rendre le réseau aérien plus sûr.
It was determined that the engine had been shut down after high power operation, without sufficient time for its internal temperatures to reduce at lower power. 7 July 2016	On a déterminé que le moteur avait été arrêté après un fonctionnement à régime élevé, sans que ses températures internes aient eu suffisamment le temps de baisser à régime moins élevé.
In its investigation report (A14O0217) released today, the Transportation Safety Board of Canada (TSB) determined that a faulty navigation receiver […] led the pilot of an aircraft to become lost, and eventually collide with terrain near Whitney, Ontario. 15 March 2016	Dans son rapport d'enquête (A14O0217) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a déterminé qu'une défectuosité du récepteur de radionavigation et […] ont fait que le pilote d'un aéronef était perdu avant de percuter le relief à Whitney (Ontario).
If TC does not adopt a balanced approach that combines thorough inspections for compliance with audits of safety management processes, unsafe operating practices may not be identified. 12 February 2016	Si TC n'adopte pas une approche équilibrée qui combine des inspections approfondies de la conformité et des vérifications des processus de gestion de la sécurité, on risque de ne pas cerner les pratiques non sécuritaires.
An emergency was declared, and the aircraft landed with only the nose gear partially extended. 14 January 2016	On a déclaré une situation d'urgence, et l'aéronef s'est posé avec seulement le train avant partiellement sorti.

French to English Translations

English	French
Les travaux du groupe vont commencer très rapidement, et devraient être achevés à la fin	The group's work will begin very soon and should be completed by the end of December

du mois de décembre 2011. Ses réflexions seront nourries par les travaux du groupe « Opérations » et ceux du groupe « Systèmes avions ». 7 September 2011	2011. Its thinking will take into account input from both the «Operations» and the «Airplane Systems» groups.
Le BEA mettra à disposition - par l'ECPA-D via le SERT/Globecast - une bande-éléments sur le navire et ses équipements dans les meilleurs délais à la suite du départ du navire du port de Dakar. 19 April 2011	The BEA will do its best to ensure that video footage of the ship and its equipment in Dakar will be provided to the media as soon as possible after the ship's departure. This video footage will be available from ECPA-D via SERT/Globecast.

Removal of Words Connoting Human Experiences

English to French Translations

No examples.

French to English Translations

English	French
Après avoir eu la certitude que l'avion avait disparu dans les eaux internationales […] le BEA, en tant qu'autorité d'enquêtes de sécurité de l'État d'immatriculation de l'avion, a ouvert une enquête de sécurité et une équipe a été constituée pour la conduire. 18 June 2012	After having established without doubt that the airplane had disappeared in international waters […] the BEA, as Investigation Authority of the State of Registry of the aeroplane, instituted a safety investigation and a team was formed to conduct it.
Ces opérations seront vraisemblablement délicates en raison de la profondeur et des courants marins ainsi que de l'état de l'épave sur lequel nous n'avons pour l'heure aucune certitude. 17 August 2007	These operations will likely be very delicate due to the depth and the currents, as well as the condition of the wreckage, about which we currently have no definite information.

Lexical Repetition

English to French Translations

English	French
The investigation revealed that during the extension of the landing gear, a wire bundle became entangled around the landing gear rotating torque shaft, preventing full extension. The operator submitted a safety deficiency report to Transport Canada, and also issued a maintenance advisory to its staff to check for proximity of wiring harnesses to surrounding rotating parts. 14 January 2016	L'enquête a révélé que durant la sortie du train, un faisceau de câbles s'était emmêlé autour du tube de torsion rotatif et avait empêché la sortie complète du train d'atterrissage. L'exploitant a remis un rapport de manquement à la sécurité à Transports Canada et a émis un avis d'entretien à son personnel lui rappelant de vérifier la proximité des faisceaux de câbles aux pièces rotatives avoisinantes.

French to English Translations

French	English
Cet historique ainsi que les données relatives à l'accident du vol AH 5017 ont été partagés avec l'Agence Européenne de la Sécurité Aérienne (AESA) et par son intermédiaire avec les autorités américaines (FAA). 2 April 2015	This background, as well as the data on the accident to flight AH5017, was shared with the European Aviation Safety Agency (EASA) and through EASA with the American authorities (FAA); […].
Les opérations de récupération de cet enregistreur, d'observation et de relevage des éléments pertinents de l'épave se feront dès que les moyens techniques lourds nécessaires seront arrivés sur site, ce qui pourrait prendre plusieurs jours. 13 August 2007	Recovery operations for the CVR, as well as operations for observation and lifting of relevant parts of the wreckage, will be undertaken as soon as the heavy equipment required has arrived at the site, which may take several more days.

Lexical Variation

English to French Translations

English	French
• examine components such as the engines and propellers; • send selected components to the TSB Engineering Laboratory in Ottawa, Ontario, for further analysis;	• Examiner les composants comme les moteurs et les hélices • Envoyer des morceaux de l'épave au laboratoire du BST à Ottawa (Ontario) aux fins d'analyses plus poussées

27 February 2017	
After departure, the aircraft deviated north of its intended track into Canadian airspace to avoid a line of thunderstorms, and climbed to its cruising altitude with the intention of navigating its way through them. The aircraft flew through a large thunderstorm that it could not avoid and encountered severe turbulence. 6 July 2016	Après le départ, l'aéronef s'est dérouté au nord de sa trajectoire prévue dans l'espace aérien canadien pour éviter une ligne d'orages et a monté à son altitude de croisière dans le but de passer entre ces orages. L'aéronef a traversé une grande cellule orageuse qu'il n'a pas pu éviter et il a été secoué par de la forte turbulence.
In its **investigation report (A14A0067)** released today, the Transportation Safety Board of Canada (TSB) found that a lack of visual references and low visibility due to weather led to a collision with terrain involving a Piper PA-31 in Grand Manan, New Brunswick. The investigation determined that the weather at the time of both approaches was likely such that the captain could not see the required visual references to ensure a safe landing. 12 February 2016	Dans son **rapport d'enquête (A14A0067)** publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) conclut que l'absence de repères visuels et une faible visibilité attribuable aux conditions météorologiques ont mené à la collision avec le relief d'un Piper PA-31 à Grand Manan, au Nouveau-Brunswick. L'enquête a permis de déterminer que les conditions météorologiques pendant les deux approches ont probablement empêché le commandant de bord d'établir le contact visuel dont il avait besoin pour atterrir en toute sécurité.
There were two pilots, a paramedic and a nurse on board. While attempting to land a second time on Runway 24, the aircraft contacted a road approximately 1500 feet from the runway, continued through 100 feet of brush, became briefly airborne and struck the ground approximately 1000 feet from the runway threshold. 12 February 2016	Durant une deuxième tentative d'atterrissage sur la piste 24, l'aéronef a heurté une route à environ 1500 pieds de la piste d'atterrissage, a poursuivi sa course à travers 100 pieds de broussailles, a rebondi brièvement, puis a heurté le relief à environ 1000 pieds du seuil de la piste.
On the early morning of 16 August 2014, during the hours of darkness, a Piper PA-31 aircraft operated by Atlantic Charters was returning to Grand Manan from Saint John New Brunswick following a medevac flight. Additionally, the investigation found that Transport Canada's (TC) surveillance activities of Atlantic Charters had not identified the discrepancies in the company's operating practices related to continuing airworthiness.	Tôt le matin du 16 août 2014, durant les heures de noirceur, un aéronef Piper PA-31 exploité par Atlantic Charters rentrait à Grand Manan en provenance de Saint John, au Nouveau-Brunswick, après avoir effectué un vol aéromédical. L'enquête a également permis de déterminer que les activités de surveillance de Transport Canada (TC) n'avaient pas permis de constater les écarts dans les pratiques

12 February 2016	d'exploitation de la compagnie liées à la masse et au centrage, et au maintien de la navigabilité.

French to English Translations

French	English
• la prise en compte incomplète par le constructeur et l'autorité de navigabilité du phénomène d'usure ; • la prise en compte incomplète par les autorités de navigabilité, les exploitants aéroportuaires et les exploitants d'aéronef des risques liés au souffle des réacteurs ; 4 December 2008	• The failure by the manufacturer and the aviation authorities to fully take into account the wear phenomenon; • The failure by the airworthiness authorities, airport authorities and operators to fully take into account the risks associated with jet blast;

Use of Active Voice

English to French Translations

English	French
The aircraft will be thoroughly examined to further determine the extent of the damage. 25 February 2017	L'aéronef fera l'objet d'un examen minutieux pour déterminer l'envergure des dommages.
Should the investigation team uncover safety deficiencies that present an immediate risk, they will be communicated without delay so they may be addressed quickly and the aviation system made safer. 25 February 2017	Si l'équipe d'enquête met au jour des lacunes de sécurité présentant un risque immédiat, elle les fera connaître immédiatement pour qu'on puisse y remédier rapidement afin que la sécurité du réseau de transport aérien s'en trouve améliorée.
The investigation also found that, even though a safety management system (SMS) and processes were in place, an understaffed management structure during organizational changes likely led to excessive workload for existing managers, and contributed to risks not being addressed through the operator's SMS. 14 July 2016	Enfin, l'enquête a également souligné le fait que, même si un système de gestion de la sécurité (SGS) et des processus étaient en place, une structure organisationnelle en sous-effectif durant des changements organisationnels a probablement donné lieu à une surcharge de travail chez les gestionnaires en place, et a fait en sorte que l'exploitant n'a pas utilisé son SGS pour examiner les risques.

At 1229, 2.7 nm from Runway 07, the aircraft landing gear was lowered and approach flaps were selected. 13 July 2016	À 12 h 29, à 2,7 nm de la piste d'atterrissage 07, le pilote a sorti le train d'atterrissage de l'aéronef et a déployé les volets d'approche.
A large number of technical and operational documents, weather reports, air traffic control communications, and incident reports have been gathered and reviewed by investigation team members. 13 July 2016	Les membres de l'équipe d'enquête ont réuni et examiné de nombreux documents, entre autres des documents techniques et opérationnels, des bulletins météorologiques, des communications du contrôle de la circulation aérienne et des rapports d'incident.
No mechanical deficiencies have been identified with the aircraft's engines, flight controls, landing gear, and navigation systems. 13 July 2016	Les moteurs de l'aéronef, les commandes de vol, le train d'atterrissage et les systèmes de navigation ne présentaient aucune anomalie mécanique.
Although not required by regulation, the occurrence aircraft was equipped with a lightweight recording system. 13 July 2016	Quoique la réglementation en vigueur ne l'exige pas, l'aéronef en cause était muni d'un enregistreur léger de bord.
For undetermined reasons, the captain started a steep descent 0.56 nautical miles from the threshold, which went uncorrected until it was too late to recover, and the aircraft struck terrain short of the runway. 12 February 2016	Pour des raisons qui demeurent inconnues, le commandant de bord a amorcé une descente abrupte à 0,56 milles marins du seuil de la piste et n'a pas corrigé cette situation avant qu'il ne soit trop tard; l'aéronef a heurté le relief avant d'atteindre la piste d'atterrissage.

French to English Translations

No examples.

Use of Passive Voice

English to French Translations

No examples.

French to English Translations

No examples.

Increase in Logical Reasoning

English to French Translations

English	French
However, there is a risk that pilots will be unprepared to avoid or mitigate abnormal situations in flight if CRM training is not provided, as called for in a TSB recommendation **A09-02**. 12 February 2016	Dans sa recommandation **A09-02**, le BST a demandé que les pilotes reçoivent une formation CRM, car les pilotes qui ne la suivent pas risquent de ne pas savoir comment éviter ou atténuer les situations anormales durant un vol.

French to English Translations

No examples.

Decrease in Logical Reasoning

English to French Translations

English	French
After crossing the runway threshold, the intensity of the rain suddenly increased, causing the pilot flying to have very few visual references. 28 March 2017	Après que l'aéronef eut franchi le seuil de piste, l'intensité de la pluie a augmenté soudainement, et le pilote aux commandes a perdu la plupart de ses repères visuels.

French to English Translations

No examples.

