

A Data-Driven Learning Approach to Teaching Modal Perfects in a Private Lesson

Theodore A. Bratton

Literature Review

With the growing possibility of using online resources in language teaching, corpora-based approaches, as notably outlined by Sinclair (1991) and Johns (1991), have garnered support from the TESOL community over the past three decades (Flowerdew, 2011; Gavioli & Aston, 2001; Carter, Hughes, & McCarthy, 2012). Some have gone so far as to say that the use of corpora in language pedagogy has unprecedented potential in both inductive and deductive teaching (Liu & Jiang, 2009). This is because by taking an active role in investigating patterns emerging in the language through concordances, students learn to become autonomous consumers of genuine linguistic input as opposed to contrived textbook examples (Gavioli & Aston, 2001). After practicing discovery oriented techniques in the classroom, students can implement them whenever they encounter new instances of the target language, even without the guidance of the instructor.

Corpora are most commonly used to teach lexicogrammar, a concept that challenges traditional distinctions between vocabulary and grammar by viewing the two as inseparable systems (Liu & Jiang, 2009). For example, by studying concordances, students can deduce the difference in usage between two seemingly similar words in context. That said, some have also shown the potential of corpora with traditional grammar teaching in both formal written English and informal spoken registers (Carter, Hughes, & McCarthy, 2012; Lin, 2016; Liu & Jiang, 2009; Smart, 2014). Lin (2016) demonstrated no discernible difference in outcome between data-driven learning (DDL), the form of corpus-based learning discussed in Johns (1991), and deductive treatments in grammar teaching to undergraduate students in Taiwan, but her qualitative measures found that students thought the former to be more motivating. The teachers who partic-

ipated in Lin's (2016) study confirmed these results by noting that students in the DDL conditions were more proactive. Liu and Jiang (2009) found similar effects on motivation in both ESL classrooms in the U.S. and EFL classrooms in China. In this study, though, the students who benefitted most were those enrolled in a graduate-level TESOL course. These findings are consistent with those of Tono, Satake, and Miura (2014), who found corpora to be effective tools for Japanese high school students in self-correcting their essays. The fact that the aforementioned studies were carried out in educational contexts which are generally deductively based and often follow the obsolete grammar translation approach demonstrates the value of DDL for a variety of learners.

While the benefits of pedagogic corpora have been discussed (Willis, 2012), the process of creating one based on the texts students in a given class have been exposed to might not be worth the time invested. After all, a common complaint of DDL in general is the time-consuming nature of material development (Lin, 2016; Gilquin & Granger, 2010; Hunston, 2002; Lenko-Szymanska, 2014). Therefore, an extant corpus, the Corpus of Contemporary American English (COCA), is used in this study to coincide with the practical pedagogical needs of teachers employing DDL.

In the present study, DDL is implemented in an attempt to teach modals in the perfect aspect (modal perfects) in a one-on-one setting. Modal perfects (e.g., *could have*, *should have*, *would have*), when used in the past tense as they most often are, allow speakers to make suggestions about an event that was not actually realized (Larsen-Freeman & Celce-Murcia, 2015). The nebulous aspects of modal perfects justify the use of DDL, which, according to some educators, should be avoided when dealing with easily explicable forms (Lin, 2016). This approach is especially suited to the teaching of high-proficiency grammar like modal perfects because it allows students to be exposed to real instances of the form in everyday language (Gavioli & Aston, 2001). Also, it has been shown that beginner or intermediate students might struggle to analyze patterns in the concordance lines provided by corpora, so using this approach with advanced learners is ideal (Liu & Jiang, 2009).

Using modals in the perfect aspect can be confusing to students for a variety of

reasons. First of all, McGarry (2012) contends that it can be difficult to disambiguate the meaning of these structures without considering the context in which they are used. To complicate matters further, students often assume that the meaning of modal perfects is connected to the inherent perfectiveness of the form (Bowen & McCreary, 1977; DeCarrico, 1986). Because this is not the case, DeCarrico (1986) recommends teaching modal perfects as past tense. That way, incorrect generalizations about the form derived from a syntactically-informed approach will not overshadow the way this language is used in daily life. By reasoning that past events can no longer be urgent, Larsen-Freeman and Celce-Murcia (2015) also note that modals at the top of the authority/urgency scale (e.g., *must*) cannot be used in the perfect aspect in this sense. This could be an additional obstacle preventing learners from grasping the concept of modal perfects. The semantic disconnect between how modals are used in simple and perfect tenses is another pedagogical problem that can prevent students from realizing their errors (Bowen & McCreary, 1977).

