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To Teach, Delight, and Inspire: Experiences with Kim Sowol's *Jindallaekkot* (Azaleas) as a Printed Facsimile, Printed Scholarly Edition, Web-based Reading Text, and Virtual Reality Experience

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Abstract – Here we document how college students responded to a canonical book of Korean poems, Kim Sowol's 1925 *Jindallaekkot* (Azaleas), presented in a variety of formats: as part of a 2014 printed facsimile, a 2007 printed scholarly edition, a reading text articulated as a web page on a tablet, and a radical refiguration as a virtual reality forest. We asked students to describe if they enjoyed and felt inspired by their encounters with Kim Sowol's poetry in these different formats. We also asked if they felt their experiences were educational and if they engendered a desire to share Kim Sowol's poetry with international peers. Student responses suggest that encounters with novel forms of canonical texts are enjoyable, inspiring, and create a desire to share them with international peers, especially if novel presentations are complemented by more familiar textual idioms, which students found the most educational.

Keywords – Critical editions; Cultural memory; Korean literature; Korean poetry; Virtual reality.

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*Poetry wants to instruct or else to delight;
Or, better still, to delight and instruct at once.*
Horace, translated by David Ferry

1. Introduction

According to Jerome McGann (*A New Republic of Letters*), “What we call literature is an institutional system of cultural memory” (“Preface”). He suggests that “the general science of [the] study [of literature] is philology and its Turing Machine is what scholars call the Critical Edition” (“Preface”). Like Turing’s abstract machine and the mathematical model that defines it, the abstraction Critical Edition determines what can be *computed* as literature according to McGann. Guiding editors as they work to create the critical editions we thumb or scroll through, the Critical Edition according to McGann forces key terms such as *work*, *author*, and *text* to be defined in relation to each other and as part of a conceptual system with “transition rules” (“Turing Machines”) that articulate programs for reading the current state of the cultural record and, crucially, how it can be read in the future. At a time when technological change allows for the radical rethinking of what McGann calls the *alphanumeric* critical edition, this paper investigates how the material shape of critical editions may affect the ways college students enjoy, learn from, and are inspired to share canonical literature. We ask how radical representations of canonical texts may complement codical forms of critical editions to facilitate delight, learning, and the aspiration to reiterate cultural memory. We pursue this question by assessing how the technologies of literary witness affect the opinions of young Korean readers. Following up on previous research that describes the radical rearticulation of Kim Sowol’s (1902–1934) canonical book of poems *Jindallaekkot* (Azaleas, 1925) as an immersive theater experience (de Fremery and Kim), we report on the responses of South Korean college students surveyed after engaging with the title chapter of Kim’s collection articulated in four alternate formats: as part of a 2014 printed facsimile, a 2007 printed scholarly edition, a reading text articulated as a web page on an iPad, and a radical refiguration as a virtual reality experience. Each version of the title chapter presented scholarly commentary in a different manner or had no commentary. The survey was designed to assess the following research questions: (1) if students enjoyed certain formats more than others, (2) if students were inspired by certain formats more than others, (3) if students felt they learned more from certain formats, and (4) if students were more likely to use a particular format of Kim Sowol’s work in a public talk about Korea, Korean literature, or Korean culture given to an international audience. Because participants in the survey were all students in a Department of Global Korean Studies, this last scenario is a real possibility.

Our central finding is that Horace’s maxim about poetry, that it should instruct and delight, can productively guide the design of critical editions of canonical literature. Statistically

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

significant differences among the scores assigned by students to their experiences suggest that the mechanisms articulating textual scholarship can be associated with how students report enjoying, feeling inspired by, learning from, and wishing to share canonical texts with international peers. The novelty of *Jindallaekkot* expressed as a forest in virtual reality delights, inspires, and fosters a desire to share with international peers, according to student responses, because it presents a novel opportunity to playfully engage with canonical poetry. The opportunity to compare textual witnesses in more traditional formats also appears to facilitate a sense of joy and inspiration, as well as a feeling that something has been learned and a desire to share what was enjoyable. Students indicate that while they enjoyed, felt inspired by, and wished to share the radical presentation of *Jindallaekkot* with international peers, they felt that they learned the most from the critical presentation in print that provided a combination of reading texts, diplomatic transcriptions of historical witnesses, and scholarly commentary. Students reported that being able to compare these various witnesses helped to “fill in” missing pieces of a “puzzle”, which appears to have created a belief that an experience had been educational. They also report the experience to be enjoyable and inspirational, as well as a desire to share the experience with international peers. While Horace offers that novelty is to be avoided in poetry, our study suggests that critical editions in novel forms can, when complemented by more familiar critical apparatuses, teach, delight, inspire, and provoke a desire to share canonical literature.

Despite the study’s small size and limited scope, these initial findings are important. They suggest that producers of critical editions should consider expanding the variety of technologies they use to build the Turing machines that provide access to our institutional systems of cultural memory. As scholarly editors acknowledge, the results of critical editing projects are often received with befuddled consternation even by sympathetic academicians and eager students (Vanhoutte). Our results suggest that the traditional codical shapes of critical enterprise can be productively complemented by novel ways of expressing canonical literature. For Koreanists, Korean literary specialists, translators of Korean literature, and others interested in making Korean literature available to a global community, our study suggests that providing Korean students with canonical Korean literary texts in novel forms that inspire and engender joy, when complemented by experiences that are felt to be educational, may affect their willingness to disseminate Korean literary texts to international audiences.

2. Situating This Study: Definitions and Materials

The paper’s aims are two-fold. It aims to investigate how critical editors might reconsider the presentation of critical editions of canonical literature from the perspective of students. What kinds of literary experiences do they find enjoyable, inspirational, and educational? Which do they want to share with the world? How might the design of critical editions affect their experiences and desires? Second, the paper aims to present data and initial hypotheses that address these questions. These data and hypotheses indicate textual scholars would benefit from attending to student experiences with critical editions and how those experiences are shaped by both newer and older technologies of textual witness.