Explicitation

Lexical Specification

English to French Translations

English	French
On 7 October 2014, the Air Canada Airbus A330 was operating as flight ACA875 from Frankfurt, Germany, to Montréal-Pierre Elliott Trudeau International Airport with 217 people aboard. 28 March 2017	Le 7 octobre 2014, l'Airbus A330 d'Air Canada effectuait le vol ACA875 de Francfort, en Allemagne, à l'Aéroport international Pierre-Elliott-Trudeau de Montréal, avec 217 passagers à bord.
There was a thunderstorm north of the airport as the aircraft was on approach to Runway 24R in daytime visual conditions. 28 March 2017	Il y avait un orage au nord de l'aéroport au moment où l'aéronef effectuait une approche de la piste 24R dans des conditions de vol à vue le jour.
If TC does not take action to develop clear standards for avoiding thunderstorms during approach and landing, approaches in the presence of thunderstorms will continue, exposing aircraft to multiple, unpredictable hazards. 28 March 2017	Si TC ne prend pas les mesures nécessaires pour élaborer des normes claires sur l'évitement des orages à l'approche et à l'atterrissage, les approches en présence d'orages continueront, exposant les aéronefs à de multiples dangers imprévisibles.
Following the occurrence, Aéroports de Montréal, the operator of Montréal-Pierre Elliott Trudeau International Airport, reviewed conditions for closing a runway when approach and runway lighting is out of service 28 March 2017	Après cet événement, Aéroports de Montréal (société exploitante de l'Aéroport Pierre-Elliott-Trudeau) a révisé les conditions de fermeture des pistes lorsque le balisage lumineux d'approche et de piste est hors service.
The investigation determined that during the approach in the presence of a thunderstorm, a pilot-induced aircraft rolling movement resulted in the aircraft being in a left bank as it crossed the runway threshold, which, combined with a strong right crosswind, caused it to drift rapidly to the left. 28 March 2017	L'enquête a permis de déterminer que durant son approche en présence d'ans 'un orage, l'aéronef s'est incliné à gauche au moment où il franchissait le seuil de piste à cause d'un mouvement de roulis occasionné par le pilote. Ce mouvement, combiné à de forts vents traversiers de droite, a entraîné une dérive rapide à gauche de l'aéronef.
The crew had reduced power in order to reach the target airspeed for the final approach and landing. 9 March 2017	L'équipage de conduite avait réduit la puissance afin d'atteindre la vitesse anémométrique cible pour l'approche finale et l'atterrissage.

We have requested the aircraft's maintenance history. 27 February 2017	Nous avons demandé les dossiers d'entretien de l'aéronef.
We have obtained most of the radar data and most of the air traffic control audio; we are waiting for a few more files and we are in the process of analyzing it. 27 February 2017	Nous avons reçu la plupart des données radar et de l'enregistrement du contrôle de la circulation aérienne; nous attendons quelques dossiers additionnels et nous sommes en train d'analyser ces données.
The investigation also determined that the flight crew were last exposed to information on jet streams (fast-flowing air currents) and turbulence in training taken in 2011 and 2012. 20 February 2017	L'enquête a également permis de déterminer que la dernière fois que l'équipage de conduite avait reçu de l'information sur les courants-jets (courants d'air rapides) et la turbulence remontait à une formation suivie en 2011 et 2012.
The approach became unstable and the aircraft touched down hard. The landing subjected the main landing gear to very high loading. 9 January 2017	L'approche est devenue instable, l'aéronef s'est posé brutalement, et le train d'atterrissage principal a été soumis à un dépassement de charge élevée.
This principle is based on active scanning, and the ability to detect conflicting aircraft and to take appropriate measures to avoid such aircraft. 20 October 2016	Ce principe repose sur la surveillance visuelle active, la capacité de repérer des aéronefs en conflit et la prise de mesures appropriées pour les éviter.
This caused a loss of control moments after liftoff and resulted in both the right-hand wing tip contacting the water and a subsequent water-loop. 14 July 2016	Cet état a entraîné une perte de maîtrise quelques secondes après l'envol et a fait que l'extrémité de l'aile droite a percuté le plan d'eau et causé subséquemment le tête-à-queue sur l'eau.
Should the investigation team uncover a safety deficiency that represents an immediate risk to aviation, the Board will communicate immediately so that it may be addressed quickly and the aviation system made safer. 13 July 2016	Au cas où l'équipe d'enquêteurs découvrirait une lacune de sécurité qui présente un risque immédiat à l'aviation, le Bureau communiquera celle-ci immédiatement pour que l'on y remédie promptement afin de rendre le réseau aérien plus sûr.
While attempting to land a second time on Runway 24, the aircraft contacted a road approximately 1500 feet from the runway, continued through 100 feet of brush, became briefly airborne and struck the ground	Durant une deuxième tentative d'atterrissage sur la piste 24, l'aéronef a heurté une route à environ 1500 pieds de la piste d'atterrissage, a poursuivi sa course à travers 100 pieds de broussailles, a rebondi brièvement, puis a

approximately 1000 feet from the runway threshold. 12 February 2016	heurté le relief à environ 1000 pieds du seuil de la piste.

French to English Translations

French	English
Le pilote automatique commande alors une augmentation de l'assiette de l'avion pour maintenir l'altitude malgré cette perte de vitesse. 2 April 2015	The autopilot then commanded an increase in the aeroplane's pitch attitude in order to maintain the altitude in spite of this loss of speed.
Elles ont permis de préciser l'organisation de l'enquête, de faire le point sur les éléments disponibles et de décider des travaux à lancer en priorité. 5 August 2014	These sessions made it possible to determine how the investigation will be organised, to review progress on the information available and to decide on the work to be launched as a priority. 7 August 2014
Les réflexions se poursuivent pour tenter de trouver un moyen d'en extraire quelques informations, mais il n'est pas possible de présager du résultat de cette démarche. 5 August 2014	Analysis continues to try to find a means of extracting some information, but is it not possible to predict the outcome of this approach. 7 August 2014
Au niveau de vol 310, l'avion s'établit en croisière à une vitesse d'environ 280kts. 5 August 2014	At flight level 310, the aeroplane stabilised in cruise at a speed of about 280 kt. 7 August 2014
Puis l'avion part en virage à gauche et perd rapidement de l'altitude, avec des changements d'inclinaison et d'assiette très importants. 5 August 2014	The aeroplane then turned left and quickly lost altitude, with large changes in pitch and bank. 7 August 2014
Juin 2010 – février 2011 : exploitation de toutes les données recueillies au cours des trois campagnes de recherches sous-marines afin d'établir une nouvelle stratégie. 18 June 2012	June 2010 – February 2011: analysis of all of the data gathered during the three previous undersea search campaigns in order to define a new strategy.

13 mai 2011 : début des travaux de lecture des enregistreurs dans les locaux du BEA. 18 June 2012	13 May 2011: beginning of the readout and analysis of the flight recorders at the BEA headquarters.
• un pilote d'essais. 7 September 2011	• An A330 test pilot.
Cette équipe, dirigée par le directeur de l'enquête, Alain Bouillard, assisté de trois enquêteurs du BEA, sera composée : 19 April 2011	This team, directed by Investigator-in-Charge Alain Bouillard, assisted by three BEA Safety Investigators, will be made up of:
Dans l'intervalle, les pièces de l'avion utiles à l'enquête seront relevées. 19 April 2011	During this time, parts from the aircraft that may prove to be useful to the investigation will be recovered.
En raison des contraintes horaires et de l'incertitude liée à toute opération maritime, il semble difficile à ce stade d'organiser, sur le port de Dakar, un point d'information dédié aux media sur les prochaines opérations de récupération de l'épave de l'A 330, vol AF 447. 19 April 2011	Due to time constraints and the uncertainties inherent in maritime operations, it is difficult at this stage to be able to set out a clear schedule for media briefings in relation to the A330 AF 447 recovery operations.
Le BEA mettra à disposition - par l'ECPA-D via le SERT/Globecast - une bande-éléments sur le navire et ses équipements dans les meilleurs délais à la suite du départ du navire du port de Dakar. 19 April 2011	The BEA will do its best to ensure that video footage of the ship and its equipment in Dakar will be provided to the media as soon as possible after the ship's departure. This video footage will be available from ECPA-D via SERT/Globecast. *(Note: This constitutes one instance)*
IMPORTANT : Les journalistes qui souhaiteraient cependant se rendre à Dakar devront entrer en relation directement avec les autorités portuaires pour avoir accès au port. 19 April 2011	IMPORTANT: Journalists who would nevertheless like to travel to Dakar, need to contact the port authorities directly in order to obtain an entry pass to the port.
Après avoir rendu compte à M. Dominique Bussereau, Secrétaire d'État chargé des Transports, de la situation des recherches en mer, le BEA a, à sa demande, préparé la poursuite des opérations. 4 May 2010	After reporting to Mr Dominique Bussereau, Secretary of State for Transport, on the sea searches, the BEA has, at the Secretary's request, prepared a further stage in the operations.

Les travaux entrepris dans les laboratoires du constructeur avec la participation d'enquêteurs spécialisés du BEA et du NTSB ont effectivement permis de récupérer les données des cartes mémoires des deux enregistreurs, l'enregistreur phonique (CVR) et l'enregistreur de paramètres (FDR). 8 January 2009	The work undertaken in the recorder manufacturer's laboratories, with the participation of specialised investigators from the BEA and the NTSB, did in fact make it possible to recover the data from the memory cards of the two recorders, the Cockpit Voice Recorder (CVR) and the Flight Data Recorder (FDR).
Ce rapport décrit les travaux qui ont été effectués au cours des premiers mois de l'enquête, dont les recherches en mer et l'examen des éléments de l'épave, et confirme que la perte de contrôle de l'avion se situe au moment de la rentrée des volets. Le rapport présente l'ensemble des éléments maintenant établis. 6 December 2007	This report describes the work that has been undertaken during the first few months of the investigation, including the undersea searches and the examinations of various parts of the wreckage, and confirms that the loss of control of the airplane occurred at the time of flap retraction. The report presents all of the facts established up to this point in time.
Le CVR a été exploité, sans que cela permette d'expliquer l'accident. Les pièces de l'avion relevées ont été transportées à Paris pour être examinées en laboratoire. 11 October 2007	The CVR was read out and analysed, though this did not provide the investigators with an explanation for the accident. The recovered airplane parts were flown to Paris to be examined in a laboratory.
Ces documents ont été exploités. Les informations et les témoignages recueillis ont été étudiés. 11 October 2007	These documents have been studied, as have other sources of information and the testimony gathered.
Les enquêteurs avaient également rassemblé des documents relatifs à l'exploitation et à l'entretien de l'avion. 11 October 2007	The investigators have also collected documentation relating to the operator, the pilot and the airplane.
Les enquêteurs du BEA vont maintenant retourner au Bourget pour procéder à l'exploitation de tous les éléments recueillis. 6 September 2007	The BEA investigators are now returning to Le Bourget to proceed with the readout and analysis of all of the elements gathered.
Voici un point sur les travaux de recherche entrepris après l'accident survenu le 9 août 2007 au large de Moorea au DHC-6 immatriculé F-OIQI exploité par Air Moorea. 31 August 2007	This is an update on the undersea searches undertaken following the accident that occurred on 9 August 2007 off the coast of Moorea to the DHC-6 registered F-OIQI, operated by Air Moorea.

La journée a été consacrée à la préparation du travail. 31 August 2007	That day was devoted to preparing the search work.
Les pièces de l'épave ont pu être repérées, notamment la partie arrière qui contenait l'enregistreur. 31 August 2007	The positions of parts of the wreckage have been identified, in particular the rear section of the airplane that contained the cockpit voice recorder (CVR).
Il est maintenant en route vers Paris afin d'être exploité par le BEA. 31 August 2007	It is currently en route towards Paris in order to be read out by the BEA.
Aucun corps n'a été identifié à ce jour, au-delà des quatorze corps retrouvés après l'accident. 31 August 2007	No further bodies have been identified since the fourteen bodies found immediately after the accident.
Les moyens nécessaires à l'observation et au relevage de l'enregistreur et des éléments de l'épave ont été trouvés. 17 August 2007	The equipment required for observation and lifting of the recorder and parts of the wreckage has been found.
L'équipe du BEA va rentrer à Paris pour exploiter les premiers documents et informations recueillis. 17 August 2007	The BEA team will be returning to Paris to examine the first documents and information gathered.
En outre, et même si les enquêteurs en attendent beaucoup, on ne peut actuellement préjuger de l'éclairage qui pourra être apporté à l'enquête par ce qu'il sera possible d'exploiter, qu'il s'agisse du CVR ou de parties de l'avion. 17 August 2007	In addition, though the investigators expect a lot from it, we cannot at present say what light will be thrown onto the investigation by any usable information, whether from the CVR or from parts of the airplane
Le matériel mis en place par le BEA avec l'aide de la Marine nationale a permis de localiser l'enregistreur phonique (CVR) qui était à bord de l'avion. 17 August 2007	The equipment put in place by the BEA with the assistance of the French Navy has made it possible to identify the location of the Cockpit Voice Recorder (CVR) that was on board the airplane.