Unfortunately, many grammar texts do not separate modal perfect meanings from the way modals are used in other tenses and aspects. McGarry's (2012, p. 85) only explicit mention of modal perfects is in the context of conditional statements, which are categorized together with other modal functions into what McGarry refers to as the "dream statement subjunctive" ("*If I were ... , I would ...*" or "*If I had been ... , I would have ...*"). It is true that these forms are analogous apart from the timeframe to which they are referring. However, by presenting these together, McGarry is ignoring the other functions of modal perfects. Larsen-Freeman and Celce-Murcia (2015) also neglect to make a thorough distinction in semantics between the way modals are used in different tenses and aspects as shown in Table 1. In an attempt to make overarching categories to classify the myriad functions of modals, Larsen-Freeman and Celce-Murcia fail to reflect the complexity students face in learning these forms.

Table 1

Modals and their Core Meanings (adapted from Larsen-Freeman & Celce-Murcia, 2015)

| Modal | Core Meaning | Functions |
|---------------|---|---|
| <i>can</i> | potential force | ability/tendency, social interaction, logical probability |
| <i>could</i> | weakened potential force | ability/tendency, social interaction, logical probability |
| <i>may</i> | potential external barrier to force removed | social interaction, logical probability |
| <i>might</i> | weakened potential barrier to force removed | social interaction, logical probability |
| <i>must</i> | irresistible force | social interaction, logical probability |
| <i>should</i> | weakened obliging force | social interaction, logical probability |
| <i>will</i> | force of commitment | social interaction, logical probability |
| <i>would</i> | weakened force of commitment | ability/tendency, social interaction, logical probability |

Despite being more dated than the aforementioned works, Bowen and McCreary (1977) acknowledge six distinct semantic functions of modal perfects, which are outlined in Table 2. Bowen and McCreary also list modal functions in the simple aspect that are not compatible with modal perfects as shown in Table 3. For the purposes of the present study, I focus on only advisability (*should(n't) have, could have*), non-speculative possibility (using *could have* to refer to a missed opportunity or an alternative action that was not pursued), and conditioned result (*would have*). These are the ones that are most necessary in talking about regrets, which serves as the theme of

the treatments and assessments. Bowen and McCreary suggest contextualizing each function of modal perfects to better suit learners' needs. Therefore, in order to expose learners to appropriate language use in context, mini situations can be used to present each usage. To promote communicative and creative production practice, the teacher can have students comment on a situation using the target form. For example, to practice the advisability function, students can be asked to comment on the following scenario:

Bob was daydreaming yesterday and drove straight through a red light. He got a ticket.

Following Bowen and McCreary's (1977) advice, I have introduced these forms separately and focus on conditionals last. While most language courses teach conditionals first, teaching them after other modal perfects can mitigate the burden of learning these difficult structures. Other modal perfects, such as expressions of advisability, are more common, cannot be paraphrased easily, and provide students with structural and semantic preparation for the conditional.

Table 2

Modal Perfects and their Semantic Functions (adapted from Bowen & McCreary, 1977)

| Semantic Function | Modal(s) | Examples |
|----------------------|------------------------------|--|
| inferred certainty | <i>must have, can't have</i> | He must have been here earlier today. She can't have finished the entire assignment already. |
| inferred probability | <i>should have</i> | They should have arrived in London by now. (though I don't know if they have) That letter should have arrived long ago. (though for some reason it didn't) |

| | | |
|--------------------|---|--|
| advisability | <i>should have, might have, could have</i> | We should have paid him a better salary. They might have at least sent her a get-well card. They could have at least paid the postage. |
| possibility | <i>may have, might have, could have, can have</i> | Pierre may have been Belgian. He might have already seen her. He could have come on the early train. Who can that have been? |
| conditioned result | <i>would have, could have</i> | He would have helped if he had known how desperate she was. She could have finished if she hadn't run out of yarn. |
| prediction | <i>will have, shall have</i> (British usage) | He will have left by the time we get there. By then I shall have collected the last cent of what he owes. |