This paper’s scope is limited to these aims, although the paper also illuminates an important disciplinary crossroads for future interdisciplinary research. The paper sits at an unexplored and potentially productive disciplinary intersection that connects discourses on scholarly editing and textual scholarship in literary studies with area studies, as well as with media studies, design, and scholarship on learning. This list of scholarly approaches could also include game studies, software and platform studies, virtual and augmented realities, as well as the digital humanities. For example, the relationship between digital and analog media in textual scholarship, editing, and literary studies more generally has been intensely studied and debated,

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

although less frequently from the perspective of how students experience literature.¹ Digital and analog media are now often investigated and debated within frameworks associated with the digital humanities. However, since the digital humanities has focused increasingly on making statistical summaries of encoded textual corpuses² or “the efficient storage of information” for “search, comparative studies, accessibility” (Bozia), scholars have conducted less research on technologies such as virtual reality within a digital humanities framework.³ Research on cultural heritage, documentation, and virtual reality – frequently referred to as *virtual heritage* –⁴ describes the digital depictions of archeological sites and historical events for pedagogical purposes but does not normally include discussions of literary documents.⁵ Scholars like Margaret Mackey who study literacy as affected by technological change tend to focus on the acquisition of reading skills by young people and not issues related to cultural heritage and institutions of cultural memory, let alone the transcultural circulation of literary texts. An extensive and growing literature on pedagogy, digital media, and virtual reality exists (Beavis; Rowsell; Freina and Ott; Kafai and Dede; Bailenson et al.). It describes the pedagogical opportunities and challenges presented by rapidly changing media technologies (Englund; Cheng; Baxter and Hainey; Su; Hua et al.). Sometimes these studies consider the teaching of literature (see footnote 4), but more frequently, particularly with regard to virtual reality, studies focus on education in the sciences, especially the medical sciences (Freina and Ott). Transcultural communication has been intensely studied but sustained attention has not been paid to how experiences with ‘new’ and ‘old’ textual media may affect the desire to share literary experiences with international peers (see Leila as an interesting exception). This is certainly true in literary studies where the dominant model for investigating the transculturation of literary texts, world literature, generally assumes literary translation expressed in print or media presentations that reproduce the experience of print, such as *webpages* and *ebooks*. Game studies and software and platform studies often make use of literary criticism, cultural studies, and informed technical critique to investigate their objects (cfr. Bogost; Montfort and Bogost). But game studies, as well as research in software and platform studies, does not address the presentation of canonical literature, so far as we can tell. Our study also intersects with the sprawling literature on design, most clearly in areas such as book design and human computer interaction. However, the often highly technical investigations of individual design elements, such as typefaces, page layouts, and user interactions, do not entertain student experiences with canonical literature presented in critical editions.

¹ A short list of relevant sources might include: McGann, *Radiant Textuality*; Kirschenbaum; Deegan and Sutherland; Fraistat and Flanders; Hayles and Pressman; Galey; Kirschenbaum and Werner; Pierazzo; Wasserman and Gurry. There is a large body of research on digital textuality and reading comprehension (Mangen et al., “Reading Linear Texts on Paper Versus Computer Screen”). As we describe in section 2.1, although it is a potentially productive avenue for future cross-disciplinary research, reading comprehension is not a focus of this study.

² Eliza Meeks and Scott Weingart have written “Topic modeling could stand in as a synecdoche of digital humanities”.

³ Some preliminary research has been done on how virtual reality might be used to teach classical Greek drama or express the work of William Blake. See Bozia and also Salvo. Pianzola (et al.) suggests virtuality may affect narrative absorption and empathy with characters appearing in a narrative.

⁴ Virtual heritage is frequently discussed in the *Journal on Computing and Cultural Heritage*, *Journal of Cultural Heritage*, and book series such as *Scientific Computing and Cultural Heritage* (Springer). In South Korea, researchers have been investigating virtual reality as a means of recreating historical places and objects for more than a decade. See, for example, Cho and Mun’s early study.

⁵ Notable exceptions to this are Leoni (et al.) and Colreavy-Donnelly. Joseph Nugent and students at Boston University created a widely publicized game based on *Ulysses*, as has Eoghan Kidney, although neither creation appears to have been discussed in academic publications.

To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

2.1. Materiality and Digital Texts

Many avenues of investigation exposed by our paper concern materiality. Briefly summarizing key discourses about materiality in literary studies and critical editing will help to clarify further how our study is situated in these discourses. It will also clarify how our study is related to but distinct from research on the materiality of reading, for example, while suggesting avenues for productive future research.

Early hype about digital technologies in literary studies was premised upon the idea that digital texts were ephemeral and lacked substantial material presence (Kirschenbaum). These early assumptions were challenged by several literary and media scholars, including Matthew Kirschenbaum in his 2008 monograph *Mechanisms*. In *Mechanisms*, Kirschenbaum argues against the idea that digital objects lack materiality. He argues instead for understanding digital materiality as a tension between what he calls forensic and formal materiality. Borrowing from forensic science, Kirschenbaum suggests that forensic materiality “rests upon the principle of individualization (basic to modern forensic science and criminalistics), the idea that no two things in the physical world are ever exactly alike” (loc. 195-209 of 3842). Formal materiality, he writes, should be associated with the ability of digital environments to sustain a “capacity to propagate the illusion (or call it a working model) of *immaterial* behavior: identification without ambiguity, transmission without loss, repetition without originality” (loc. 207-209 of 3842, emphasis in original).

While debating how to conceptualize the materiality of digital texts, critical editors have also been reconsidering key terms and methodological axioms thrown into relief by the opportunities and costs of digital technologies. Where once the physicality of printed critical editions and the economics of producing them implicitly guided editorial decisions about what to present as canonical literature, digital technologies have shifted editorial calculations (Bree and McLaverty). Editors are reconsidering their criteria for selecting and organizing witnesses for inclusion in a critical edition and reimagining how critical commentary might be presented. Central questions about which witness to use as a copy text when preparing a critical edition, “perhaps the most important question of all for print editions” (loc. 3121-3124 of 5013), have become less important when producing digital critical editions since several different versions of a text can be included in electronic editions. The terms of debates about editorial method – facsimile and diplomatic editing versus eclectic editing (described below) – have had to be rethought since it has become possible for readers to create their own eclectic texts from digital facsimiles and encoded diplomatic transcriptions. Critical editors have also come to understand that “the balance of attractions between a print and an electronic edition” is fluid and “changing all the time... as technological innovation in the academic area” advance and the “relationship between print and electronic forms of publishing evolve” (loc. 3132-3133 of 5013).