Overuse of Lexical Specification

English to French Translations

English	French
Lightweight flight recording systems In 2013, following its investigation into the March 2011 loss of control/in-flight break-up occurrence, northeast of Mayo, Yukon (TSB Aviation Investigation Report A11W0048), the TSB found that if cockpit or data recordings are not available to an investigation, the identification and communication of safety deficiencies to advance transportation safety may be precluded. 13 July 2016	Systèmes d'enregistrement des données de vol légers En 2013, après son enquête sur un incident de perte de maîtrise et de désintégration en vol survenu au nord-est de Mayo (Yukon) en mars 2011 (rapport d'enquête aéronautique A11W0048 du BST), le BST a constaté que, dans le cadre d'une enquête, l'absence d'enregistrement des conversations dans le poste de pilotage ou d'enregistrement des données de vol peut empêcher la détermination et la communication de lacunes de sécurité servant à l'amélioration de la sécurité des transports.

French to English Translations

No examples.

Phrases to Clauses

English to French Translations

English	French
On 24 February 2015, a de Havilland DHC-8-102, operating as Jazz Aviation LP flight JZA7795 and carrying 15 passengers, departed Toronto/Lester B. Pearson International Airport, Ontario, for a scheduled flight to Sault Ste. Marie Airport, Ontario. 9 March 2017	Le 24 février 2015, un de Havilland DHC-8-102 exploité par Jazz Aviation LP, qui effectuait le vol régulier JZA7795 avec 15 passagers à bord, a quitté l'aéroport international Lester B. Pearson de Toronto (Ontario) à destination de l'aéroport de Sault Ste. Marie (Ontario).

French to English Translations

French	English

Le pilote automatique passe alors en mode de maintien d'altitude et l'auto-manette en mode de maintien de vitesse (Mach). 2 April 2015	The autopilot then switched to the mode that maintains the altitude and the autothrottle to the mode that maintains the speed (Mach).

Lexical Explicitation

English to French Translations

English	French
After crossing the runway threshold, the intensity of the rain suddenly increased, causing the pilot flying to have very few visual references. 28 March 2017	Après que l'aéronef eut franchi le seuil de piste, l'intensité de la pluie a augmenté soudainement, et le pilote aux commandes a perdu la plupart de ses repères visuels.
The rain and the absence of runway lighting made it difficult to detect the aircraft's lateral movement and prevent the runway excursion. 28 March 2017	Étant donné la pluie et l'absence de feux de piste, le pilote a eu de la difficulté à déceler le mouvement latéral de l'aéronef et à prévenir la sortie de piste.
The investigation determined that during the approach in the presence of a thunderstorm, a pilot-induced aircraft rolling movement resulted in the aircraft being in a left bank as it crossed the runway threshold, which, combined with a strong right crosswind, caused it to drift rapidly to the left. 28 March 2017	L'enquête a permis de déterminer que durant son approche en présence d'ans 'un orage, l'aéronef s'est incliné à gauche au moment où il franchissait le seuil de piste à cause d'un mouvement de roulis occasionné par le pilote. Ce mouvement, combiné à de forts vents traversiers de droite, a entraîné une dérive rapide à gauche de l'aéronef.
In its investigation report (A15O0015) released today, the Transportation Safety Board of Canada (TSB) determined that the continuation of an unstable approach following a loss of visual reference led to a Jazz Aviation LP aircraft contacting the surface short of the runway at the Sault Ste. Marie Airport, Ontario, in February 2015. There were no injuries, but there was significant damage to the aircraft.	Dans son rapport d'enquête aéronautique (A15O0015)publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a déterminé que l'aéronef exploité par Jazz Aviation LP a effectué un atterrissage avant le seuil de piste et a heurté le relief à l'aéroport de Sault Ste. Marie (Ontario) en février 2015 parce que l'approche non stabilisée s'est poursuivie après la perte de repères visuels. Personne n'a été blessé, mais l'aéronef a subi d'importants dommages.

9 March 2017	
The investigation also found that the rapidly changing weather decreased the flight crew's visibility of the runway, and that the steepened vertical profile created as a result of the power reduction went unnoticed, and uncorrected. 9 March 2017	L'enquête a également permis de déterminer que les conditions météorologiques qui évoluaient rapidement ont réduit la visibilité qu'avait l'équipage de conduite de la piste. En outre, l'équipage n'a ni remarqué ni corrigé le profil de vol vertical accentué résultant de la réduction de puissance.
Update about the TSB investigation into the accident involving a Tecnam P2006T aircraft near Cochrane, Alberta 27 February 2017	Mise à jour de l'enquête du BST sur l'accident mettant en cause un aéronef Tecnam P2006T survenu près de Cochrane (Alberta)
Thirty minutes after departure, the last radar return from the aircraft was recorded at 7900 feet above sea level. This last radar return was 0.13 nautical mile southeast of the accident site location. 27 February 2017	Trente minutes après le décollage, le dernier écho radar indiquait que l'aéronef se trouvait à 7900 pieds au-dessus du niveau de la mer et à 0,13 mille marin au sud-est du lieu de l'accident.
Work to date The examination and documentation of the wreckage scene is complete and investigators have collected the data they needed from the accident site. 27 February 2017	Travaux entrepris jusqu'à maintenant L'examen et la documentation de l'endroit où se trouvait l'épave sont terminés, et les enquêteurs ont recueilli sur le site de l'accident les données dont ils avaient besoin.
We have obtained most of the radar data and most of the air traffic control audio; we are waiting for a few more files and we are in the process of analyzing it.	Nous avons reçu la plupart des données radar et de l'enregistrement du contrôle de la circulation aérienne; nous attendons quelques dossiers additionnels et nous sommes en train d'analyser ces données.

27 February 2017	
Further, it is important not to draw conclusions or speculate as to causes at this time. 27 February 2017	En outre, il importe de ne pas tirer de conclusion ni faire des suppositions quant aux causes de l'accident à l'heure actuelle.
• Gathered airborne radar, ground radar and audio data from Air Traffic Control. 25 February 2017	• recueilli des données du radar embarqué, du radar de surveillance au sol, et des données audio du contrôle de la circulation aérienne;
Following the release of its investigation report (A15F0165) today, the Transportation Safety Board of Canada is reminding aircraft passengers to comply with flight and cabin crew instructions and to wear their seat belts after 21 people were injured during a turbulence event encountered by Air Canada flight ACA088 in December 2015. 20 February 2017	Le Bureau de la sécurité des transports du Canada (BST) a publié aujourd'hui son rapport d'enquête (A15F0165) sur le vol Air Canada ACA088 à bord duquel 21 personnes ont été blessées en raison de fortes turbulences en décembre 2015. De ce fait, le BST rappelle aux passagers de respecter les consignes de l'équipage de conduite et du personnel de cabine et de boucler leur ceinture de sécurité.
Approximately two and a half hours later, 35 minutes before entering the area of known turbulence, the first officer directed that the inflight service be stopped and that the cabin be secured. 20 February 2017	Environ deux heures et demie plus tard, soit 35 minutes avant de pénétrer dans cette zone de turbulence prévue, le premier officier a demandé au personnel de cabine d'interrompre le service et de préparer la cabine.
Seat belt signs were turned on, and several announcements were made in English, French and Mandarin, stating that the flight was approaching an area of turbulence and asking the passengers to fasten their seat belts. 20 February 2017	On a allumé la consigne lumineuse ceintures, et on a fait plusieurs annonces en anglais, en français et en mandarin, pour informer les passagers que le vol approchait d'une zone de turbulence et leur demander de boucler leur ceinture de sécurité.
The investigation also found that simulator training to recognize an unstable approach leading to a missed approach had not been provided. 9 January 2017	L'enquête a aussi démontré que l'équipage de conduite n'avait suivi aucun entraînement sur simulateur pour les aider à reconnaître une approche non stabilisée menant à une approche interrompue.
Both pilots were conducting visual flight rules (VFR) flights and relying primarily on the	Les deux pilotes effectuaient un vol selon les règles de vol à vue (VFR), se fondant essentiellement sur le principe voir et éviter

see-and-avoid principle to avoid collisions with other aircraft operating under VFR. 20 October 2016	pour éviter les collisions avec d'autres aéronefs volant en mode VFR.
The two aircraft collided at 2800 feet, leading to the left float separating from the Cessna 185, and the in-flight breakup of the Cessna 172. 20 October 2016	Les deux aéronefs sont entrés en collision à une altitude de 2800 pieds, provoquant le détachement du flotteur gauche du Cessna 185 et la dislocation en vol du Cessna 172.
TSB reiterates call for expanded requirements for the use of cockpit voice recorders and flight data recorders, following the Kelowna accident 17 October 2016	Le BST demande de nouveau que l'application des exigences relatives aux enregistreurs de conversations de poste de pilotage et aux enregistreurs de données de vol soit élargie par suite de l'accident de Kelowna
The Transportation Safety Board of Canada (TSB) team is currently in the Field phase of the investigation (A16P0186) into the 13 October 2016 accident north of Kelowna, British Columbia. 17 October 2016	L'équipe du Bureau de la sécurité des transports du Canada (BST) en est présentement à l'étape du travail sur le terrain de son enquête (A16P0186) sur l'accident survenu le 13 octobre 2016 au nord de Kelowna (Colombie-Britannique).
On 17 March 2015, a privately registered Piper PA-32RT-300T, with the pilot and two passengers on board, departed Sudbury, Ontario, on an instrument flight rules flight to Winston Salem, North Carolina. 3 October 2016	Le 17 mars 2015, un Piper PA-32RT-300T privé avec à son bord le pilote et deux passagers a quitté Sudbury (Ontario) pour effectuer un vol selon les règles de vol aux instruments à destination de Winston Salem (Caroline du Nord).
During the descent, the aircraft disappeared from the radar. A search for the aircraft was initiated, and wreckage was located the following morning. 3 October 2016	Au cours de la descente, l'aéronef a disparu des écrans radars. On a alors lancé des recherches afin de le retrouver, et l'épave a été localisée le lendemain matin.
While in a spiral dive, the wings broke due to extreme forces, causing an in-flight breakup of the aircraft. 3 October 2016	Tandis que l'aéronef effectuait un piqué en spirale, les ailes se sont brisées sous l'effet de forces extrêmes, ce qui a provoqué la désintégration en vol de l'aéronef.
While on its way back to the airport, 24 minutes after take-off, the aircraft ran out of fuel.	Alors que l'appareil revenait se poser à l'aéroport, 24 minutes après le décollage, l'appareil a subi une panne sèche.