Table 3

Modal Functions Not Used in the Perfect Aspect (adapted from Bowen & McCreary, 1977)

| Modal | Function(s) Not Used in the Perfect Aspect |
|------------------------------|--|
| <i>must</i> | obligation, prohibition |
| <i>may</i> | permission, wish |
| <i>might</i> | permission |
| <i>can</i> | permission, request, ability |
| <i>could</i> | permission, request, ability |
| <i>shall</i> (British usage) | request for advice, determination |
| <i>should</i> | conditional |
| <i>will</i> | volition, request |
| <i>would</i> | volition, request, habitual/customary |

By integrating consciousness raising DDL activities with the more traditional communicative language teaching suggestions from Bowen and McCreary (1977) and DeCarrico (1986), I seek to uncover whether DDL can be integrated into regular language classes without completely restructuring curricula and with minimal changes to teachers' established methods. Some teachers might be hesitant to alter techniques that have been effective for them in the past, so finding a way to incorporate corpora-based learning into standard second and foreign language classrooms would prove useful for the wide-scale adoption of this approach. In order to do so, I have chosen to implement a heavily guided form of DDL, such as the ones adopted by Carter, Hughes, and McCarthy (2012) and Lin (2016). After all, only the students enrolled in a graduate-level TESOL course benefitted from unguided corpus-based research in Liu and Jiang's (2009) study, suggesting that DDL with minimal guidance is not appropriate for typical learners.

In carrying out this study, I am also interested in discovering whether DDL can be implemented in the context of a private lesson. Liu and Jiang (2009) claim that corpus-based language teaching is best in a small class, but also that group work is beneficial to aid students in their analyses because the amount of concordances produced by any item can be overwhelming for one person. Given the more focused nature of this study's approach and the fact that I have chosen which concordances to expose the participant to, I hypothesize that DDL can be successfully used in a one-on-one setting under such restrictions.

Methods

Participant

Emily (pseudonym) is a twenty-seven-year-old Taiwanese woman living in Japan. Her native language is Mandarin Chinese, though she is also fluent in Japanese. She has only traveled to the United States once, but she learned English from the ages of twelve to fifteen at a cram school, thirteen to fifteen in the Taiwanese public school system, and for three years during university. At the end of her formal education, she

earned a TOEIC score of 760. Although this score suggests that she is a high-intermediate or low-advanced proficiency English user, she has not had the opportunity to learn English in an academic setting since graduating from university and thus lacks confidence about her abilities, especially regarding her grammatical knowledge and accuracy. That being said, she does have the opportunity to use conversational English on a day-to-day basis.

Pedagogical Materials and Procedures

As stated in the literature review, a heavily guided form of DDL, similar to those used by Carter, Hughes, and McCarthy (2012) and Lin (2016), was implemented in hopes of increasing the accessibility of the lesson for the participant and demonstrating the role of corpus data within the confines of a more traditional communicative classroom setting. I began each treatment session by presenting Emily with ten examples of the target form from COCA. Because the exercises and assessments in this study (discussed below) involved speaking, all examples used in this section were transcribed from speech. Although these concordances were not altered from their original versions, I chose those that I thought Emily could understand with minimal assistance. The target grammar was divided among three treatment sessions as follows. To use Bowen and McCreary's (1977) terms, the first treatment session focused on non-speculative possibility or the modal perfect *could have*. The second was framed around the concept of advisability, thereby covering the modal perfect forms *could have*, *should have*, and *shouldn't have*. The target language of the final treatment session was conditioned results or the conditional. Due to time constraints, only the modal perfect *would have* was taught in this regard.

After being exposed to the concordances, Emily was asked to answer several consciousness raising questions about the forms and their meanings. Similar to those used by Carter, Hughes, and McCarthy (2012) and Lin (2016), these questions were meant to elicit from the participant herself the rules about the construction of modal perfects and the situations in which this grammar is used. If she required assistance at any point throughout this process, I referred her back to the concordances to find the answers. Al-

though common forms of error correction, such as recasts, prompts, and explicit correction, have been shown to be effective in the language classroom (Lyster & Saito, 2010), for the purposes of the present study, prompts served as the only means of correctional feedback. Not only have they been shown to be more effective in within-group contrasts than recasts (Lyster & Saito, 2010), but they also reinforce the assumptions of DDL by avoiding the explicit supplementation of the correct forms by the instructor and by increasing learners' autonomy over their own metalinguistic discovery. For example, at one point the participant could not state what patterns were associated with the modal perfect *would have*, so I rephrased the question by asking, "What words appear in all of the examples?" This prompting gave Emily the opportunity to study the concordances from a new perspective and come to her own conclusion.