This study contributes to these discussions by investigating “the balance of attractions between print and electronic editions” at a moment when technological innovation allows us to image electronic critical editions as more than encoded transcriptions of printed texts presented on screens. We complement discussions about what to present in critical editions – a single copy text or multiple witnesses – with questions about how to present canonical literature when it is possible to image literature in non-codical shapes. Although we assume that digital texts, like texts in other modalities, are material and that experiences with them are distinct, we do not attempt to make a case for or against specific theoretical propositions about materiality such as Kirschenbaum’s.⁶ Rather, based on the assumption that experiences with digital objects are material, we open a new line of questioning in textual studies by seeking to understand how the material constitution of canonical literary works in both traditional,

⁶ See Galey for an important critical engagement with Kirschenbaum’s argument about materiality.

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

codical forms and new, non-codical shapes may differently engender joy, inspiration, and a sense that something has been learned, as well as a desire to share canonical literature.

The study also contributes to the discourse about critical editing by employing empirical methods, which is rare in scholarship concerning critical editing since most critical editors have been trained and work in humanities departments where empirical methods are less frequently employed. Our empirical orientation aligns our study with empirical studies in the fields we describe above. But we remain focused on issues in textual scholarship and critical editing, as a brief comparison with research on the materiality of reading will help to reveal.

As Mangan (et al. “Reading Linear Texts on Paper Versus Computer Screen”) suggests, there is a large body of research on “the impact and effect of different aspects of digital textuality on reading comprehension” (61). Hou (et al.), for example, investigates “how screen text being digital, and hence detached from physical support, might influence different reading outcomes” (86). They show that reading comprehension declines when students read texts in digital formats. Mangan (et al. “Comparing Comprehension of a Long Text Read in Print Book and on Kindle”) is another useful recent example of work that suggests different reading comprehension outcomes are correlated with the materiality of a text, i.e. whether it is read in a digital or print format. In conceptually related studies, Schilhab (et al.) suggest digital formats negatively affect “deep reading”, which they define, after Birkerts, as “the slow and meditative possession of a book”.

Although they present potentially productive avenues for future cross-disciplinary research on reading comprehension as it relates to canonical literature, this study does not address how the materiality of texts might shape opportunities for deep reading or affect reading comprehension, nor have questions such as these been questions that critical editors have traditionally entertained. While we take the evidenced and well-reasoned points about reading made by scholars such as Mangan, Schilhab, and Hou, our questions and underlying assumptions are different. Where scholars such as Mangan wish to know how the materiality of texts affect reading comprehension and Schilhab investigates deep reading as embodied experience, we investigate print and digital materials in the context of critical editing to understand how experiences with alternate material manifestations of canonical literature in codical and non-codical forms may differently inspire, affect joy, and create a sense that something has been learned. Because we assume that digital and printed texts are both material, albeit formulated differently by different material processes, we do not attempt to theorize any relative scale of *materiality* along a spectrum from print to digital texts as Schilhab (et al.) suggests with the title of his paper: “Decreasing Materiality from Print to Screen Reading”. Nor, as Hou (et al.) suggests, do we assume that digital experiences can be “detached from physical support” (86). As with the many other areas with which our study intersects, issues of materiality as they might relate to reading comprehension or deep reading are likely to be productive sites of future research but not what we undertake here. In summary, although we reveal reader responses to critical editions to be fertile ground for transdisciplinary scholarship, we limit our discussion to critical editing and why critical editors might productively consider the material and conceptual design of critical editions of literature.

3. *Jindallaekkot*, editing, and editions

We have selected Kim Sowol’s *Jindallaekkot* for our study because it is the epitome of canonical literature. Hundreds of books and articles about Kim and his works have been written, and his poetry is deeply engrained in middle, secondary, and post-secondary curricula. Moreover, many critical editions of *Jindallaekkot* have been produced, especially since the 1980s (de Fremery; Eom and de Fremery). Kim’s book therefore provides a useful starting point for

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

considering how canonical literature might be reproduced in critical editions that can inspire, teach, engender joy, and promote the sharing of canonical literature.

3.1 Editing and editions

“We inherit two basic types of scholarly editorial method”, writes McGann, “facsimile and diplomatic editing, on one hand, and eclectic editing on the other” (*Radiant Textuality* 113-114). The versions of Kim Sowol’s poems that students ‘read’ for this study represent the results of both editorial approaches. Representing the first type of scholarly editing is the facsimile representation of Kim’s book, published in 2014 by Somyeong Chulpansa; it was edited by Eom Dong-seop and one of the authors of this study. The other three presentations of Kim’s book represent the second type of editing, albeit with a new twist when it comes to a radical refiguring of Kim’s book as a virtual reality forest.

Scholars disagree about the provenance of the earliest versions of Kim Sowol’s only book of poems. The two earliest versions are frequently described as alternate ‘editions’ (*panbon*) of *Jindallaekkot* in Korean scholarship: the Hanseong Doseo panbon and the Junang Seorim panbon, although it has been argued that the earliest versions of *Jindallaekkot* should be considered two issues (de Fremery 259-293) The Junang Seorim panbon was rediscovered by scholars in 2011, although some book collectors had known of its existence prior to 2011.⁷ The facsimile read by students included images of the *Jindallaekkot* panbon side-by-side.

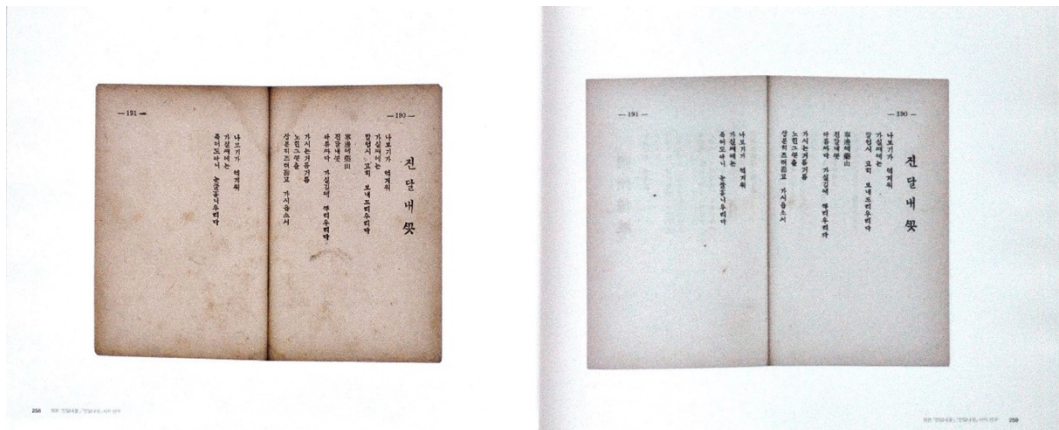


Fig. 1 – Title poem of *Jindallaekkot* in 2014 Somyeong facsimile.

