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MATX 601
Transformation of a work

The work I would like to transform is a portion of my first book, *Upheaval from the Abyss: Ocean Floor Mapping and the Earth Science Revolution* (Rutgers University Press, 2002) into a film. While my book is hardly iconic, it was a well reviewed piece of narrative nonfiction focusing on one of the most important, and intellectually fertile, eras in scientific history.

I do not propose to transform the entire book. That would warrant an entire mini-series. My initial interest is in focusing on one of the narrative threads—the life of German scientist and explorer Alfred Wegener, whose theory of continental drift inspired the scientific revolution I wrote about.

Why Wegener? He was one of the most influential scientists in history. He pioneered "multidisciplinary" studies long before it became a buzzword in the late twentieth century. His ability see connections between disparate types of data enabled him to make an impressive case that the distribution of continents and ocean basins we take for granted on maps and globes is just a temporary arrangement in the Earth's constant scrambling of its surficial jigsaw puzzle. Wegener was also an explorer, both of the skies—setting altitude records in balloons and using balloons and kites to study the atmosphere—and poles. He made several expeditions to Greenland and died there in 1930, days after his 50th birthday and decades before his ideas were accepted by the scientific community.

Because of the rather hostile reaction to Wegener's ideas, particularly in North America, relatively little had been written about his life, and many accounts have tried to downplay the connections between his theory of continental drift and the modern theory of plate tectonics. Nevertheless, without his pointing the way, our understanding of the way the major features of

the Earth's surface are created, and how the movement of fragments of the Earth's crust generates earthquakes and volcanic activity, would have been set back decades. My account of Wegener's life was drawn largely from his book, *The Origin of Continents and Oceans*, two accounts of his last Greenland expedition, *Greenland Journey* and *Mid-Ice*, and a biography written by his wife, Else.

One main challenge in transforming my relatively short treatment of Wegener's life into a full-length screenplay is in the paucity of source materials. While his scientific career is reasonably documented, the details of his personal life, particularly the period before he rose to scientific prominence, is not as well known—and much of what is known is available only in German, such as the biography by Else Wegener and a 1994 monograph by Christine Reinke-Kunze. The number of English-language sources has improved recently. For example, Roger McCoy published "Ending in Ice," a biography that focuses primarily on Wegener's polar explorations, and Clare Dudman published "One Day the Ice Will Reveal All Its Dead," a novel based on Wegener's life.

As the situation with sources improves, other problems remain in developing a screenplay on Wegener's life. Accounts of some events in Wegener's life are treated differently by biographers. Sometimes, this is matter of different interpretations of the same material. Other times, however, variant accounts result from erroneous interpretation of relevant documentary evidence. For example, some authors claim that Wegener, who lived in Austria at the time, was present at a 1926 symposium in New York where a paper of his was presented and his theory was soundly savaged by prominent experts. The available evidence indicates otherwise, but what should a screenwriter do in the case of conflicting materials?

First, I must decide whether I am writing a documentary (no) or a dramatic screenplay (yes). Now that I have decided in favor of drama, I must decide to what extent I am willing to sacrifice drama for historical accuracy and vice versa. As I wrote the first draft of the screenplay, I decided it would be best to sacrifice some accuracy if the dramatic aspects of the story would be better served by such sacrifice. In any event, I would have to fictionalize aspects of the story for which historical documentation was lacking. With respect to the 1926 symposium, I decided that having Wegener face his detractors directly made more dramatic sense than having him send the paper across the Atlantic to be read by a third party.

Another challenge in writing the screenplay is in deciding what events to include. Wegener led quite an exciting life. He and his brother Kurt were avid outdoorsmen, setting off on long, winter cross-country ski trips in their youth and shattering an endurance record for flight in a balloon. Wegener's cold-weather skills served him well as he began the first of his four expeditions to Greenland. On the first expedition, the leader and two others died from exposure and starvation. On the second, Wegener was on a team of four who made a 700-mile crossing of the Greenland icecap—they nearly died of starvation. He served as a reserve lieutenant in the German army in World War I. He fought on the Western Front until the second of two war wounds ended his combat career—but the convalescence afterward allowed him to refine his relatively young ideas on continental drift. He pioneered two other scientific disciplines—paleoclimatology, with his father-in-law, Wladimir Koeppen, and planetary geology, with a series of experiments that suggested the craters of the moon were created by asteroid impacts.

All of it is quite fascinating, but not all of it serves the narrative that I want to focus on, which is the development of the theory of continental drift. The paleoclimate work is only peripherally relevant. The moon work not at all. The war years are somewhat relevant, because they gave him

time to flesh out what had been little more than a sketch. The Greenland expeditions are also relevant—to me, at least—because it seems the doggedness he displayed on the ice reflects the doggedness with which he researched and defended his ideas, and that in turn explains why his ideas survived for decades while other hypotheses of continental motion, such as one advocated by Frank Bursley Taylor, fizzled and have been all-but-forgotten except by the most trivia-minded historians of earth science.

The next decision is to select the character who will provide witness to the audience. This movie needs some character to place the events portrayed in proper context. Wegener himself cannot be used—he was long dead before the significance of his achievements was recognized by the scientific community. A scientist from the 1960s or 1970s—or later—would probably come off as a bad replay of a Michenerian television series. What I need is a contemporary of Wegener's who lived through the climax of the plate tectonics upheaval. I believe I have a good candidate in Fritz Loewe, who served on Wegener's final Greenland expedition and how published a brief memoir of Wegener in the 1970s.

Once I select what events to include and the character who serves as witness for the audience, the next task is to decide upon the arc of the narrative. While in most cases a straight linear narrative is preferred in a screenplay, it does not seem practical in this case. Opening with a German kid romping through some Teutonic forest has little appeal to me. If I were in the audience, I doubt I'd keep watching long enough to figure out the point. I could skip the youth bit and begin with the turning point in Wegener's life—when he looked at a map of the world, noticed the similarity in the shape of the Atlantic coastlines of the Americas and Europe and Africa, and wondered if the continents may have been joined together at some point. There is a

point at which the image of a man looking at a map is useful, but not in the opening scenes of a movie such as this—a pirate movie, maybe, but not this one.

The only I can think of to make this movie work is to some somewhat frowned-upon techniques such as flashback and voice over (particularly when relevant scenes are based on letters or diary entries).

Rather than include a scene-by-scene discussion—which, with 52 scenes so far, would be impossible to keep to a five-page paper—I will conclude this with a short synopsis of the script.

I begin with a dream sequence—Loewe's—of Wegener's final, and ultimately fatal, dash to the center of the Greenland ice cap to bring wintering supplies to two men who were to remain at the station until spring. Lowe was on that dash, driving one of the three dog-sled teams along with Wegener. The next morning, Loewe goes to his university job when he overhears graduate students, including one American strongly critical of Wegener and his theory of continental drift. (I chose an American student because resistance to Wegener's ideas was strongest in the U.S.) Loewe steps into their office and joins the discussion, determined to set the American straight.

As Loewe begins telling the story, the film fades into the past and now follows chronological order—Wegener's early years, including some of his balloon exploits and early Greenland expeditions; the map incident that inspired his ideas of continental drift; World War I (I have likely pointless scene that recounted the assassination of Franz Ferdinand); the further development and defense of his theory before a largely hostile audience; the 1926 symposium which would probably serve as a climax; his final expedition to Greenland; and end back with Loewe and the graduate students where another faculty member or student (this would be circa 1968) finds Loewe and relays word of new discoveries that confirm the major point that Wegener argued—that the continents, indeed, move.

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