Once Emily had answered all of the consciousness raising questions and seemed confident about her assumptions regarding the target grammar, I briefly discussed the pronunciation of the forms, which was something that could not be gleaned from the concordances. For example, the first treatment session focused on the modal perfect *could have*, so I had Emily practice both the conjugated *could've* as well as the more colloquial, and perhaps easier, *coulda*. The other treatment sessions covered similar aspects of the pronunciation of the other modal perfects. This was done in an attempt to make Emily's speech in the following production exercises more fluent.

The situations included in Bowen and McCreary (1977) were used for the production section following the consciousness raising questions during the first two treatment sessions. Bowen and McCreary did not include any such exercises for the conditional, so originals were created that mirrored their other examples. These exercises were all similar in that they required the participant to comment on what *could have*, *should/shouldn't have*, or *would have* happened in an alternate past. These responses were limited to only one or two sentences, but they reflected the way the target grammar would be used in contemplating a real-life scenario.

Each treatment session closed with a more freeform speaking exercise. The questions varied by the target language, but they all required Emily to talk about her own regrets in one way or another. Although the participant was allowed some time before

each speaking exercise to write notes and plan what she was going to talk about, she rarely took the opportunity. These sessions were recorded and played back to the participant. At this point, Emily was asked to pause the recording if she heard an error related to the target grammar and correct it. If she neglected to pause the recording when an error occurred, I paused it instead. However, the participant was still required to identify and correct the error by herself.

Even though students in the studies by Liu and Jiang (2009) and Tono, Satake, and Miura (2014) successfully used corpora for self-correction, the COCA itself was not implemented in this way in the present study given the numerous functions of modals, even within the perfect aspect. It would thus prove difficult for a student to make a judgment about how this grammar is used in context from a search in the corpus. After all, corpora are not yet capable of pinpointing a particular function of a grammar point, so any search of such a general construction could yield myriad results. This is especially true given the array of functions that modal perfects serve.

The treatment sessions were approximately thirty minutes in length and took place one week apart.

Assessment Instruments and Analyses

As mentioned above, the primary focus of this study was on the spoken register. Therefore, both the pre-test and the post-test required Emily to speak about her biggest regret for five minutes. After listening to the instructions for the pre-test, the participant asked if she had to speak about only one regret or if she could mention several. Given the choice, Emily decided to discuss several. She was allowed two-and-a-half minutes prior to speaking to write notes and plan what she was going to say.

The participant's target language usage during the assessments was measured by dividing the number of correct target language constructions by the total number of attempted target language constructions. The following criteria needed to be present for the utterance to be counted as correct: (a) a modal (*could*, *should*, or *would*); (b) the present perfect form of the verb after the modal; and (c) the correct use of past perfect in the subordinate clause (conditionals only). Presumably, the more correct attempts at

using modal perfects would make the resulting figure closer to one. Lower values in the denominator would suggest that the participant was not familiar or comfortable with modal perfects, as this grammar is essential for judging one's own past actions.

Results

As shown in Table 4, the participant's score on the pre-test was 0. Although she attempted the target language once, the resulting sentence was ungrammatical. Emily produced the following conditional phrase:

“If I get one more points, that means if I just get one more question right, and I can get into the university.”

The participant neglected to use both the past perfect form and the modal perfect, suggesting that she was not familiar with the past conditional grammar. It can be inferred that she attempted to superimpose the meaning of the more basic future conditional onto the past condition to which she was referring. However, semantics aside, the resulting *if* clause could still be seen as ungrammatical, or at least not preferred, due to the participant's use of the conjunction *and* to connect the subordinate clause, beginning with the adverb subordinator *if*, with the main clause.

Emily's performance on the post-test was an improvement over the pre-test. The improvement cannot necessarily be seen in terms of her overall score of 0.2, but rather in the amount of the target grammar that she attempted. She tried to use the target grammar five times and produced it correctly once as shown in Table 4. Here are the sentences she constructed:

“I could have had a healthy knees if I hadn't gotten into the car accident.”