17 August 2016	
While preparing for the flight, the pilot relied exclusively on the fuel gauges, misread them, and assumed that the aircraft had enough fuel on board for the flight. 17 August 2016	Au cours de la préparation du vol, le pilote s'est fié uniquement aux jauges de carburant, les a mal interprétées, et a supposé que l'appareil avait suffisamment de carburant à bord pour effectuer le vol.
During the flight, the pilot did not monitor the fuel gauges and, when returning to the airport, decided to extend the flight to practise a simulated instrument landing approach, without noticing there was insufficient fuel to complete it. 17 August 2016	Pendant le vol, le pilote n'a pas surveillé les jauges de carburant et, alors qu'il revenait se poser à l'aéroport, le pilote a décidé de prolonger le vol pour pratiquer une approche simulée à l'aide du système d'atterrissage aux instruments sans se rendre compte qu'il n'y avait pas suffisamment de carburant à bord pour compléter l'approche.
Meanwhile, the company's operations manager, who had no previous experience in commercial air carrier operations, was unable [….] to detect deviations from regulations in the commercial flights performed over the company's first three months of operations, which preceded the accident. 17 August 2016	Entre-temps, le gestionnaire des opérations de la compagnie, qui n'avait aucune expérience antérieure en exploitation aérienne commerciale, n'a pas été en mesure de [….] déceler des dérogations à la réglementation dans le cadre des vols commerciaux effectués au cours des trois premiers mois d'opération de la compagnie, soit les trois mois précédant l'accident.
The TSB determined that TC's appointment approval process was not effective and that, once the appointments had been approved, the management team's inability to perform the duties and responsibilities was not grounds for TC to revoke them. 17 August 2016	Le BST a déterminé que le processus de TC en vue de l'approbation des nominations n'était pas efficace et que, une fois les nominations approuvées, l'inaptitude de l'équipe de gestion à assumer les tâches et responsabilités de leurs postes ne constituait pas un motif de révocation par TC.
The Board has been calling on TC to implement regulations requiring all operators in the aviation industry to have formal safety management processes, and for TC to oversee these companies' safety management processes. 17 August 2016	Le Bureau a demandé que TC mette en œuvre une réglementation qui exige que tous les exploitants de l'industrie du transport aérien aient en place des mécanismes en bonne et due forme de gestion de la sécurité, et que TC assure la surveillance de ces mécanismes.
Low speed and high takeoff weight contributed to wing stall in August 2014	Une faible vitesse et une masse élevée au décollage ont contribué au décrochage de

collision with water on Chantslar Lake, British Columbia 14 July 2016	l'aile de l'aéronef et à la collision avec le plan d'eau à Chantslar Lake (Colombie-Britannique), en août 2014
The Transportation Safety Board of Canada (TSB) today released its investigation report (A14P0132) into the accident in August 2014 in which an Air Tractor AT 802A Fire Boss Amphibian stalled on takeoff and crashed into Chantslar Lake, British Columbia. 14 July 2016	Le Bureau de la sécurité des transports du Canada (BST) a publié aujourd'hui son rapport d'enquête (A14P0132) sur l'accident d'un Air Tractor AT 802A Fire Boss avec flotteurs amphibies, qui a décroché durant le décollage avant de percuter Chantslar Lake (Colombie-Britannique), en août 2014.
On 14 August 2014, the Air Tractor, operating as Tanker 685, was carrying out wildfire management operations during daylight near Chantslar Lake. 14 July 2016	Le 14 août 2014, l'Air Tractor, exploité sous l'indicatif Tanker 685, effectuait de jour des opérations de gestion de feux de végétation près de Chantslar Lake.
The floats then struck the water and separated from the fuselage as the aircraft yawed 270 degrees to the right. 14 July 2016	Les flotteurs ont ensuite percuté la surface de l'eau et se sont séparés du fuselage, et l'aéronef a effectué un mouvement de lacet vers la droite sur 270 degrés.
This caused a loss of control moments after liftoff and resulted in both the right-hand wing tip contacting the water and a subsequent water-loop. 14 July 2016	Cet état a entraîné une perte de maîtrise quelques secondes après l'envol et a fait que l'extrémité de l'aile droite a percuté le plan d'eau et causé subséquemment le tête-à-queue sur l'eau.
Conair also put forward a risk mitigation plan for 2015-16 for the company's AT-802 fleet, which addressed issues found during the investigation. 14 July 2016	Conair a également dressé un plan d'atténuation des risques pour la saison 2015-2016 destiné à la flotte d'AT-802 de la compagnie. Ce plan aborde les enjeux qui ont été soulevés durant l'enquête.
A site survey was completed and the wreckage was transported to the TSB Engineering Laboratory (Lab) in Ottawa. 13 July 2016	Après un examen du site, l'épave a été transportée au Laboratoire technique du BST à Ottawa.
Should the investigation team uncover a safety deficiency that represents an immediate risk to aviation, the Board will communicate immediately so that it may be addressed quickly and the aviation system made safer.	Au cas où l'équipe d'enquêteurs découvrirait une lacune de sécurité qui présente un risque immédiat à l'aviation, le Bureau communiquera celle-ci immédiatement pour

13 July 2016	que l'on y remédie promptement afin de rendre le réseau aérien plus sûr.
In October 2005, the FAA began a safety evaluation of the MU-2's accident history. As a result, in 2008, it issued a Special Federal Air Regulation (SFAR 108) that requires MU-2 pilots to complete a standardized training program and to use a standardized checklist. 13 July 2016	En octobre 2005, la FAA a lancé une évaluation de la sécurité portant sur l'historique des accidents du MU-2. Par conséquent, en 2008, l'organisme a émis une Special Federal Air Regulation (SFAR 108) selon laquelle les pilotes de MU-2 doivent suivre un programme de formation normalisée et utiliser un aide-mémoire normalisé.
Although not required by regulation, the occurrence aircraft was equipped with a lightweight recording system. 13 July 2016	Quoique la réglementation en vigueur ne l'exige pas, l'aéronef en cause était muni d'un enregistreur léger de bord.
Records indicate the pilot was certified and qualified for the flight in accordance with existing regulations, and had completed the SFAR 108 standardized training program. 13 July 2016	Les dossiers indiquent que le pilote possédait les licences et les qualifications nécessaires pour effectuer le vol conformément à la réglementation en vigueur, et qu'il avait suivi le programme de formation normalisée SFAR 108
The pilot had about 2500 hours total flight time, and about 140 hours on the MU-2. 13 July 2016	Le pilote avait accumulé environ 2500 heures de vol au total, dont environ 140 heures aux commandes du MU-2.
Completing the report phase of the investigation. 13 July 2016	Achèvement de l'étape de production du rapport d'enquête.
The TSB Watchlist identifies approach-and-landing accidents as one issue which poses the greatest risk to Canada's transportation system. 13 July 2016	Les accidents survenant pendant les phases d'approche et d'atterrissage figurent sur la Liste de surveillance du BST parmi les enjeux qui posent le plus grand risque au système de transport au Canada.
However, this kind of system would also be equally beneficial for aircraft operated by private operators, for flight training and general aviation aircraft as demonstrated in this occurrence. 13 July 2016	Toutefois, ce type de système serait tout aussi avantageux pour les aéronefs d'exploitants privés, les aéronefs de formation au pilotage et les aéronefs d'aviation générale, comme le montre l'événement à l'étude.

After departure, the aircraft deviated north of its intended track into Canadian airspace to avoid a line of thunderstorms, and climbed to its cruising altitude with the intention of navigating its way through them. 6 July 2016	Après le départ, l'aéronef s'est dérouté au nord de sa trajectoire prévue dans l'espace aérien canadien pour éviter une ligne d'orages et a monté à son altitude de croisière dans le but de passer entre ces orages.
Following this occurrence, ExpressJet Airlines improved dispatcher use of flight-following software, and developed policy and procedures related to adverse weather phenomena. 6 July 2016	Après cet événement, ExpressJet Airlines a amélioré l'utilisation que fait le régulateur des vols du logiciel de suivi des vols, et a établi une politique et des procédures sur les phénomènes liés au mauvais temps.
Additionally, as a result of incomplete weight and balance calculations, the aircraft was found to be 342 pounds above its certified maximum weight for flight into known icing conditions, and the aircraft's centre of gravity was also not within limits. 24 March 2016	En outre, en raison de calculs de masse et de centrage incomplets, l'aéronef pesait 342 livres de plus que la masse maximale certifiée au décollage pour un vol dans des conditions givrantes connues, et le centre de gravité de l'aéronef ne se trouvait pas à l'intérieur des limites.
Further, due to the collision with terrain, access to survival equipment and winter clothing loaded in the belly pod was limited. 24 March 2016	En outre, en raison de la collision avec le relief, l'accès à l'équipement de survie et aux vêtements d'hiver, qui étaient rangés dans le conteneur de fret ventral, était limité.
The investigation also found that although passengers were briefed on how to open the cabin door, it did not enable them to do so following the forced landing and they were required to exit through one of the cockpit doors. 24 March 2016	L'enquête a également révélé que même si les passagers avaient reçu un exposé sur la manière d'ouvrir la porte de la cabine, ils ont été incapables de le faire après l'atterrissage forcé et ont dû sortir par une des portes du poste de pilotage.
Shortly before the accident, the pilot entered a shallow descent, possibly in an effort to maintain visual flight in deteriorating weather, and as a result, the aircraft struck a heavily treed area. 15 March 2016	Peu avant l'accident, le pilote a amorcé une descente contrôlée à faible pente, peut-être dans le but de continuer en vol à vue étant donné que les conditions météorologiques se détérioraient.
The pilot relayed this incorrect location information to ATC, rendering ATC assistance ineffective.	Le pilote a communiqué cette information erronée à l'ATC, ce qui a entravé toute aide de la part de l'ATC.

15 March 2016	
For undetermined reasons, the captain started a steep descent 0.56 nautical miles from the threshold, which went uncorrected until it was too late to recover, and the aircraft struck terrain short of the runway. 12 February 2016	Pour des raisons qui demeurent inconnues, le commandant de bord a amorcé une descente abrupte à 0,56 milles marins du seuil de la piste et n'a pas corrigé cette situation avant qu'il ne soit trop tard; l'aéronef a heurté le relief avant d'atteindre la piste d'atterrissage.
The aircraft was not equipped with a flight data recorder or a cockpit voice recorder, nor was it required. 12 February 2016	L'aéronef n'était pas équipé d'un enregistreur de données de vol ni d'un enregistreur de conversations de poste de pilotage, et la réglementation ne l'exigeait pas.

French to English Translations

French	**English**
A la suite de la publication du rapport d'étape le 20 septembre 2014 à Bamako (Mali), les travaux d'enquête se sont poursuivis à partir de l'analyse des paramètres du vol de l'accident. 2 April 2015	Following the publication of the Interim Report on 20 September 2014 in Bamako (Mali), investigative work has continued, based on the analysis of the accident flight parameters.
Environ deux minutes après la mise en palier de l'avion à une altitude de 31 000 ft, des calculs réalisés par le motoriste et validés par l'équipe d'enquête indiquent que la valeur enregistrée de l'EPR, paramètre principal de conduite des moteurs, est devenue erronée sur le moteur droit puis environ 55 secondes plus tard sur le moteur gauche. 2 April 2015	About two minutes after levelling off at an altitude of 31,000 ft, calculations performed by the manufacturer and validated by the investigation team indicate that the recorded EPR, the main parameter for engine power management, became erroneous on the right engine and then about 55 seconds later on the left engine.
Des séances de travail réunissant une vingtaine d'enquêteurs pour la sécurité aérienne se sont tenues au BEA en présence du Président de la Commission d'enquête du Mali et du directeur du BEA. Elles ont permis de préciser l'organisation de l'enquête, de faire	Working sessions involving around twenty aviation Safety Investigators took place at the BEA in the presence of the President of the Mali Commission of Inquiry and the Director of the BEA. These sessions made it possible to determine how the investigation will be organised, to review progress on the

le point sur les éléments disponibles et de décider des travaux à lancer en priorité. 5 August 2014	information available and to decide on the work to be launched as a priority. 7 August 2014
Les deux enregistreurs de vol : l'enregistreur de paramètres – Flight Data Recorder, FDR – et l'enregistreur phonique – Cockpit Voice Recorder, CVR - retrouvés le 25 juillet, ont été acheminés et remis ce matin officiellement par les autorités du Mali, accompagnées par la Gendarmerie française, au directeur du BEA. 28 July 2014	The two flight recorders, the Flight Data Recorder (FDR) and the Cockpit Voice Recorder (CVR), which were recovered on 25 July, were transported by Malian civil aviation authorities, accompanied by the French Gendarmerie, and handed over officially this morning to the Director of the BEA.
Après avoir eu la certitude que l'avion avait disparu dans les eaux internationales et conformément à l'Annexe 13 à la Convention relative à l'Aviation Civile Internationale et au Code de l'Aviation Civile (Livre VII), le BEA, en tant qu'autorité d'enquêtes de sécurité de l'État d'immatriculation de l'avion, a ouvert une enquête de sécurité et une équipe a été constituée pour la conduire. 18 June 2012	After having established without doubt that the airplane had disappeared in international waters, and in accordance with Annex 13 to the Convention on International Civil Aviation and to the French Civil Aviation Code (Book VII), the BEA, as Investigation Authority of the State of Registry of the aeroplane, instituted a safety investigation and a team was formed to conduct it.
En application des dispositions de l'Annexe 13, des représentants accrédités brésilien, américain, britannique, allemand et sénégalais ont été associés à l'enquête au titre de pays constructeurs des moteurs (NTSB) et parce que qu'ils apportaient des informations essentielles pour l'enquête […]. 18 June 2012	In accordance with the provisions of Annex 13, Brazilian, American, British, German and Senegalese accredited representatives were associated with the investigation as the State of the engine manufacturer (NTSB) and because they were able to supply essential information to the investigation […].
10 juin – 10 juillet 2009 : recherches sous-marines pour détecter les signaux émis par les balises acoustiques des deux enregistreurs de vol. 18 June 2012	10 June – 10 July 2009: undersea searches to detect signals transmitted by the two flight recorders' emergency locator beacons.
27 juillet – 17 août 2009 : recherches sous-marines à l'aide d'un sonar à balayage latéral et d'un robot sous-marin pour localiser l'épave de l'avion.	27 July – 17 August 2009: undersea searches with side-scan sonar and a Remotely Operated Vehicle (ROV) to locate the site of the aeroplane wreckage.

