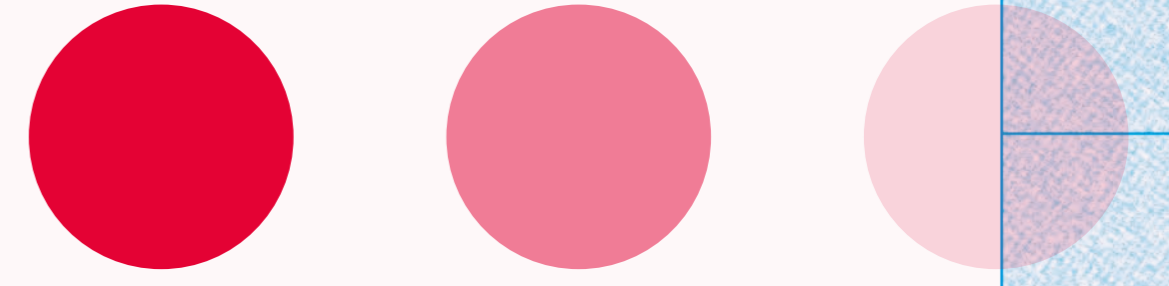




(steps towards)

A Morphology of Time

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Joseph Priestley's *A Chart of Biography* (1765) represents the lifespans of famous men spread chronologically across centuries. The chart is a timeline: time marked in regular increments, like a ruler. "No image can properly be made of [time]," Priestly writes in clarification; "yet because it has a relation to quantity, and we can say a greater or less space of time, it admits of a natural and easy representation in our minds by the idea of a measurable space, and particularly that of a *line*." (1770)

Priestley's approach, novel at the time, reflected enlightenment views emerging in Early Modern Europe. "It amplified conceptions of historical progress that were becoming popular" writes Daniel Rosenberg (2004), and "appeared to guarantee the simplicity and directionality of past and future history." Time is abstracted; separate from the events hung upon it like washing. (*A theoretical physicist will tell you that this is not how time behaves at all.* (Rovelli, 2017))

The timeline has become a ubiquitous and inconspicuous data graphic. But a line is only one of many functional visual analogies we might draw between time and space, in order to represent 'history'. Citing Hopi, Gabra, Hindu and Ancient Greek conceptions of time, Jay Griffiths claims "the modern Western view of time ... moving like a ruler straight from past to present to future" is "highly unusual." (1999) She writes, "throughout history, time seems to have been thought of as circular, since it could not be separated from the cycling motions of the sun, moon and stars."

Drawing on dialogue and study with indigenous oral cultures, The phenomenologist and ecologist David Abrams agrees, suggesting "unlike linear time, time conceived as cyclical cannot be readily abstracted from the spatial phenomena that exemplify it." Abrams theorizes the sensorial and spatial origins of time concepts, "The conceptual abstraction that we commonly term 'the future' would seem to be born from our bodily awareness of that which is hidden beyond the horizon - of that which exceeds, and thus holds open, the living present," he writes. "What we commonly term 'the past' would seem to be rooted in our carnal sense of that which is hidden under the ground - of that which resists, and thus supports, the living present. As ground and horizon, these dimensions are no more temporal than they are spatial, no more mental than they are bodily and sensorial."

Priestley appealed to the 'measurability' of his 2D timeline. Unlike Abram's 'future', which lurks out of sight; time conceived as line is time considered independently of one-self - time with no ground or horizon. Visual depictions of historical time often function to place individual events within the context of a whole, or the context of a more expanded view. In Priestley's words, the goal of his timeline is to "trace out distinctly the dependence of events to distribute them into such periods and divisions as shall lay the whole claim of past transactions in a just and orderly manner." (1770) The claim is to a 'just and orderly' objectivity - central to enlightenment rationalism. (*Priestley is best known as an experimental chemist.*)