“I could have been passed to the art class exams if I have studied more hard.”

“If I had studied more hard, I could have get into a better college, too.”

“I could have had more time having fun with my friend if I hadn't putten that

much time in study.”

“If I have been studying English more harder, I could been better to express my thoughts and my thinking to Teddy more smoothly.”

Table 4

Assessment Results

| | Pre-test | Post-test |
|-------------|----------|-----------|
| Correct | 0 | 1 |
| Attempted | 1 | 5 |
| Total Score | 0 | 0.2 |

Discussion

As stated in the introduction and literature review, this study was designed to uncover (a) the effectiveness of a guided DDL approach to the learning of modal perfects in a private lesson setting and (b) the feasibility of employing corpus-based teaching methods within the context of more traditional communicative activities. The results of the assessments suggest a moderate effectiveness for the aforementioned approach to grammar teaching. Because of the treatment sessions, the participant became aware of the modal perfect form that allowed her to express herself in a way that she was not able to during the pre-test. Without modal perfects, it is almost impossible to articulate a hypothetical event in the past. Therefore, this approach can be seen as a relative success, even though the number of grammatically correct instances of the target grammar was limited.

When looking at the errors the participant made on the post-test, several trends emerge. First of all, despite Emily's high-intermediate to low-advanced proficiency, she did not seem familiar with the past participle form for the majority of verbs. Although this knowledge was assumed at the start of this study, I had to review the past participle

throughout all three treatment sessions. Emily's lack of comfort with the past participle was demonstrated in the post-test as well. It is also interesting to note that all of Emily's attempted modal perfects were in the context of a conditional, even though most of the modal perfects that she was exposed to in the treatments were embedded in non-conditional sentences. I hypothesize that this occupation with the conditional form is due to the fact that *if* sentences were familiar to the participant, even though the past conditional was not. Finally, Emily's increased focus on the modal perfects that were covered in our treatment sessions came at the expense of her overall accuracy, as predicted by Skehan's (1998) trade-off model. In most of the cases in which the simple past tense would have been appropriate, the participant used the past perfect form. For example, she said, "I had been through a car accident when I was in college" instead of the more appropriate "I was in a car accident when I was in college." Because this trend was not observed in the pre-test, it can be deduced that the presence of the past perfect in the past conditional statements Emily frequently used interfered with her ability to conjugate simpler verb tenses.

In terms of motivation, the combination of DDL and traditional communicative activities seemed to strike a commodious balance. After the first treatment session, Emily exclaimed, "I feel like I really learned something!" Coming from a student who lacks confidence in her English abilities, especially within the context of a formalized classroom setting, the implications of Emily's reception of a guided DDL approach cannot be ignored. After all, other studies employing a guided inductive approach with consciousness raising activities (Vogel, Herron, Cole, & York, 2011) have found such an approach to be inferior to deductive learning in this area. In Vogel et al. (2011), even students who believed the deductive approach to be their preferred method of learning benefitted more from the inductive treatments on an immediate post-test. While it is true that students may feel lost without the explicit guidance of an authority figure, perhaps the traditional communicative activities that followed the guided DDL session in the present study helped to solidify Emily's knowledge of modal perfects as well as her confidence in using them.

Like any study, however, this one has its limitations. Despite Liu and Jiang's

(2009) claims regarding the benefits of group work in DDL, the guided version of this approach can indeed be implemented within the context of a private setting. Due to the fact that this study included a single student, however, the results cannot be generalized to other situations. In addition, the fact that Emily struggled with past participles might have adversely affected the results of this study. If I had known about the participant's lack of knowledge in this pivotal area prior to the treatment sessions, I would have integrated more practice of the past participle into the beginning of each lesson. Finally, more care could have been taken in demonstrating the usefulness of modal perfects outside of the past conditional. Perhaps a review of all three modal perfect functions covered in this study would have prevented Emily from focusing on the past conditional in the post-test. Another suggestion would be to show the value of modal perfects within extended discourse. The concordances presented throughout the treatment sessions were mere snapshots of the target grammar in an isolated context. Because Emily's task on the pre- and post-tests required her to speak for five minutes about a regret, her inability to spontaneously produce the non-conditional forms of modal perfects, which rely heavily on the surrounding sentences, is understandable.