⁷ A third variant ‘edition’ of *Jindallaekkot* has recently been described by Eom Dong-seop. We have not included a discussion of this variant in our study.

To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

The text we refer to as the ‘scholarly print edition’, ‘critical anthology’, ‘edited anthology’, or simply ‘anthology’ in this study is Youngmin Kwon’s *Kim Sowol si jeonjip*, published in 2007 by Munhak Sasang. It appeared before the discovery of the Junang seorim panbon but includes diplomatic transcriptions of every extant version of all the poems produced by Kim Sowol known at the time of its publication, scholarly notes, and reading texts of each of Kim’s poems in South Korea’s contemporary orthography (*byeondaeeo*). Although there are differences between the Hanseong Doseo and the Jungang Seorim panbon, they are not likely to have affected the way Kwon created his *byeondaeeo* ‘reading texts’ for the chapter of *Jindallaekkot* that students read for this study. Nor are the differences likely to have greatly affected student experiences with the diplomatic transcriptions Kwon presents.

진달내뫼¹⁾

나보기가 역겨워²⁾
가실때에는
말업사 고히 보내드리우리다

쑥쑤에꽃산
진달내뫼
아름³⁾따다 가실길에 쑤리우리다

가시는거름겨름⁴⁾
노힘그꽃줄
삼뿐려즈리밭고⁵⁾ 가시웁소서

나보기가 역겨워
가실때에는

1) '진달내뫼', 190~191쪽
2) 역전다. 나중에 저술려 못바알리다.
3) 두 팔을 벌려 말올 수 있는 부끄 린 아류.
4) '거름겨름'의 오리.
5) 이기본 보주는 '소원시의 인어에 대하여', '월간', 1982년 12월호에서 '크려함 다쁜 '기리다다다'와 같은 뜻으로 보아 '밭'에 있는 것을 입을 주이 밭다는 뜻으로 해석하였으며, 대체로 이 해석을 따르고 있다. 원자는 '즈리밭'을 하나의 용사로 보지 않고 '크려'와 '밭'라는 두 단어로 구분하여 쓴 것을 제안하고자 한다. 이 경우 '크려'는 거름'하는 일의 명칭으로 어떤 일이 일어나기 전 또는 '먼저 시작하는 뜻이다. 여기서는 길 위에 뿌려 놓은 진달래꽃을 다룬 사람이 밭기 전에 먼저 먼저 밭고 가시라는 뜻으로 해석할 수 있다. 김이이 편본 '소원 시'을 보면 이 부분이 '지레 밭고로 바뀌어 있다.

제1부 '진달래꽃_289

죽어도 아니 눈물흘니우리다

『개벽』 제25호, 1922년 7월, 146-147쪽

진달내뫼²⁾

나보기가 역겨워
가실때에는 말업사
고히고히 보내들이우리다.

쑥쑤엔 꽃산
진달내뫼
아름 따다 가실길에 쑤리우리다.

가시는길 말기름이나
쑤려노흔 그꽃줄
고히나 즈리밭고 가시웁소서.

나보기가 역겨워
가실때에는
죽어도 아니, 눈물흘니우리다.

현대어 표기

진달래뫼

나 보기가 역겨워

2) 민요시.

290_김소월시선집

가실 때에는
말업이 고히 보내드리우리다

쑥쑤엔 약산
진달래꽃
아름 따다 가실 길에 쑤리우리다

가시는 걸음걸음
놓인 그 꽃줄
삼뿐려 즈리 밭고 가시웁소서

나 보기가 역겨워
가실 때에는
죽어도 아니 눈물 흘리우리다

제1부 '진달래꽃_291

Fig. 2 – Title poem of *Jindallaekkot* in 2007 Kwon edited anthology.

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

The ‘reading text’ described in this paper was created by reiterating Kwon’s *byeondaeco* rendition of Kim’s poems as a webpage that students could read on an iPad air in a Safari Browser. Sino-Korean characters were added in parentheses to gloss the *hangeul* text.⁸

The virtual reality experience produced for this study is derived from previous work that iterated Kim Sowol’s book as an immersive theater experience (de Fremery and Kim). This experience attempted to reveal “the basic operational instructions” of *Jindallaekkot* and texts more generally, such as “the rules that govern alphabets and non-alphabetic forms of writing, the ways that characters are arranged in textual space, the structural forms of words, phrases, and other higher morphemic/phonemic units”. It did this by rewriting those basic codes of *Jindallaekkot* “in order to present the text as it has never been” (23). “Visually juxtaposing this new text with those that operate according to the algorithms of print” would reveal, we argued, “the elemental artifactual forms of *Jindallaekkot*’s historical iterations” (23). To do this, we created an algorithm that read the linguistic and bibliographic codes of each poem and then, based on these readings, drew each poem in *Jindallaekkot* as a tree to create a forest. The number of branches drawn by the algorithm corresponded to the number of lines in a particular poem, and the leaves of each tree were colored according grammatical characteristics of words in each poem. These renditions were then projected onto screens arranged in a circle within a small theater space, what is often called a CAVE, so a person standing in the theater would feel as if s/he was immersed in a forest. Visitors to the theater space could navigate through the forest using a mouse placed on a stand at the center of the theater. Visitors could also navigate into individual trees to discover the digital texts being used by the algorithms to draw those trees, as well as facsimile images of the original 1920s publications. The aim, as we describe, was to enable those in the theater to compare what was with what can be.