18 June 2012	
Juin 2010 – février 2011 : exploitation de toutes les données recueillies au cours des trois campagnes de recherches sous-marines afin d'établir une nouvelle stratégie. 18 June 2012	June 2010 – February 2011: analysis of all of the data gathered during the three previous undersea search campaigns in order to define a new strategy.
13 mai 2011 : début des travaux de lecture des enregistreurs dans les locaux du BEA. 18 June 2012	13 May 2011: beginning of the readout and analysis of the flight recorders at the BEA headquarters.
21 mai – 3 juin 2011 : poursuite des opérations sous-marines. Mise à disposition par le BEA des équipements du navire aux représentants de la Justice qui ont permis de remonter les corps de cent-trois victimes. 18 June 2012	21 May – 3rd June 2011: continuation of undersea operations. The ship and equipment made available by the BEA to representatives of the judicial authorities, which made it possible for them to recover the remains of one hundred and three victims.
L'ensemble de ces travaux sera consigné dans le rapport final qui établira les causes de l'accident et dont la publication est prévue au cours du premier semestre 2012. 7 September 2011	All of the work carried out will be included in the Final Report, which will establish the causes of the accident, whose publication is planned for the first half of 2012.
Le navire câblier Ile de Sein d'Alcatel-Lucent et Louis Dreyfus Armateurs quitte le port de Las Palmas (Iles Canaries) aujourd'hui, avec à son bord un robot Remora 6000 et l'équipe d'opérateurs de Phoenix International Inc. Il doit rejoindre le port de Dakar dans la nuit du jeudi 21 au vendredi 22 avril. 19 April 2011	The cable vessel Ile de Sein, operated by Alcatel-Lucent and Louis Dreyfus Armateurs, is leaving the port of Las Palmas (Canary Islands) today to reach the port of Dakar by Friday 22 April. A Remora 6000 ROV and its team of operators from Phoenix International Inc are on board.
Seront également à bord du navire : quatre Officiers de la Police Judiciaire (OPJ) assistés de trois spécialistes de l'Institut de Recherches Criminelles de la Gendarmerie Nationale (IRCGN). 19 April 2011	On board the vessel there will also be four Officers from the French Judicial Police, assisted by three specialists from the French Gendarmerie institute of criminal research (IRCGN).
En raison des contraintes horaires et de l'incertitude liée à toute opération maritime, il semble difficile à ce stade d'organiser, sur le port de Dakar, un point d'information dédié aux media sur les prochaines opérations de	Due to time constraints and the uncertainties inherent in maritime operations, it is difficult at this stage to be able to set out a clear schedule for media briefings in relation to the A330 AF 447 recovery operations.

récupération de l'épave de l'A 330, vol AF 447. 19 April 2011	
Après avoir rendu compte à M. Dominique Bussereau, Secrétaire d'État chargé des Transports, de la situation des recherches en mer, le BEA a, à sa demande, préparé la poursuite des opérations. 4 May 2010	After reporting to Mr Dominique Bussereau, Secretary of State for Transport, on the sea searches, the BEA has, at the Secretary's request, prepared a further stage in the operations.
Elles se dérouleront dans l'ordre suivant : 1. une zone adjacente à la zone initiale et située au nord-ouest du dernier point connu ; 4 May 2010	The searches will continue in the following order: 1. a zone adjacent to the initial search zone and situated to the north-west of the last known airplane position;
L'accident s'est produit après le décollage, au moment de la rentrée des volets. Le pilote a perdu le contrôle de l'avion qui s'est mis en piqué et a percuté la surface de l'eau. 4 December 2008	The accident occurred after takeoff, at the time of flap retraction. The pilot lost control of the airplane, which dived down and struck the surface of the water.
• les règles de remplacement des câbles en acier inoxydable sur une base calendaire, sans prise en compte de l'activité de l'avion au regard de ce type d'exploitation. 4 December 2008	The rules for replacement of stainless steel cables on a calendar basis, without taking into account the activity of the airplane in relation to its type of operation.
En complément des deux recommandations émises le 9 octobre 2007, le rapport contient six recommandations de sécurité, en particulier l'interdiction des câbles de commande en acier inoxydable sur les DHC6 et la sensibilisation des exploitants d'aérodrome et d'aéronefs aux effets liés au souffle des réacteurs des avions. 4 December 2008	In addition to the two recommendations issued on 9 October 2007, the report contains six safety recommendations, the most notable being a ban on stainless steel control cables on DHC6 airplanes and improving awareness of aerodrome and aircraft operators of the effects associated with airplane jet blast.
En particulier, après la récupération des enregistreurs, le repérage et la récupération des morceaux de l'avion qui se trouvent à environ quarante mètres de fond devraient maintenant commencer.	In particular, after the recovery of the recorders, identification and recovery of the parts of the airplane that are about forty metres under the sea should begin soon.

3 December 2008	
Les boîtiers protégés ont résisté et les cartes mémoires paraissent intactes, mais aucune donnée n'a pu en être extraite. 3 December 2008	The protective casing resisted the impact forces and the memory cards appear to be intact, but no data has been able to be extracted.
Aucune indication sur un éventuel problème n'avait été donnée à l'organisme du contrôle aérien, quand il a cessé de répondre aux appels de celui-ci et s'est d'abord mis en montée puis en descente jusqu'à son impact avec la mer. A ce stade de l'enquête, rien ne permet encore d'expliquer l'accident. 3 December 2008	The crew gave no indications of any possible problems to the Air Traffic Control organisation, when they stopped answering calls from ATC. At this stage of the investigation, none of the information gathered explains why the airplane then deviated from its flight path and crashed into the sea.
Des experts d'Airbus et d'IAE, constructeurs de l'avion et de ses moteurs, de XL Airways Germany, exploitant de l'avion et d'Air New Zealand, propriétaire de l'avion, sont associés aux travaux de l'enquête. 3 December 2008	Specialists from Airbus and from IAE, respectively the manufacturers of the airplane and the engines, from XL Airways Germany, operator of the airplane and from Air New Zealand, the owner of the airplane, are associated with the work of the technical investigation.
Une équipe de six enquêteurs français et de deux enquêteurs allemands, assistée par des agents de la DGAC et des spécialistes d'Airbus, se rend sur place. 27 November 2008	A team of six French and two German investigators, assisted by officials from the French civil aviation authority (DGAC) and specialists from Airbus, is travelling to the accident site.
Le rapport présente l'ensemble des éléments maintenant établis. 6 December 2007	The report presents all of the facts established up to this point in time.
Le pilote et les dix-neuf passagers avaient été tués. Voici un point sur l'enquête. 11 October 2007	The pilot and the nineteen passengers on board were killed. This is an update on the progress of the investigation.
Le CVR a été exploité, sans que cela permette d'expliquer l'accident. 11 October 2007	The CVR was read out and analysed, though this did not provide the investigators with an explanation for the accident.

Sur la base des premières constatations faites, le BEA a recommandé l'inspection des câbles de commande installés sur certains appareils de la flotte mondiale des Twin Otter. 11 October 2007	On the basis of the initial findings, the BEA has recommended the inspection of the stabilizer control cables installed on some airplanes in the Twin Otter fleet worldwide.
Ces documents ont été exploités. Les informations et les témoignages recueillis ont été étudiés. 11 October 2007	These documents have been studied, as have other sources of information and the testimony gathered.
On entend également divers bruits de commandes et des alarmes. 3 September 2007	Various other sounds from the fight controls and alarms are heard.
Le navire Ile de Ré, affrété par le BEA à la Société Alcatel-Lucent Submarine Networks, est arrivé à Papeete le dimanche 26 août au matin (heure locale). La journée a été consacrée à la préparation du travail. 31 August 2007	The Ile de Ré, a ship chartered by the BEA from Alcatel-Lucent Submarine Networks, arrived at Papeete on Sunday 26 August in the morning (local time). That day was devoted to preparing the search work.
Les pièces de l'épave ont pu être repérées, notamment la partie arrière qui contenait l'enregistreur. Elles se trouvaient dans la zone qui avait été identifiée, à environ sept cents mètres de profondeur. 31 August 2007	The positions of parts of the wreckage have been identified, in particular the rear section of the airplane that contained the cockpit voice recorder (CVR). The wreckage is located in the area that had previously been identified, at a depth of about seven hundred metres.
Elle repartira pour coordonner les opérations de relevage à Papeete. 17 August 2007	It will later return to coordinate the lifting operations in Papeete.
Ils seront en place sous une dizaine de jours et seront mis en oeuvre sous l'autorité du BEA et le contrôle de représentants de la Justice. 17 August 2007	It will be put in place within about ten days under the authority of the BEA and under the control of representatives of the judicial authorities.
Selon les premiers résultats, il se trouverait à environ 450 mètres de profondeur sur un fond rocailleux et en pente avec la présence de courants forts. L'affinement de sa position doit être entrepris. 13 August 2007	According to the initial results, it is located at a depth of about 450 metres on a rocky slope on the sea bed, with strong currents in the vicinity. Precise definition of its position is being undertaken.

Le BEA recommande d'éviter de tirer des conclusions hâtives concernant des enquêtes en cours. L'expérience a montré qu'elles étaient fréquemment non fondées. Conformément aux dispositions du Code de l'Aviation civile, il communiquera des informations complémentaires en fonction des évolutions de l'enquête technique. 10 August 2007	The BEA recommends avoiding drawing any hasty conclusions on investigations that are under way. Experience has shown that such conclusions are often unfounded. In accordance with the provisions of the French Civil Aviation Code, the BEA will communicate any additional information as the technical investigation progresses.

Overuse of Lexical Explicitation

English to French Translations

English	French
At the same time, a privately operated Cessna 185 on amphibious floats was descending through the practice area on its way to the Fort McMurray airport. 20 October 2016	Au même moment, un aéronef Cessna 185 sous immatriculation privée muni de flotteurs amphibies effectuait sa descente dans la zone d'exercice en direction de l'aéroport de Fort McMurray.
These include flying along published VFR routes, actively providing and listening for traffic advisories on the radio, and using aircraft collision avoidance systems to detect aircraft flying nearby. 20 October 2016	[…] notamment emprunter des itinéraires de vol VFR publiés, fournir des avis de circulation et écouter activement les avis diffusés par radio, et utiliser les systèmes anticollision pour détecter les aéronefs à proximité.

French to English Translations

French	English
Le 27 novembre 2008, à 16 h 46, heure locale, un Airbus A 320, immatriculé D-AXLA (Allemagne), s'est abîmé en mer au cours de son approche sur l'aérodrome de Perpignan, dont il avait décollé environ une heure plus tôt pour un vol circulaire.	On 27 November 2008, at 16 h 46 local time, an Airbus A 320 registered D-AXLA (Germany), crashed into the sea during its approach to Perpignan airport, from where it had taken off an hour earlier on a Perpignan to Perpignan flight.

27 November 2008	

Addition of Cohesive Markers

English to French Translations

English	French
On the MU-2 instrument-approach profile, the standard speed prior to the initial approach fix is 150 knots, slowing to a final approach speed of 125 knots past the final approach fix. 13 July 2016	D'après le profil d'approche aux instruments du MU-2, la vitesse standard avant le repère d'approche initiale est de 150 nœuds, avant de ralentir à la vitesse d'approche finale de 125 nœuds, au-delà du repère d'approche finale.

French to English Translations

No examples.

Addition

English to French Translations

English	French
Additionally, the investigation found that Transport Canada's (TC) surveillance activities of Atlantic Charters had not identified the discrepancies in the company's operating practices related to continuing airworthiness. 12 February 2016	L'enquête a également permis de déterminer que les activités de surveillance de Transport Canada (TC) n'avaient pas permis de constater les écarts dans les pratiques d'exploitation de la compagnie liées à la masse et au centrage, et au maintien de la navigabilité.