Conclusion

The reason that I chose to combine DDL with more orthodox activities was to investigate whether teachers can integrate corpora into their already established pedagogies. In this study, the use of DDL in tandem with more traditional communicative exercises produced moderate gains in acquisition of the target grammatical function. The results were somewhat ambiguous, but the increase in the number of modal perfects the participant attempted in the post-test is encouraging. Future studies should focus on larger classrooms. In my experience, educators often do not have the time or freedom to completely alter their classroom routines. The fact that the methods tested in this study are relatively easy to incorporate into communicative or task-based programs should appeal to the practical needs of instructors. By fusing the authentic language exposure characteristic of contemporary corpus-based teaching with tried-and-true meth-

ods of communicative practice, teachers can motivate students with myriad learning styles in an input and output-rich environment.

References

- Bowen, J.D. & McCreary, C.F. (1977). Teaching the English modal perfects. *TESOL Quarterly*, 11(3), 283-301.
- Carter, R., Hughes, R., & McCarthy, M. (2012). Telling tails: Grammar, the spoken language and materials development. In B. Tomlinson, (Ed.), *Materials development in language teaching* (2nd ed.). [Kindle Paperwhite version]. Cambridge University Press.
- DeCarrico, J. S. (1986). Tense, aspect, and time in the English modality system. *TESOL Quarterly*, 20(4), 665-682. doi:10.2307/3586517
- Flowerdew, L. (2011). *Corpora and language education*. Palgrave Macmillan.
- Gavioli, L., & Aston, G. (2001). Enriching reality: Language corpora in language pedagogy. *ELT Journal*, 55, 238-246. doi:10.1093/elt/55.3.238
- Gilquin, G., & Granger, S. (2010). How can data-driven learning be used in language teaching? In A. O'Keefe & M. McCarthy (Eds.), *The Routledge handbook of corpus linguistics* (pp. 359-369). Routledge.
- Hunston, S. (2002). *Corpora in applied linguistics*. Cambridge University Press.
- Johns, T. (1991). Should you be persuaded: Two samples of data-driven learning materials. *ELR Journal*, 4, 1-16.
- Larsen-Freeman, D., & Celce-Murcia, M. (2015). *The grammar book* (3rd ed.). Heinle Cengage Learning.
- Lenko-Szymanska, A. (2014). Is this enough? A qualitative evaluation of the effectiveness of a teacher-training course on the use of corpora in language education. *ReCALL*, 26, 260-278. doi:10.1017/S095834401400010X
- Lin, M. (2016). Effects of corpus-aided language learning in the EFL grammar classroom: A case study of students' learning attitudes and teachers' perceptions in Taiwan. *TESOL Quarterly*, 50(4), 871-893. doi:10.1002/tesq.250
- Liu, D. & Jiang, P. (2009). Using a corpus-based lexicogrammatical approach to grammar instruction in EFL and ESL contexts. *The Modern Language Journal*, 93(1), 61-78.
- Lyster, R., & Saito, K. (2010). Oral feedback in classroom SLA. *Studies in Second Language Acquisition*, 32, 265-302. doi:10.1017/S0272263109990520
- McGarry, R. G. (2012). *Teaching English as a second language: Giving new learners an everyday grammar*. McFarland & Co.

- Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford University Press.
- Skehan, P. (1998). *A cognitive approach to language learning*. Oxford University Press.
- Smart, J. (2014). The role of guided induction in paper-based data-driven learning. *ReCALL*, 26, 184-201. doi:10.1017/S0958344014000081
- Tono, Y., Satake, Y., & Miura, A. (2014). The effects of using corpora on revision tasks in L2 writing with coded error feedback. *ReCALL*, 26, 147-162. doi:10.1017/S095834401400007X
- Vogel, S., Herron, C., Cole, S. P., & York, H. (2011). Effectiveness of a guided inductive versus a deductive approach on the learning of grammar in the intermediate-level college French classroom. *Foreign Language Annals*, 44(2), 353-380. doi:10.1111/j.1944-9720.2011.01133.x
- Willis, J. (2012). Concordances in the classroom without a computer: Assembling and exploiting concordances of common words. In B. Tomlinson, (Ed.), *Materials development in language teaching* (2nd ed.). [Kindle Paperwhite version]. Cambridge University Press.