The virtual reality experience created for this study, built using Unity 3D, is based on the initial theater presentation. However, some significant modifications were made to enable a user to navigate the ‘forest’ of Kim Sowol’s poems in virtual reality rather than a theater space. The environment and the trees were algorithmically generated in three dimensions. The trees were ‘planted’ such that they could be explored from any angle, and new interaction methods were created for the Head-Mounted Display. The visual presentation of the forest was also stylized somewhat differently to take advantage of the opportunities presented by the virtual space, which enabled somewhat richer colors than those produced by projectors in the theater. Importantly, we also removed images of the two 1920s *Jindallaekkot panbon* since students would encounter facsimile reproductions of the *panbon* in printed form in our experiment, potentially complicating our analysis of how students responded to Kim Sowol’s poetry in different formats.

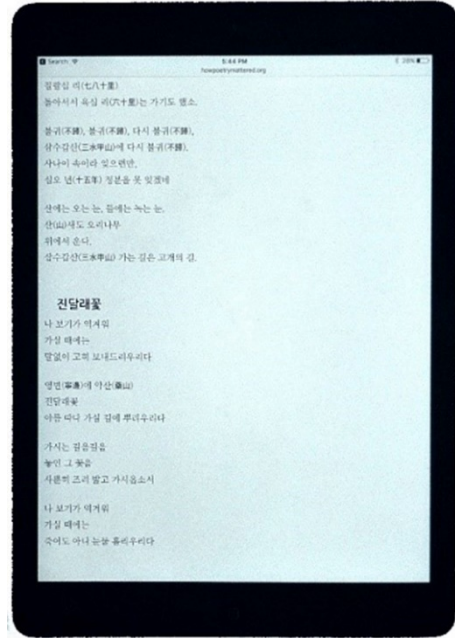


Fig. 3 – Reading text of title poem of *Jindallaekkot* as a webpage viewed on an iPad.

⁸ The following describes how the titles and bodies of the poems were styled: [titles] font-family: Nanum Gothic, serif; font-weight: 550; font-stretch: semi-expanded; padding-left: 45px [body] font-family: Nanum Myeongjo, serif; font-size: 110%; line-height: 90%; font-stretch: semi-expanded; padding-left: 20px.

To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

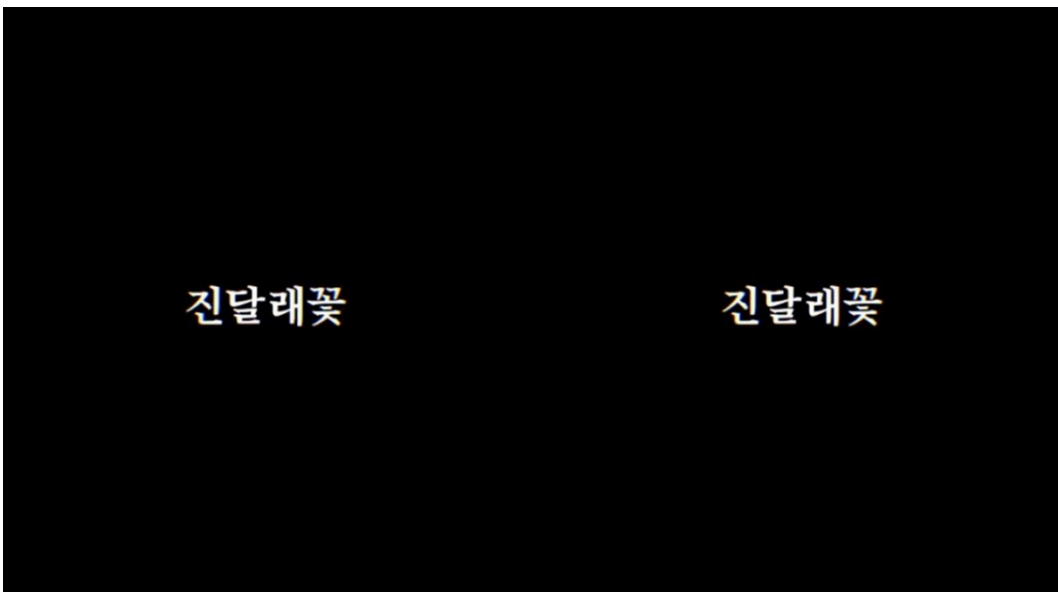
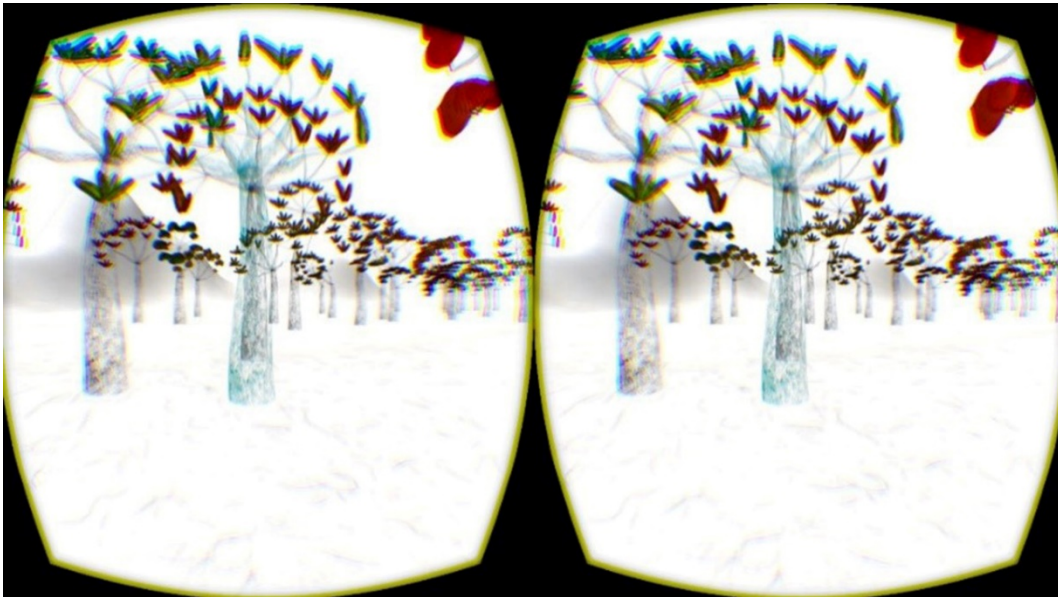


Fig. 4 – Title poem of *Jindallaekkot* drawn as a tree in the virtual reality environment. Image of the title when the tree is 'selected' to reveal the text used to draw the tree.