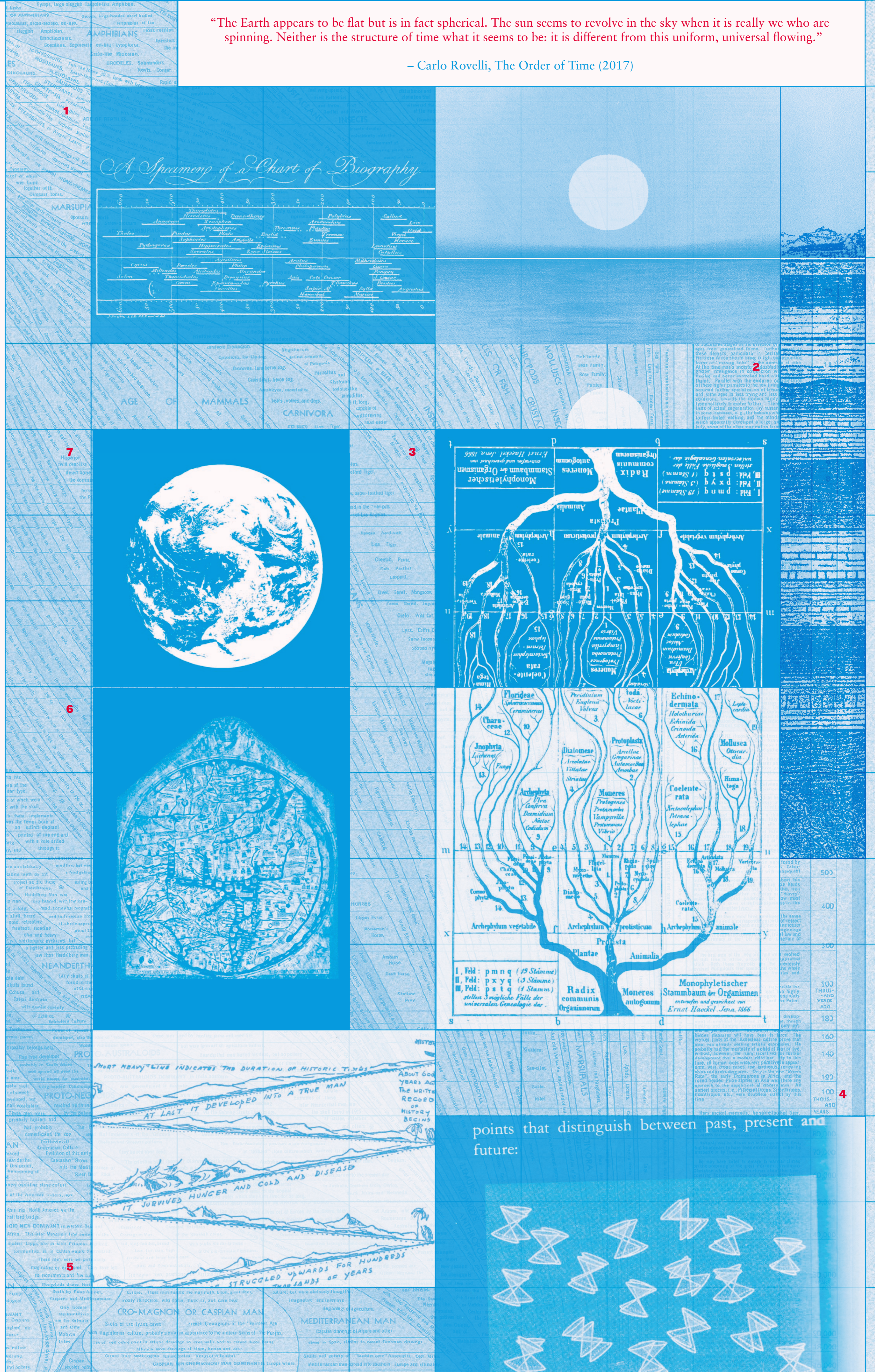
What is it to be "just and orderly" in describing and 'measuring' history? Donna Haraway famously cautioned against falling for the 'god trick' enabled by technologically mediated ways of seeing, many of which first proliferated with the emergence of modern science (microscopes, telescopes, cameras, satellites), the sense of "seeing everything from nowhere" (1988). Haraway argues this "infinite vision" is an illusion. Even the remote satellite 'sees' in a particular and embodied way, bound up in historical relations of power. Her thesis is in defence of "partial perspective" or "situated knowledges".

Today, even in scientific terms, understanding the inescapability of 'partial perspective' is central to understanding time. Extending the metaphor quoted at the top of this poster, Physicist Carlo Rovelli writes "is the daily spectacle of a revolving universe 'illusory'? No, it is real, but it doesn't involve the cosmos alone. It involves *our relation* with the sun and the stars. We understand it by asking how we move. Cosmic movement *emerges* from the relation between the cosmos and ourselves." (2017) In a similar way, the sense that time 'flows' emerges from the relationship between ourselves and the universe. Time cannot be described, explains Rovelli, from "outside" (2017)

All this is to say that - while Priestley is perhaps right in saying "No image can properly be made of" time - time is nonetheless something that we can't help but *see*. How we 'see' time, from what vantage point, in what visual form, and why - is an interesting question for the illustrator to consider, particularly with respect to history.

"The Earth appears to be flat but is in fact spherical. The sun seems to revolve in the sky when it is really we who are spinning. Neither is the structure of time what it seems to be: it is different from this uniform, universal flowing."

- Carlo Rovelli, *The Order of Time* (2017)



points that distinguish between past, present and future:

"Would the spatialisation of time be a preconditional operation for its measurement? If yes, does this operation generate errors, or does it, on the contrary, stimulate knowledge at the same time as practice?"

- Henri Lefebvre, *Rhythmanalysis* (1947)

1. *A Specimen of A Chart of Biography*, A redacted version of Joseph Priestley's *A Chart of Biography* (1765), in which historical time is represented by a line running from left to right.
2. A chart of strata, layers of sedimentary rock or soil. From *The World's Foundations or Geology for Beginners* (1883), in which historical time is piled one era on top of the other, from bottom to top.
3. Ernst Haeckel's genealogical oak tree depicting the Kingdoms Plantae, Protista and Animalia, in which historical time moves upwards from the earth towards the sky (1866)
4. Carlo Rovelli's diagram to accompany his explanation of structure of spacetime, taking quantum 'superposition' into account. (2017)

5. One of the 'maps of time' in Hendrik Willem van Loon's *The Story of Mankind* (1921) in which historical time is a long and arduous incline.
6. The Hereford Mappa Mundi, creator unknown, from c. 1300; in which all mortal time is contained within a bounded circle. Eternity is represented by the space outside the circle.
7. The 'Blue Marble' photograph, taken by astronauts aboard the Apollo 17 in 1972 - representing different temporalities, depending on who you ask...

Behind: Crop from *A Histomap of Evolution*, John B Sparks (1942)

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