French to English Translations

French	English
En application des dispositions de l'Annexe 13, des représentants accrédités brésilien, américain, britannique, allemand et sénégalais ont été associés à l'enquête au titre de pays constructeurs des moteurs (NTSB) et parce	In accordance with the provisions of Annex 13, Brazilian, American, British, German and Senegalese accredited representatives were associated with the investigation as the State of the engine manufacturer (NTSB) and

que qu'ils apportaient des informations essentielles pour l'enquête (CENIPA, AAIB, BFU, ANAC). 18 June 2012	because they were able to supply essential information to the investigation (CENIPA, ANAC) or because they provided assistance in the sea search phases (AAIB, BFU).

Implicitation

Lexical Generalization

English to French Translations

English	French
The Transportation Safety Board of Canada (TSB) investigation report (A14Q0155) into the 7 October 2014 runway excursion of an Air Canada Airbus A330 at Montréal/Pierre Elliott Trudeau International Airport illustrates the risks posed when conducting approaches and landings in the presence of thunderstorms. 28 March 2017	Le rapport d'enquête (A14Q0155) du Bureau de la sécurité des transports du Canada (BST), sur la sortie de piste d'un Airbus A330 d'Air Canada survenue en octobre 2014 à l'Aéroport international Pierre-Elliott-Trudeau de Montréal, fait ressortir les risques associés à l'exécution d'approches et d'atterrissages en présence d'un orage.
As part of its investigation (A05H0002) into the 2005 Air France runway overrun in Toronto, the TSB issued a recommendation (A07-01) calling on Transport Canada (TC) to establish clear standards for limiting approaches and landings in convective weather. 28 March 2017	Dans son enquête (A05H0002) sur la sortie en bout de piste d'un aéronef d'Air France à Toronto en 2005, le BST avait émis une recommandation (A07-01) qui demandait à Transports Canada (TC) d'établir des normes précises pour limiter les approches et les atterrissages dans des activités convectives.
The report also notes that Montréal-Pierre Elliott Trudeau International Airport is not equipped with a low-level wind shear alert system, nor is it required to by regulation. 28 March 2017	Le rapport indique également que l'Aéroport Pierre-Elliott-Trudeau de Montréal n'a pas de système avertisseur de cisaillement du vent dans les basses couches, et que la réglementation n'en exige pas.
Air Canada also developed new guidance for its flight crews regarding approach and visibility requirements.	Air Canada a également établi de nouvelles lignes directrices pour ses équipages de conduite sur les conditions d'approche et de visibilité.

28 March 2017	
• send selected components to the TSB Engineering Laboratory in Ottawa, Ontario, for further analysis; 27 February 2017	• Envoyer des morceaux de l'épave au laboratoire du BST à Ottawa (Ontario) aux fins d'analyses plus poussées
• continue interviews with the aircraft operator and other such witnesses; 27 February 2017	• Poursuivre les entrevues avec l'exploitant aérien et d'autres témoins
The passengers were deplaned on the runway and transported by bus to the terminal. 25 February 2017	Les passagers sont descendus sur la piste et ont été transportés jusqu'à l'aéroport par autobus.
The aircraft will be thoroughly examined to further determine the extent of the damage. 25 February 2017	L'aéronef fera l'objet d'un examen minutieux pour déterminer l'envergure des dommages.
Approximately two and a half hours later, 35 minutes before entering the area of known turbulence, the first officer directed that the inflight service be stopped and that the cabin be secured. 20 February 2017	Environ deux heures et demie plus tard, soit 35 minutes avant de pénétrer dans cette zone de turbulence prévue, le premier officier a demandé au personnel de cabine d'interrompre le service et de préparer la cabine.
Following the occurrence, Air Canada issued bulletins providing dispatchers with guidance on reporting and providing information to support flight crews in avoiding turbulence. 20 February 2017	Après cet événement, Air Canada a émis des bulletins qui donnent aux régulateurs de vol des directives sur les rapports et l'information à communiquer pour aider les équipages à éviter la turbulence.
There is also an outstanding Board recommendation (**A14-01**) calling for Transport Canada to require airlines to monitor and reduce unstable approaches that continue to a landing. 10 January 2017	De plus, une recommandation antérieure du BST (**A14-01**) demande que Transports Canada exige que les exploitants surveillent les approches non stabilisées qui se poursuivent jusqu'à l'atterrissage et en réduisent le nombre.
TSB reiterates call for expanded requirements for the use of cockpit voice recorders and flight data recorders, following the Kelowna accident 17 October 2016	Le BST demande de nouveau que l'application des exigences relatives aux enregistreurs de conversations de poste de pilotage et aux enregistreurs de données de vol soit élargie par suite de l'accident de Kelowna

Current activities are focused on the collection of information from the accident site and various other sources. 17 October 2016	À l'heure actuelle, les activités consistent à recueillir des renseignements sur le site de l'accident et de diverses autres sources.
"The TSB urges the industry and private corporate aircraft owners to take advantage of the new, low-cost flight recording technology to advance safety in their operations," said Chair Fox. 17 October 2016	« Le BST demande instamment au secteur et aux exploitants d'avions d'affaires privés d'avoir recours aux nouveautés technologiques peu coûteuses pour améliorer la sécurité de leurs activités, » a déclaré Mme Fox.
Also, if the aircraft is operated outside of the demonstrated flight envelope, there is a risk pilots will be exposed to aircraft performance for which they are not prepared. 14 July 2016	De plus, si l'on utilise l'aéronef à l'extérieur du domaine de vol établi, il y a un risque que les pilotes soient exposés à une performance de l'aéronef pour laquelle ils ne sont pas préparés.
The investigation also found that, even though a safety management system (SMS) and processes were in place, an understaffed management structure during organizational changes likely led to excessive workload for existing managers, and contributed to risks not being addressed through the operator's SMS. 14 July 2016	Enfin, l'enquête a également souligné le fait que, même si un système de gestion de la sécurité (SGS) et des processus étaient en place, une structure organisationnelle en sous-effectif durant des changements organisationnels a probablement donné lieu à une surcharge de travail chez les gestionnaires en place, et a fait en sorte que l'exploitant n'a pas utilisé son SGS pour examiner les risques.
The Investigator-in-Charge, Mike Cunningham, is being assisted in this investigation by TSB investigators with backgrounds in flight operations, aircraft performance, aircraft systems and engines, human performance, and air traffic control. 13 July 2016	Pour cette enquête, l'enquêteur désigné, Mike Cunningham, est appuyé par des enquêteurs du BST qui ont de l'expérience en opérations de vols, en performance des aéronefs, en systèmes de bord et moteurs d'aéronefs, en performances humaines et en contrôle de la circulation aérienne.
Representatives from Transport Canada, NAV CANADA, the Sûreté du Québec, the Bureau du coroner du Québec, the National Transportation Safety Board, the Federal Aviation Administration (FAA), the Mitsubishi Aircraft Corporation, Honeywell International Inc., and Hartzell Propeller Inc. are also providing assistance.	Des représentants de Transports Canada, de NAV CANADA, de la Sûreté du Québec, du Bureau du coroner du Québec, du National Transportation Safety Board, de la Federal Aviation Administration (FAA), de la Mitsubishi Aircraft Corporation, d'Honeywell International Inc. et de Hartzell Propeller Inc. collaborent également.

13 July 2016	
At 2127, the pilot made a final radio transmission, and the aircraft crashed shortly thereafter. 15 March 2016	À 21 h 27, le pilote a envoyé un dernier message et le Cessna s'est écrasé au sol peu de temps après.
Transport Canada (TC) has recently developed CRM training standards for these operators and plans to publish them in 2016. 20 January 2016	Transports Canada (TC) a récemment rédigé des normes de formation en CRM pour les exploitants, et prévoit les publier en 2016.
The Board has an outstanding recommendation (A09-02) calling on contemporary CRM training for air taxi and commuter pilots. 20 January 2016	Le Bureau a déjà émis une recommandation (A09-02) demandant qu'une formation en CRM soit dispensée aux pilotes de taxi aérien et de service aérien de navette.

French to English Translations

French	**English**
Environ deux minutes après la mise en palier de l'avion à une altitude de 31 000 ft, des calculs réalisés par le motoriste et validés par l'équipe d'enquête indiquent que la valeur enregistrée de l'EPR, paramètre principal de conduite des moteurs, est devenue erronée sur le moteur droit puis environ 55 secondes plus tard sur le moteur gauche. 2 April 2015	About two minutes after levelling off at an altitude of 31,000 ft, calculations performed by the manufacturer and validated by the investigation team indicate that the recorded EPR, the main parameter for engine power management, became erroneous on the right engine and then about 55 seconds later on the left engine.
• un pilote de ligne qualifié A330 ; 7 September 2011	• A type-rated A330 pilot;
Le navire câblier Ile de Sein d'Alcatel-Lucent et Louis Dreyfus Armateurs quitte le port de Las Palmas (Iles Canaries) aujourd'hui, avec à son bord un robot Remora 6000 et l'équipe d'opérateurs de Phoenix International Inc. Il doit rejoindre le port de Dakar dans la nuit du jeudi 21 au vendredi 22 avril. 19 April 2011	The cable vessel Ile de Sein, operated by Alcatel-Lucent and Louis Dreyfus Armateurs, is leaving the port of Las Palmas (Canary Islands) today to reach the port of Dakar by Friday 22 April. A Remora 6000 ROV and its team of operators from Phoenix International Inc are on board.

Dans l'intervalle, les pièces de l'avion utiles à l'enquête seront relevées. Le BEA rappelle que la remontée des corps et des effets personnels est placée sous la responsabilité des représentants de la justice. 19 April 2011	During this time, parts from the aircraft that may prove to be useful to the investigation will be recovered. The BEA reminds you that the retrieval of any bodies and personal effects is placed under the responsibility of the representatives of the judicial authorities.
En raison des contraintes horaires et de l'incertitude liée à toute opération maritime, il semble difficile à ce stade d'organiser, sur le port de Dakar, un point d'information dédié aux media sur les prochaines opérations de récupération de l'épave de l'A 330, vol AF 447. 19 April 2011	Due to time constraints and the uncertainties inherent in maritime operations, it is difficult at this stage to be able to set out a clear schedule for media briefings in relation to the A330 AF 447 recovery operations.
Le rapport d'étape contient une recommandation de sécurité à l'intention de l'Agence Européenne de la Sécurité Aérienne (AESA) en vue d'un renforcement des exigences réglementaires relatives à la préparation et à l'exécution des vols non commerciaux. 24 February 2009	The interim report contains a recommendation to the European Aviation Safety Agency (EASA) aimed at reinforcing the regulatory requirements related to the preparation and execution of non-revenue flights.
• la prise en compte incomplète par les autorités de navigabilité, les exploitants aéroportuaires et les exploitants d'aéronef des risques liés au souffle des réacteurs ; 4 December 2008	The failure by the airworthiness authorities, airport authorities and operators to fully take into account the risks associated with jet blast;
Aucune indication sur un éventuel problème n'avait été donnée à l'organisme du contrôle aérien, quand il a cessé de répondre aux appels de celui-ci et s'est d'abord mis en montée puis en descente jusqu'à son impact avec la mer. A ce stade de l'enquête, rien ne permet encore d'expliquer l'accident. 3 December 2008	The crew gave no indications of any possible problems to the Air Traffic Control organisation, when they stopped answering calls from ATC. At this stage of the investigation, none of the information gathered explains why the airplane then deviated from its flight path and crashed into the sea.
Il détaille les constatations qui ont été faites sur les câbles de commande de la gouverne de profondeur, c'est-à-dire des zones d'usure	It gives details of the findings relating to the elevator control cables, namely the areas with

importante et une rupture, en partie arrière, au niveau d'une de ces zones. 6 December 2007	significant wear and a failure, in the rear section, in one of these areas.
Les enquêteurs avaient également rassemblé des documents relatifs à l'exploitation et à l'entretien de l'avion. 11 October 2007	The investigators have also collected documentation relating to the operator, the pilot and the airplane.
Par ailleurs, au large de Moorea, la remontée des pièces se poursuit. 31 August 2007	Recovery of the wreckage is continuing off Moorea.
En outre, et même si les enquêteurs en attendent beaucoup, on ne peut actuellement préjuger de l'éclairage qui pourra être apporté à l'enquête par ce qu'il sera possible d'exploiter, qu'il s'agisse du CVR ou de parties de l'avion. 17 August 2007	In addition, though the investigators expect a lot from it, we cannot at present say what light will be thrown onto the investigation by any usable information, whether from the CVR or from parts of the airplane

Lexical Generalization Which Facilitates Comprehension

English to French Translations

English	French
After departure, the aircraft deviated north of its intended track into Canadian airspace to avoid a line of thunderstorms, and climbed to its cruising altitude with the intention of navigating its way through them. 6 July 2016	Après le départ, l'aéronef s'est dérouté au nord de sa trajectoire prévue dans l'espace aérien canadien pour éviter une ligne d'orages et a monté à son altitude de croisière dans le but de passer entre ces orages.
There were two pilots, a paramedic and a nurse on board. While attempting to land a second time on Runway 24, the aircraft contacted a road approximately 1500 feet from the runway, continued through 100 feet of brush, became briefly airborne and struck the ground approximately 1000 feet from the runway threshold. 12 February 2016	Durant une deuxième tentative d'atterrissage sur la piste 24, l'aéronef a heurté une route à environ 1500 pieds de la piste d'atterrissage, a poursuivi sa course à travers 100 pieds de broussailles, a rebondi brièvement, puis a heurté le relief à environ 1000 pieds du seuil de la piste.