To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim



Fig. 5 – The 2014 printed facsimile, 2007 printed scholarly edition, reading text articulated as a web page navigated by means of an iPad, and virtual reality presentation of *Jindallaekkot* as they were presented to students who were asked to read the title chapter of Kim Sowol's canonical book of poetry.

4. Procedure

A call for student participation in a study related to Korean poetry was circulated in the Department of Global Korean Studies at Sogang University during the winter of 2015. Of roughly eighty students enrolled in the department at the time, ten agreed to participate, two males and eight females. One male student from the Department of History learned of the study and wished to participate, bringing the total number of participants to eleven. The study was conducted in February, during winter recess. At the time, five participants had just completed their first year of undergraduate study, five their second, and one his third. Students who participated were probably already interested in Korean literature since the announcement indicated that the study concerned Korean poetry and ten of the eleven participants, including the student from the history department, had previously taken a course related to Korean literature with one of the authors.

The eleven participating students were asked to read the title chapter of *Jindallaekkot* in the four formats described above and were given roughly ten minutes with each presentation. They could interact with the four different formats in any order that they wished, although they were asked to spend roughly ten minutes with each before moving onto another. We considered whether the order in which students encountered the text would affect their responses. Given our small number of participants, we decided this would be hard to test. We chose, therefore, for the sake of this study, to assume that the order would not matter in their responses. This will need to be tested in future studies. No demands were placed on students concerning which or how many of the fourteen poems in the title chapter they should read.

Before beginning, informed consent about the research was obtained. Students were told that they would be asked to rank each format at the end of the session and provide a written statement in English describing the reasons for their rankings. However, they were not told the criteria for assigning ranks. To facilitate the survey, the following labels were given to the formats: Facsimile, Edited Anthology, iPad Presentation, Oculus Rift Presentation. These correspond to the 2014 printed facsimile, the 2007 printed scholarly edition, the reading text articulated as a web page on an iPad, and *Jindallaekkot* represented as forest in virtual reality, respectively. Before they began encountering the alternate formats of Kim's book, students were provided with brief descriptions of the labeled formats of *Jindallaekkot*. These descriptions included instructions about how to interact with the virtual reality format.

To Teach, Delight, and Inspire

Wayne de Fremery and Jusub Kim

Participants replied to a survey presented via computer. Our mixed method design included both quantitative and qualitative, semi-structured questions. The first section asked participants to rank their experience with each of the formats according to a 5-point scale, with 1 representing the most negative value and 5 the most positive. The following four questions were asked:

Question 1: Please rank each presentation on the basis of how much you enjoyed it.

Question 2: Please rank each presentation according to how much it inspired you to write, talk, tweet, or text someone about the poetry of Kim Sowol and/or create something new with the poetry of Kim Sowol.

Question 3: Please rank each presentation according to how much you feel it taught you about Kim Sowol, Kim Sowol's poetry, Korea, and/or Korean literature.

Question 4: Please rank each presentation according to how much you would like to use it in a presentation of your own about Korea, Korean literature, or Korean culture made to an international audience of your peers.

To test the null hypothesis that there was no difference among student rankings, we planned to perform a Friedman test – a non-parametric test designed to assess differences in rankings. To assess if there was general agreement among student responses, we also planned to calculate Kendall's coefficient of concordance (W) on the ranked responses. The second section asked participants to describe how they determined the score they gave to each experience.

5. Results

Statistically significant differences were found among student responses to the questions asking them to rank their experiences according to a 5-point scale. Using the Friedman test, we were able to reject the null hypothesis that there was no difference among student rankings at a significance level of .05 ($\alpha = .05$).⁹ When we calculated Kendall's coefficient of concordance (W) on the ranked responses, we found that there was relatively little agreement among students, except when it came to Kwon's Anthology.

	Enjoy Mean Rank (Mode) [Median]	Inspire Mean Rank (Mode) [Median]	Learn Mean Rank (Mean) [Median]	Use Mean Rank (Mode) [Median]
Facsimile	2.18 (2) [3]	2.55 (2)[3]	2.86 (4)[4]	3 (4)[4]
Edited Anthology	3.14 (4)[4]	2.86 (2)[3]	3.82 (5)[5]	2.82 (3)[4]
iPad	1.77 (2)[2]	1.32 (1)[1]	1.45 (1)[2]	1.32 (1)[1]
VR	2.91 (5)[4]	3.27 (5)[4]	1.86 (2)[2]	2.86 (5)[4]
Friedman Test	0.039	0.002	0.000025	0.003
Kendall's W (1 suggests complete agreement and 0 complete disagreement)	0.254	0.459	0.726	0.418
Chi-Square	8.394	15.147	23.971	10.929

$\alpha = .05$; degrees of freedom = 3; number of responses = 11

Tab. 1 – Rank of Responses; Friedman Test and Kendall's W Results.

⁹ All calculations were performed using IBM's SPSS software.

To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

5.2 Student explanations for their scores

Written statements provided by students describe the reasons for their rankings. They suggest that students responded according to their opinions about the novelty of a textual presentation and if a presentation enabled the comparison of textual witnesses. Students associated novelty with enjoyment, inspiration, and a desire to share with international peers. Significantly, student responses imply that students associated learning with the opportunity to playfully compare textual witnesses, which was reported to be enjoyable and inspirational. Student willingness to transculturate canonical literature, their responses suggest, is related to beliefs about the likelihood that a presentation will provide others with joy, inspiration, and an opportunity learn in a manner similar to their own experience.

Students' written responses also help clarify the reasons for their divergent rankings, which can be explained by the wide variety of criteria they used to assign scores. Importantly, they reveal that students distinguished between the joy and inspiration they associated with Kim's poetry and the joy and inspiration they associated with the technological novelty of a format. The written responses also suggest a general divide between students most interested in discovering what Kim Sowol meant to express and those most interested in experiencing Kim's poetry in a new way.

