

Creating a Readable Celestial Sphere for Children

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Pull Quote: “[T]he night sky is comprehensible by all people, even young children who have just entered elementary school as long as they have a credible source to introduce them to the stars.”

Reflection

Looking up to the night sky on a moonless, cloudless winter night, most people will be shocked by the spectacle: twinkling stars decorate the dark blue dome, and a gorgeous silver light streams across the background. Nevertheless, people usually know nothing more about this fascinating scene; most people do not even care to know more about the universe. The universe and astronomy are believed to be complicated and inaccessible. For example, when people have their first glance at a star map, they will intuitively consider that it is just chaos assembled by random points and lines. As an astrophile since the age of five, I know this intuition to be thoroughly incorrect; the night sky is comprehensible by all people, even young children who have just entered elementary school, as long as they have a credible source to introduce them to the stars. This project’s goal is to provide children who have basic reading skills with a first impression of the beautiful universe by translating star maps into a children’s book. Specifically, I plan to translate the seasonal star map of the northern hemisphere mid-latitude region, where Santa Barbara is located, into a short scientific book for children between the ages of five and eight.

Before describing the translation process in detail, it is pivotal to explain the genre conventions of the primary text—star maps. The four translated star maps are from one of the most popular software among astrophiles, *Stellarium*. Like regular maps, star maps are images

that help skillful star chasers navigate their observations. To an outsider, a professional star map is only a collection of spots, lines, and some ambiguous Latin vocabulary showing the positions of stars and constellations. This information obviously makes no sense to beginners, such as children in the lower division of an elementary school, who are not the target audience of star maps. Therefore, the target audience needs to change from experts to beginners; a short, simple scientific book could be an efficacious resource for young enthusiasts of the night sky.

To translate the star maps into a children's book, the first step is to extract information and reform it into a beginner-friendly version. As most children's books do, this project combines images and texts to offer an opportunity for kids to develop their imagination. Inserting the star maps directly into the book, however, would be inadvisable because the figures in star maps are too abstract for children. For example, no child would easily understand why certain stars in a question mark shape are conventionally believed to be a scorpion since the ancient Greek period. In order to lead the readers' imagination onto the right path, vivid paintings of the constellations replace the abstract points and lines. Because of my own lack of painting ability, I have used the add-on function of *Stellarium* "Constellation Arts" to help me visualize the constellations with figures created by professional artists and used circles to highlight the object of my text.

After the "painting" process, the next step of creating the children's book is to write the main text next to each image, which can be further divided into two steps: outlining and distributing the contents of the text and then writing the text and polishing the language. Each of these sub-procedures has different challenges. In the outlining step, the main problem is

considering how much text to include in one page. I spent a long time considering my reading ability when I started primary school and tried to frame the book based on my own memories. Creating a genre on one's own, however, is tricky for a writer, especially for someone like me who has never written a children's book before. Kerry Dirk's "Navigating Genres" provided an alternative solution: according to Dirk, creating a new genre renders an inefficient writing process (259). In the aforementioned article, Dirk states that "If you already have some idea of what a [certain genre] looks like, you do not have to learn an entirely new genre" (259). Dirk's advice of learning genre conventions from others' works provided me a method to obtain the knowledge of my target genre, which became the starting point of my writing process.

Following the instruction from Dirk, I read several children's books to learn how professional writers created their masterpieces, and I used the same frame as they did. As in many children's books written for ages five to eight, I limited the amount of words on a page to about sixty, which is readable for this age group. For the highlighted key words or phrases (such as the name of constellations) on the other hand, I limited them to less than five per page in order not to overwhelm the children. In addition to the amount of words, I polychromed the text in various colors. For instance, in the main text of each season's star map, I used representative colors to write the text: green denotes spring, red denotes summer, gold denotes fall, and silver denotes winter. For the highlights, I used colors distinct from the main text to label each key word or phrase to avoid confusion. These genre conventions that I learned from other people's work provides the audience of my book with reading experiences that are interesting, colorful, and relaxing. Additionally, in order to fit the commonly used frame for children's books in book

stores, I created an ISBN code, a bar code, and a publisher on the back cover of the book. This book is designed as if to be published by the fictional publisher “Celestial Press” with an imaginary ISBN (978-1-19201815); 978-1 shows that it is published in the United States, and the code 119201815 is a simple cipher that stands for “ASTRO.”