French to English Translations

French	English
La mission, conduite sous la coordination du Haut-commissaire de la République en Polynésie française, s'est déroulée en concertation permanente avec l'autorité judiciaire et en présence d'Officiers de Police Judiciaire (OPJ) de la Gendarmerie des Transports Aériens. 6 September 2007	The mission, conducted with coordination from the French Republic's High Commissioner in Polynesia, has been undertaken in close collaboration with the judicial authorities and in the presence of senior police officers from the Air Transport Gendarmerie.
Ils seront en place sous une dizaine de jours et seront mis en oeuvre sous l'autorité du BEA et le contrôle de représentants de la Justice. 17 August 2007	It will be put in place within about ten days under the authority of the BEA and under the control of representatives of the judicial authorities.

Clauses to Phrases

English to French Translations

English	French
The fourth aircraft jettisoned its load, rejected its takeoff, and taxied to pick up the pilot who had been slightly injured. 14 July 2016	Le quatrième aéronef a largué sa charge, a interrompu son décollage, puis a circulé sur l'eau pour récupérer le pilote, légèrement blessé.
Evaluating aircraft performance and determining if weather affected the performance. 13 July 2016	Évaluation de la performance de l'aéronef et détermination de l'influence des conditions météorologiques sur celle-ci.
A fly-by at the airport provided visual confirmation that the landing gear was not fully extended. 14 January 2016	Un survol à l'aéroport a permis de confirmer visuellement la sortie partielle du train.

French to English Translations

No examples.

Lexical Implicitation

English to French Translations

English	French
In addition, during the final approach, weather conditions had changed rapidly to those requiring runway lighting. 28 March 2017	De plus, durant l'approche finale, les conditions météorologiques avaient changé rapidement et à un point tel que le balisage de piste était devenu essentiel.
TC issued an Advisory Circular to alert Canadian air operators to the hazards associated with flight operations in or near convective weather conditions and did propose that this issue be addressed at the international level. 28 March 2017	TC a publié une Circulaire d'information pour avertir les exploitants aériens canadiens des dangers associés aux opérations aériennes dans des activités convectives et à proximité de celles-ci. TC a également soulevé cette question à l'échelle internationale.
Due to ambiguity in the guidance and uncertainty as to the required speed during the approach, the flight crew did not recognize that the approach was unstable and continued the approach to a landing. 9 March 2017	Étant donné l'ambiguïté des lignes directrices et l'incertitude quant à la vitesse requise durant l'approche, l'équipage de conduite n'a pas perçu que l'approche n'était pas stabilisée et l'a poursuivie jusqu'à l'atterrissage.
The investigation also found that the rapidly changing weather decreased the flight crew's visibility of the runway, and that the steepened vertical profile created as a result of the power reduction went unnoticed, and uncorrected. 9 March 2017	L'enquête a également permis de déterminer que les conditions météorologiques qui évoluaient rapidement ont réduit la visibilité qu'avait l'équipage de conduite de la piste. En outre, l'équipage n'a ni remarqué ni corrigé le profil de vol vertical accentué résultant de la réduction de puissance.
Thirty minutes after departure, the last radar return from the aircraft was recorded at 7900 feet above sea level. This last radar return was 0.13 nautical mile southeast of the accident site location. 27 February 2017	Trente minutes après le décollage, le dernier écho radar indiquait que l'aéronef se trouvait à 7900 pieds au-dessus du niveau de la mer et à 0,13 mille marin au sud-est du lieu de l'accident.
There were no reported injuries, and apparent damage to the aircraft at this point is minor. 25 February 2017	On n'a signalé aucun blessé, et les dommages visibles à l'aéronef semblent mineurs.

During the turbulence encounter, 21 passengers were injured, one of whom sustained a serious injury. 20 February 2017	Vingt et un passagers ont été blessés, dont un grièvement.
Following the release of its investigation report (A15F0165) today, the Transportation Safety Board of Canada is reminding aircraft passengers to comply with […]. 20 February 2017	De ce fait, le BST rappelle aux passagers de respecter les consignes de l'équipage de conduite et du personnel de cabine et de boucler leur ceinture de sécurité.
Despite these measures, many passengers were not wearing their seat belts when the flight encountered severe turbulence. 20 February 2017	Malgré ces mesures, un certain nombre de passagers n'étaient pas attachés lorsque le vol s'est trouvé dans de la forte turbulence.
The investigation also highlights deficiencies in training for flight crews in recognizing unstable approaches, as well as the lack of mandatory company reporting of unstable approaches, as risk factors. 10 January 2017	L'enquête a également fait ressortir des lacunes dans la formation des équipages de conduite pour reconnaître les approches non stabilisées, ainsi que l'absence de politique de signalement obligatoire des approches non stabilisées, qui sont des facteurs de risque.
Following the occurrence, Air Canada Rouge refined its stable-approach policy, modified its training to include more manual flying scenarios and incorporated simulator training for unstable approaches leading to a missed approach. 9 January 2017	À la suite de l'événement, Air Canada Rouge a précisé sa politique sur les approches stables, a modifié son programme de formation en proposant plus de pilotage manuel, et a ajouté un entraînement sur simulateur portant sur les approches non stabilisées menant à une approche interrompue.
This principle is based on active scanning, and the ability to detect conflicting aircraft and to take appropriate measures to avoid such aircraft. 20 October 2016	Ce principe repose sur la surveillance visuelle active, la capacité de repérer des aéronefs en conflit et la prise de mesures appropriées pour les éviter.
These include flying along published VFR routes, actively providing and listening for traffic advisories on the radio, and using aircraft collision avoidance systems to detect aircraft flying nearby.	[…] notamment emprunter des itinéraires de vol VFR publiés, fournir des avis de circulation et écouter activement les avis diffusés par radio, et utiliser les systèmes anticollision pour détecter les aéronefs à proximité.

20 October 2016	
The privately-operated Cessna Citation involved in the crash was not equipped with, nor was it required to carry, a CVR or FDR. 17 October 2016	Le Cessna Citation, aéronef privé, qui s'est écrasé n'était pas muni d'un CVR ni d'un FDR, et n'était pas tenu de l'être.
"[…] If we are to get to the underlying causes of these tragic accidents, Transport Canada and the aviation industry need to take immediate action to address this outstanding safety issue." 17 October 2016	« […]Si nous voulons être en mesure de trouver la cause sous-jacente de ces accidents tragiques, Transports Canada et le secteur de l'aviation doivent prendre immédiatement des mesures pour enfin régler cet enjeu de sécurité. »
These flight recording systems could be used by accident investigators to identify safety deficiencies and reduce risk in a timely manner. 17 October 2016	Ces systèmes d'enregistrement de bord pourraient permettre aux enquêteurs sur les accidents de cerner les lacunes de sécurité et de réduire les risques en temps opportun.
Fuel exhaustion led to forced landing in a field near the St-Mathieu-de-Beloeil Airport, Quebec, in June 2013 17 August 2016	Une panne sèche a mené à un atterrissage forcé dans un champ près de l'aéroport de St-Mathieu-de-Belœil (Québec) en juin 2013
Despite a marginal performance during the check flight, the pilot had successfully passed a pilot proficiency check, and TC had approved the individual's appointment to the position of chief pilot. 17 August 2016	Malgré un rendement marginal au cours du contrôle de compétence sur aéronef, le pilote a réussi le contrôle de la compétence du pilote, et TC a approuvé sa nomination au poste de pilote en chef.
The Board has been calling on TC to implement regulations requiring all operators in the aviation industry to have formal safety management processes, and for TC to oversee these companies' safety management processes. 17 August 2016	Le Bureau a demandé que TC mette en œuvre une réglementation qui exige que tous les exploitants de l'industrie du transport aérien aient en place des mécanismes en bonne et due forme de gestion de la sécurité, et que TC assure la surveillance de ces mécanismes.
It was in a group of three similar aircraft working in formation, and was second in line for the touch-and-go runs to scoop water from the lake. 14 July 2016	Il faisait partie d'un groupe de trois aéronefs semblables qui travaillaient en formation, et il était le deuxième en ligne pour effectuer des posés-décollés et écoper l'eau du lac.

The investigation found that a wing stalled, either independently or in combination with an encounter with a wing-tip vortex generated by the lead aircraft. 14 July 2016	L'enquête a permis d'établir qu'il y a eu décrochage de l'aile, soit indépendamment d'un tourbillon d'extrémité d'aile produit par l'aéronef de tête, soit jumelé à celui-ci.
The takeoff procedure used, with the aircraft being heavy, its speed below the published power-off stall speed and a high angle-of-attack, contributed to loss of control at an altitude insufficient to permit a recovery. 14 July 2016	La procédure de décollage utilisée, alors que l'aéronef était lourd, sa vitesse inférieure à la vitesse de décrochage sans moteur publiée et son angle d'attaque prononcé ont contribué à la perte de maîtrise à une altitude qui ne permettait aucun rétablissement.
The autopilot was being used to control the aircraft throughout the flight. 13 July 2016	Le pilote automatique était embrayé durant tout le vol.
However, this kind of system would also be equally beneficial for aircraft operated by private operators, for flight training and general aviation aircraft as demonstrated in this occurrence. As noted, in this investigation, valuable information was extracted and is being analyzed. 13 July 2016	Toutefois, ce type de système serait tout aussi avantageux pour les aéronefs d'exploitants privés, les aéronefs de formation au pilotage et les aéronefs d'aviation générale, comme le montre l'événement à l'étude. Comme nous l'avons souligné, dans ce cas-ci, de précieux renseignements ont été récupérés et font l'objet d'une analyse.
In its investigation report (A14Q0068) released today, the Transportation Safety Board of Canada (TSB) found that the failure of an engine oil feed tube seal led to the turbine rotor failure, and a subsequent fire, during Bombardier engine ground tests at the Montréal International (Mirabel) Airport, Quebec. 5 July 2016	Dans son rapport d'enquête (A14Q0068) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a découvert que la défaillance d'un joint du tube de lubrification du moteur a provoqué la panne de rotor de turbine et, subséquemment, un incendie, au cours d'essais au sol des moteurs par Bombardier à l'aéroport international de Montréal – Mirabel (Québec).
These factors led to a condition that increased the aircraft's stall speed and reduced its ability to climb. 24 March 2016	Les conditions résultantes ont entraîné un accroissement de la vitesse de décrochage de l'aéronef et une réduction de sa capacité de monter.
In its investigation report (A14O0217) released today, the Transportation Safety Board of Canada (TSB) determined that a faulty navigation receiver	Dans son rapport d'enquête (A14O0217) publié aujourd'hui, le Bureau de la sécurité des transports du Canada (BST) a déterminé qu'une défectuosité du récepteur de

and difficulty holding aircraft heading while flying in conditions of limited visual reference, led the pilot of an aircraft to become lost, and eventually collide with terrain near Whitney, Ontario. 15 March 2016	radionavigation et une difficulté à maintenir le cap dans des conditions de repères visuels limités ont fait que le pilote d'un aéronef était perdu avant de percuter le relief à Whitney (Ontario).
The investigation determined that the aircraft was being operated in darkness, below a layer of clouds with limited visual reference, and over an area with few ground lights. 15 March 2016	L'enquête a permis de déterminer que l'aéronef volait dans la noirceur, sous un couvert nuageux offrant peu de repères visuels, et survolait une région peu éclairée.
For undetermined reasons, the captain started a steep descent 0.56 nautical miles from the threshold, which went uncorrected until it was too late to recover, and the aircraft struck terrain short of the runway. 12 February 2016	Pour des raisons qui demeurent inconnues, le commandant de bord a amorcé une descente abrupte à 0,56 milles marins du seuil de la piste et n'a pas corrigé cette situation avant qu'il ne soit trop tard ; l'aéronef a heurté le relief avant d'atteindre la piste d'atterrissage.
However, data recordings from lightweight flight recorder systems, as called for in TSB recommendation **A13-01**, could have provided useful information to investigators and enhance TSB's ability to identify safety deficiencies. 12 February 2016	Or, comme l'a fait valoir le BST dans une recommandation antérieure **A13-01**, les données provenant de systèmes légers d'enregistrement des données de vol auraient pu fournir de l'information utile aux enquêteurs et les aider à cerner des lacunes de sécurité.