One student's response nicely summarizes many of our results. When asked to explain the rankings s/he assigned to enjoying particular presentations, the student wrote:

The two presentations I enjoyed the most were edited anthology and oculus rift. Edited anthology was interesting because it presented Kim Sowol's poems in different versions. It first gave the old version of the poem which had some parts that were difficult for me to understand (because of the Chinese letters or how it is written). Then it gave the 현대어 [*hyeondaeo*] version which translated all the not-understandable parts into words that are used in the contemporary world. So comparing the different versions and filling in the missing puzzle of the first version by later reading the latter version was quite fun. As for the oculus rift presentation, the presentation itself was very new and interesting. It was like playing some kind of a game and the cool device made the presentation even more enjoyable.

This extended citation suggests that the student's sense of enjoyment was a function of a format's novelty and the opportunities it presented to fill in gaps in understanding of Kim Sowol's poems through comparison. As the student explains, elements of Kim's poetry as initially presented in the 1920s and reproduced in Kwon's anthology were difficult to understand because of the era's complex orthography, which incorporated both the Korean alphabet *hangeul* and Sino-Korean characters described by the student as "Chinese letters". By presenting a history of the poems' versions and a "translation" into a more familiar orthographic idiom, Kwon's anthology motivated the student to fill in gaps in her/his understanding. These gaps were equated with missing pieces of a puzzle, which the student enjoyed finding and filling in. Emphasizing technological novelty of the VR presentation, the student stresses that the "cool device made the presentation even more enjoyable".

The criteria other students used also suggest that enjoyment was associated with the novelty of a particular format and being able to actively engage with a text to discern what it might mean. In some cases, students appear to have felt that the newness of a format enabled active engagement with a text. In other cases, that newness was distracting. In still other cases, the relative "antiquity" of a format was engaging, with one student describing how the orthography of the poems in the facsimile "motivated" her/him to "read more". Another wrote of the facsimile that "interpreting the Korean language in the [19]20s without [...] guidelines is [...] a blast".

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

The criteria students used for ranking how inspired they felt were also diverse. In their variety, they, too, suggest a dynamic like what is found in responses concerning enjoyment. Novelty was inspiring but frequently only if it was complemented by a sense that an experience was educational. As one student wrote, the “Edited Anthology and Oculus Rift Presentation inspired me the most [...]. I could learn a lot about the poet and his poetry by using the Edited Anthology [...]. A[n]d the Oculus Rift Presentation was technologically inspiring”. Here, as with student responses describing which presentations they enjoyed, we see that students distinguish between being inspired by Kim’s poetry and being inspired by the perceived novelty of its technological presentation. Indeed, some students even expressed concerns about the origins of the inspiration they felt. One student wrote, “The most inspiring presentation was the “Oculus Rift” version [...] However, the “Oculus Rift” gave me some concerns [and led to] confusion [about] whether I was inspired by the technology or the poem[s]”.

The criteria students described in ranking the likelihood that they would use a format in a talk for an international audience were also diverse. Again, a similar dynamic concerning novelty and access to the meaning of Kim’s poems appears to have guided student responses. Many who would include the virtual reality presentation appear to have felt that its novelty would hold the attention of an international audience. Emphasizing the form of a presentation instead of its content, one student wrote, wryly, “No matter how intriguing or important the content of my presentation is, it would be meaningless if [...] the audience in front of me is asleep. Since the virtual reality experience is the most interesting [...], I believe that it will be the most effective means of presentation in terms of making the audience pay attention to what I have to say”. Others who chose to use Kwon’s anthology or the facsimile wrote that they wished to “show the features” of Kim’s poems and his “intentions” as well present other “relevant information”. Still others imagined using a combination of the presentations:

I would like to mix the “Edited Anthology” with “Oculus Rift” to present it to international audience of my peers. This is because I believe “Oculus Rift” can [...] draw the attention of people since it is unfamiliar to integrate the literature with technology. Also, for international audience and even for Korean people, the “Edited Anthology”[.] with both old and contemporary language will give [an] exotic view that can easily interest them.

In contrast to the varied criteria students describe using for ranking responses to other questions, students’ written responses suggest they used similar criteria when considering which presentation was the most educational. Collectively they suggest that Kwon’s anthology was found to be the most educational because it enabled the comparison of different versions of Kim Sowol’s poems while providing useful glosses that aided interpretation. The anthology was the “total package”, one student wrote. Suggesting what this student meant and many others expressed, another student wrote:

[The] Edited Anthology [...] was the only presentation among the four that showed all aspects of Kim’s poetry. That is, the Oculus Rift presentation was fascinating, but it didn’t show Kim’s poetry as it was published in the past ... [T]he iPad presentation [...] had the best accessibility among the four presentations but had the same shortcomings as the Oculus Rift presentation. The Facsimile presentation had the opposite shortcoming from the two aforementioned presentations since it only included the old versions of Kim’s poetry. It felt like the Edited Anthology presentation was a happy medium in that it showed both the old and new version[s] of Kim’s poetry.

6. Conclusions

Student responses to questions about their experience with the four distinctly different formats of *Jindallaekkot* described in this study suggest that the way canonical literature is expressed can be associated with how students report learning from and delighting in that literature. They also suggest that the format of critical editions, which is to say their material and conceptual apparatuses, can be associated with how students report feeling inspired to share or create something new with literary texts. Lastly, they suggest that how critical editions are fashioned may affect the likelihood that students will attempt to share their literary experiences with the world. While the number of students surveyed for this study was quite small and additional studies are needed to corroborate its initial findings, student responses suggest that those producing critical editions should consider complementing traditional modes of expressing canonical literature with radically alternate expressive modes. Student comments about their experience with Kim Sowol's text in a virtual reality environment suggest that they are willing to consider even radical, non-codical, refigurations of canonical texts. Indeed, students report enjoying, feeling inspired by, and wishing to use the virtual reality forest drawn algorithmically from automated readings of Kim's poems in addresses to international peers. They also report delighting in, feeling inspired by, and wishing to use more traditional, codical forms of textual scholarship. Importantly, they felt they learned the most from these traditional forms, especially when they facilitated the comparison of alternate witnesses.