The challenge in the writing and polishing step, which is different from the structural issues I faced during the outline phase, is to consider the rhetoric and word choice in the language. As a university student who has taken several writing courses on academic essays, my habitual writing style is to utilize formal vocabulary and long sentences. Apparently, these writing conventions are not useful for a children’s book. Hence, when I started writing this book, I tried to imitate language from kids’ books. This was not easy for a beginner in the genre. I spent most of my time avoiding subconsciously using my formal writing strategies, which decelerated my writing process considerably in the beginning. To solve this problem, I followed the instructions from Anne Lamott’s article “Shitty First Drafts”: “Start by getting something—anything—down on paper” (95). According to Lamott, having a terrible first draft does not stop a piece of writing from becoming a masterpiece, as long as one continues revising the work after the first draft (95). The idea from Lamott’s article helped me keep my mind from being messy and provided me the courage to read and revise an unsatisfactory first draft.

Following the methodology from Lamott, I focused on writing the content first, regardless of style. After placing all of the information on the pages to be corrected, I concentrated on changing the vocabulary and sentence structure into comprehensible language for children. This process, consequently, was effective; the first-hand “unreadable” academic

draft helped me assemble the information, and then the polishing process transformed the language of the first draft into a kid-friendly version. The only sentence I kept in the complicated style was the concluding sentence of the book, which I wish for kids who read the book to gradually understand in their future journey in astronomy: “Astronomy is not complex nor forbidding, yet it is beautiful: it is built up by mysterious fairytales.” This sentence not only provides children with the motivation to explore their astrophile ambitions but also provides another audience of kids’ books—parents—with something more suitable for their level of comprehension.

In conclusion, this writing project translates professional electronic star maps into a scientific book for children. It takes the information from abstract elements to vivid figures, and from chaotic points to transparent symbols. As the creator of this project, my main purpose is to reveal the beauty of the night sky to children between the ages of five and eight, to show them the mystery called “the universe.” As a student writer, and also as an astrophile for over a decade, I enjoyed this genre translation of creating a readable celestial sphere, and this project improved my understanding of genres and writing processes. The skills I developed in the writing project, including learning genre conventions from experts’ work and revising a horrible draft, are useful to my future as a writer. As a star chaser, as I wrote in the concluding sentence of the children’s book, I believe that astronomy is integrated with the sciences and the arts, creating mysterious fairytales filled with imagination and aesthetics. I hope to write more of these fairytales for children and introduce them to the glorious celestial world.

Works Cited

Dirk, Kerry. "Navigating Genres." *Writing Spaces: Readings on Writing*, vol. 1, Parlor Press, 2010, pp. 249-62.

Lamott, Anne. "Shitty First Drafts." *Language Awareness: Readings for College Writers*, edited by Paul Eschholz, Alfred Rosa, and Virginia Clark, Bedford/St. Martin's, 2005, pp. 93-96.

Stellarium, ver. 0.19.3. stellarium.org/en/. Screenshots.

Author Profile: I am a second-year international student majoring in physics, and I have been an astrophile since the age of five. To me, this writing project is not only an assignment, but also a chance to share what I love with others. I was first impressed by the beautiful and mysterious universe through a book about basic astronomy, which was a fantastic book. However, it was not child friendly because of some obscure vocabulary and abstract astrophysics theories. Therefore, I decided to write a book to introduce the night sky to children who are around five years old in this genre translation. I wanted to share with kids a star map that was cute and easy to understand. I hope that there will be more books like mine that will reveal the beauty of science to children. I will try to keep on writing this book and publish it in the future.