French to English Translations

French	English
Le 8 juin 2014, l'avion MD-83 immatriculé EC-JUG de la compagnie Swiftair qui effectuait un vol de transport de passagers au niveau de vol FL 330, a subi une diminution de la vitesse alors qu'il évoluait de jour au-dessus de la couche nuageuse et que l'auto-manette était engagée. L'équipage a détecté le problème, mis l'avion en descente et activé les systèmes de protection contre le givrage des moteurs avant d'atteindre la situation de décrochage, puis a poursuivi son vol.	On 8 June 2014, the MD83 registered EC-JUG belonging to Swiftair, which was performing a passenger transport flight at flight level FL 330, suffered a drop in speed while it was flying during the daytime above the cloud layer. The crew detected the problem, put the aeroplane into a descent and activated the engine anti-ice systems without reaching a stall situation, then continued the flight.

2 April 2015	
Entre 02 h 10 et 02 h 15, un message de position et 24 messages de maintenance ont été émis par le système automatique ACARS. 18 June 2012	Between 2 h 10 and 2 h 15, a position message and 24 maintenance messages were transmitted by the ACARS system.
Après avoir eu la certitude que l'avion avait disparu dans les eaux internationales […] le BEA, en tant qu'autorité d'enquêtes de sécurité de l'État d'immatriculation de l'avion, a ouvert une enquête de sécurité et une équipe a été constituée pour la conduire. 18 June 2012	After having established without doubt that the airplane had disappeared in international waters […] the BEA, as Investigation Authority of the State of Registry of the aeroplane, instituted a safety investigation and a team was formed to conduct it.
13 mai 2011 : début des travaux de lecture des enregistreurs dans les locaux du BEA. 18 June 2012	13 May 2011: beginning of the readout and analysis of the flight recorders at the BEA headquarters.
Cette équipe, dirigée par le directeur de l'enquête, Alain Bouillard, assisté de trois enquêteurs du BEA, sera composée : 19 April 2011	This team, directed by Investigator-in-Charge Alain Bouillard, assisted by three BEA Safety Investigators, will be made up of:
En raison des contraintes horaires et de l'incertitude liée à toute opération maritime, il semble difficile à ce stade d'organiser, sur le port de Dakar, un point d'information dédié aux media sur les prochaines opérations de récupération de l'épave de l'A 330, vol AF 447. 19 April 2011	Due to time constraints and the uncertainties inherent in maritime operations, it is difficult at this stage to be able to set out a clear schedule for media briefings in relation to the A330 AF 447 recovery operations.
Après avoir rendu compte à M. Dominique Bussereau, Secrétaire d'État chargé des Transports, de la situation des recherches en mer, le BEA a, à sa demande, préparé la poursuite des opérations. 4 May 2010	After reporting to Mr Dominique Bussereau, Secretary of State for Transport, on the sea searches, the BEA has, at the Secretary's request, prepared a further stage in the operations.
En effet, le BEA pense qu'il est encore possible de localiser l'épave de l'avion dans ou à proximité de la zone qui vient d'être explorée et qu'il convient d'utiliser les équipements déjà mobilisés et encore disponibles afin de poursuivre ces opérations dans les meilleurs délais.	The BEA believes that it is in fact still possible to localize the airplane wreckage in or near the zone that has just been explored. It is thus considered appropriate to use the equipment that has already been mobilized and is available to continue the operations as quickly as possible.

4 May 2010	
Le « Seabed Worker », équipé des deux véhicules sous-marins autonomes (AUV) de modèle Remus 6000 de l'institut océanographique américain WHOI (Woods Hole Oceanographic Institution) et du robot Triton, a quitté Recife le vendredi 30 avril au matin et est arrivé sur zone dans la nuit du 2 au 3 mai. 4 May 2010	The « Seabed Worker », equipped with two Remus 6000 autonomous underwater vehicles from the American Woods Hole Oceanographic Institution and the Triton ROV, left Recife on the morning of Friday 30 April and arrived in the zone during the night of 2 May. Operations began during the day of 3 May.
• rupture en vol du ou des derniers torons sous l'effet des efforts qui s'exercent sur la commande de profondeur à la rentrée des volets. 4 December 2008	• In-flight failure of the last strands due to the loads exerted on the elevator control when the flaps were retracted.
Il détaille les constatations qui ont été faites sur les câbles de commande de la gouverne de profondeur, c'est-à-dire des zones d'usure importante et une rupture, en partie arrière, au niveau d'une de ces zones. 6 December 2007	It gives details of the findings relating to the elevator control cables, namely the areas with significant wear and a failure, in the rear section, in one of these areas.
Sur la base des premières constatations faites, le BEA a recommandé l'inspection des câbles de commande installés sur certains appareils de la flotte mondiale des Twin Otter. 11 October 2007	On the basis of the initial findings, the BEA has recommended the inspection of the stabilizer control cables installed on some airplanes in the Twin Otter fleet worldwide.
Le navire, mis à la disposition du BEA par la société Alcatel-Lucent Submarine Networks et mis en œuvre par la société Louis Dreyfus Armateurs, doit quitter Papeete le jeudi 6 septembre au matin. 6 September 2007	The ship, made available to the BEA by Alcatel-Lucent Submarine Networks and operated by Louis Dreyfus Armateurs, has to leave Papeete on the morning of Thursday 6 September.
L'enregistrement est de bonne qualité. Il comporte bien l'événement du 9 août 2007, soit un peu plus d'une minute de vol entre la mise en puissance de l'avion et l'arrêt de l'enregistrement. 3 September 2007	The recording is of good quality. It includes the event of 9 August 2007, a little over one minute's flying time between airplane power up and the end of the recording.

Ils seront en place sous une dizaine de jours et seront mis en oeuvre sous l'autorité du BEA et le contrôle de représentants de la Justice. 17 August 2007	It will be put in place within about ten days under the authority of the BEA and under the control of representatives of the judicial authorities.
Ces opérations seront vraisemblablement délicates en raison de la profondeur et des courants marins ainsi que de l'état de l'épave sur lequel nous n'avons pour l'heure aucune certitude. 17 August 2007	These operations will likely be very delicate due to the depth and the currents, as well as the condition of the wreckage, about which we currently have no definite information.

Lexical Implicitation Which Facilitates Comprehension

English to French Translations

English	French
While on approach to Runway 30, in conditions of twilight and reduced visibility due to blowing snow, the aircraft touched down approximately 450 feet prior to the runway threshold. 9 March 2017	Alors que l'aéronef approchait de la piste 30, au crépuscule et dans des conditions de visibilité réduite en raison de la poudrerie, il s'est posé environ 450 pieds avant le seuil de piste.
These include flying along published VFR routes, actively providing and listening for traffic advisories on the radio, and using aircraft collision avoidance systems to detect aircraft flying nearby. 20 October 2016	[…] notamment emprunter des itinéraires de vol VFR publiés, fournir des avis de circulation et écouter activement les avis diffusés par radio, et utiliser les systèmes anticollision pour détecter les aéronefs à proximité.
On 17 March 2015, a privately registered Piper PA-32RT-300T, with the pilot and two passengers on board, departed Sudbury, Ontario […]. 3 October 2016	Le 17 mars 2015, un Piper PA-32RT-300T privé avec à son bord le pilote et deux passagers a quitté Sudbury (Ontario) […].
Shortly after that, the autopilot was disconnected, and almost immediately the aircraft departed from controlled flight. 13 July 2016	Peu après, le pilote automatique a été débrayé et presque aussitôt, l'aéronef est devenu ingouvernable.
ExpressJet Airlines also developed a training module for all flight crew members to	ExpressJet Airlines a également conçu, à l'intention de tous les membres d'équipage de

promote severe weather avoidance and weather radar utilization techniques to identify developing storm activity. 6 July 2016	conduite, un module de formation qui favorise l'utilisation des techniques de radar météorologique pour identifier les tempêtes qui se forment et pour éviter le temps violent.
The investigation also found that although passengers were briefed on how to open the cabin door, it did not enable them to do so following the forced landing and they were required to exit through one of the cockpit doors. 24 March 2016	L'enquête a également révélé que même si les passagers avaient reçu un exposé sur la manière d'ouvrir la porte de la cabine, ils ont été incapables de le faire après l'atterrissage forcé et ont dû sortir par une des portes du poste de pilotage.

French to English Translations

No examples.

Removal of Cohesive Markers

English to French Translations

English	French
As a result, recovery time and altitude loss were increased. 6 July 2016	La perte d'altitude et le temps de rétablissement s'en sont trouvés accrus.
Additionally, a safety management system (SMS) is a comprehensive process for managing safety risks in an organization. 20 January 2016	Un système de gestion de la sécurité (SGS) est un processus complet de gestion des risques pour la sécurité dans une organisation.
TSB also urges TC to implement regulations requiring all operators in the air industry to have formal safety management processes, and to oversee these processes. 20 January 2016	Le BST demande instamment à TC de mettre en œuvre une réglementation qui obligerait tous les exploitants du secteur de l'aviation à se doter de processus officiels de gestion de la sécurité, et de superviser ces processus.

French to English Translations

French	English
L'ensemble de ces travaux sera consigné dans le rapport final qui établira les causes de l'accident et dont la publication est prévue au cours du premier semestre 2012. 7 September 2011	All of the work carried out will be included in the Final Report, which will establish the causes of the accident, whose publication is planned for the first half of 2012.
Il comporte bien l'événement du 9 août 2007, soit un peu plus d'une minute de vol entre la mise en puissance de l'avion et l'arrêt de l'enregistrement. 3 September 2007	It includes the event of 9 August 2007, a little over one minute's flying time between airplane power up and the end of the recording.
Par ailleurs, au large de Moorea, la remontée des pièces se poursuit. 31 August 2007	Recovery of the wreckage is continuing off Moorea.

Omission

English to French Translations

English	French
On 3 October 2014, the Bombardier DHC-8-400, operating as Sky Regional Airlines flight 7519, departed Montréal/Pierre Elliott Trudeau International Airport, Quebec, for a regularly scheduled flight to Billy Bishop Toronto City Airport, Ontario. 10 January 2017	Le 3 octobre 2014, le Bombardier DHC-8-400, qui effectuait le vol Sky Regional Airlines 7519, a quitté l'Aéroport international Pierre-Elliott-Trudeau de Montréal (Québec) à destination de l'aéroport Billy Bishop de Toronto (Ontario).
The TSB also identified deficiencies in the pilot's performance and the company's supervision of flights, as well as weaknesses in Transport Canada's (TC) process for approving operators' appointments of operations management personnel and in the regulatory oversight of flight operations. 17 August 2016	Le BST a aussi relevé des faiblesses à l'égard du processus de Transports Canada (TC) en vue de l'approbation du personnel de gestion des opérations nommé par les exploitants et de la surveillance réglementaire des opérations aériennes.

French to English Translations

French	English
Le 8 juin 2014, l'avion MD-83 immatriculé EC-JUG de la compagnie Swiftair qui effectuait un vol de transport de passagers au niveau de vol FL 330, a subi une diminution de la vitesse alors qu'il évoluait de jour au-dessus de la couche nuageuse et que l'auto-manette était engagée. 2 April 2015	On 8 June 2014, the MD83 registered EC-JUG belonging to Swiftair, which was performing a passenger transport flight at flight level FL 330, suffered a drop in speed while it was flying during the daytime above the cloud layer.
En raison des contraintes horaires et de l'incertitude liée à toute opération maritime, il semble difficile à ce stade d'organiser, sur le port de Dakar, un point d'information dédié aux media sur les prochaines opérations de récupération de l'épave de l'A 330, vol AF 447. 19 April 2011	Due to time constraints and the uncertainties inherent in maritime operations, it is difficult at this stage to be able to set out a clear schedule for media briefings in relation to the A330 AF 447 recovery operations.