By enabling students to compare the four critical editions of Kim Sowol's poetry described above, this study also identifies several productive areas for future interdisciplinary research that are likely to provide opportunities to enhance and expand upon its initial findings. Taking education studies as one example, the work of learning researchers Yasmin Kafai and Chris Dede appear to explain some of our findings and corroborate some of our initial hypotheses about why students found certain presentations of Kim Sowol's poetry to be more educational than others. Citing a study by Brian Nelson in an article titled "Learning in Virtual Worlds", they write that providing choices to students "enhances autonomy, and therefore motivation" (Kafai and Dede 523). Interestingly, although Yasmin and Kafai are writing about learning in online virtual worlds, they seem to summarize student responses to Kim Sowol's poetry as presented in Kwon's printed anthology. Future research can productively investigate if the variety of textual choices provided by printed anthologies like Kwon's enhance students' sense of autonomy and motivation, as well as how a sense of autonomy and motivation may be engendered differently by print media and new technologies such as online virtual worlds and virtual reality. As many student responses suggest, the opportunity to choose which version of Kim's poems to read, if combined with a sense that their experience with them is novel, may provide an especially potent pedagogical experience, one that students would enjoy and be inspired to share as an expression of cultural memory. This may help to explain the generally low scores for the reading text presented in a browser on an iPad. Students may have felt that the presentation of the text was not novel. Nor did it allow them to compare witnesses. Future research on critical editions and how students respond to them can be productively probed from perspectives in learning science and the materiality of reading, as well as the many other scholarly viewpoints we identify in our literature review. Avenues of research that focus on theorizing and empirically assessing the affordances of embodied experiences with material textual modalities for specific ends are likely to be especially fruitful. Additional studies concerning how alternate textual modalities may affect opportunities for joy, inspiration, and senses of understanding presented by canonical literature, as well as desires to transculture canonical texts, can be complemented by investigations that seek to enhance reading comprehension, deeper reading, and other pedagogical or cultural aims.

In addition to deeper engagements with disciplines beyond textual scholarship and critical editing, future studies will also benefit from a more sophisticated experimental apparatus, a

To Teach, Delight, and Inspire Wayne de Fremery and Jusub Kim

much larger pool of respondents, and investigations of more diverse canonical literature. Pre-surveys to better assess the responses of respondents, such as respondent's prior interest in and proficiency with certain technologies, as well as more varied methods for collecting data will enhance future research. In addition to self-reported survey results, we hope to collect data with biometric sensors such as eye-trackers that could describe how participants engage canonical literature in various media formats. Testing and expanding upon our initial results will also require a much larger and more diverse pool of respondents, which might include not only a larger number of students but also faculty and readers not currently engaged in a degree program. A larger number of respondents will help us test assumptions that were guided by our sample size, such as whether the order in which students experienced Kim Sowol's book affected their responses, as well as understand how different communities respond to different presentations of canonical literature. Future studies can also advance what we have presented here by investigating how critical editions might present genres of literature other than poetry, as well as canonical literature from textual traditions besides Korea's. We hope to investigate critical presentations of canonical drama, for example, and wish to perform experiments like those we describe here in a variety of culture environments.

The limited scope of this preliminary investigation and our future goals notwithstanding, the initial findings of this study support the idea that producers of critical editions can productively consider expanding the variety of technologies they use to build and provide access to our systems of cultural memory. Indeed, if an aim of textual scholarship is to facilitate cultural memory by teaching and delighting students with experiences that inspire and engender a desire to share literature across cultures, then the idealized machinery of 'printing' and 'reading' that articulate Turing's conceptual machine and McGann's Critical Edition can be expanded to include alternate, imaginative models of textuality. When describing the format of Kim Sowol's book as an immersive theater experience, we wrote that our radical iteration of "Kim's poems as trees is orchestrated to bring the historical manifestations of *Jindallaekkot* [...] into view by juxtaposing what Kim Sowol's texts can be with what they have been" (de Fremery and Kim 7). Student responses to Kim Sowol's poetry in the variety of expressive modes described in this paper suggest that attempts to juxtapose what has been with what can be is likely to instruct and delight students, as well as inspire them to share their literary experiences with the future. Newer technologies like virtual reality afford textual critics the opportunity to rethink the ways they help readers get lost in their books while ensuring that what has been, and what could have been, will be available to the future. For Koreanists, Korean literary specialists, translators of Korean literature, and others interested in making Korean literature available to a global community, our study suggests that if Korean students are presented with canonical Korean literary works in a wide variety of forms that provide the opportunity to delight in learning, they will be more likely to share their literary experiences with their peers in Korea and around the world.

The epigraph we begin with suggests that our new findings echo the old idea that poetry teaches and delights. It also suggests the importance of our limited study for rethinking established wisdom from a variety of disciplinary perspectives. Beginning from a bibliographical perspective, our study suggests that textual scholarship, especially if its materials and expressive technologies are considered creative opportunities, can instruct, delight, and inspire. Our findings both expand and diverge from the argument that Horace makes in his Epistle to the Pisos, especially where it concerns novelty. A poet should not be "sticking a human head on a horse's neck" if the poet wants audiences to keep "straight faces", Horace advises. "Novelty" he suggests, will only "charm and please" a "drunken[,] lawless" audience on "holiday" (Horace Location 2092). While it is true that the students interviewed for this study were on vacation, they were quite sober and deliberate in their attempts to learn; novelty, they reported, was key to enjoying their interaction with canonical literature so long as they had the

To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

opportunity to compare the new with the old. “Produce no human babies from monsters’ bellies” Horace instructs, while suggesting that a poet should “stay close [...] to actuality” (loc. 2203). Our study suggests that those making the infrastructures of cultural memory through the hard and crucial work of discerning “actuality” and producing critical editions that “stay close” to that actuality should complement this work with new, imaginative kinds of bibliographic expression made possible by new technologies. If the aim is to teach and delight students, as well as inspire them to create with and share cultural memories, textual scholars should complement traditional forms with more poetic modes of expression. Bibliographers and literary scholars can, and perhaps should, attempt to produce human babies from the bellies of their work’s monsters. What, after all, could be more human than the wry grin elicited by sticking a human head on the neck of a horse, or turning a book of poems into a virtual reality forest? Especially when those grins open into a desire to know the actualities of the institutional systems of cultural memory we call literature.

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To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

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Wayne de Fremery and Jusub Kim

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To Teach, Delight, and Inspire
Wayne de Fremery and Jusub Kim

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