**CHIANG: Freedom, Fate, and the Future**

What are the elements of the story that seem to address Chiang’s interest in these issues?

1. Fermat’s Principle of Least Time, p. 63. The **key question** here seems to be: what kind of worldview did the heptapods have given their understanding of mathematics and Fermat’s Principle.
2. The distinction between causal and teleological

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| Causal (Human) | Teleological (Heptapods) |
| Cause and effect | Goal-oriented |
| Sequential | Simultaneous |
| Chronological: one moment growing out of another | Teleological: meaningful over a period of time; effect comes simultaneous to cause |
| We experienced events in an order | They experienced all events at once |
| We experience freedom as perfectly real | Freedom is not meaningful, but neither is coercion |
| Language is to inform | Language is to perform |

1. Heptapod B changes the way that Louise thought: my thoughts were becoming graphically coded (p. 68). She compares this to being in a trance or a meditative state of mind or to infant consciousness (p. 75)
   1. One key example: non-zero-sum game (pp. 68 – 69)
   2. The salad bowl: p. 72
2. Borges and the Book of Ages, pp. 70 – 71
3. “The rabbit is ready to eat.” (p. 72) One sentence with two very different utterances.
   1. The physical universe was a language with a perfectly ambiguous grammar. Every physical event was an utterance that could be parsed in two entirely diﬀerent ways, one casual and the other teleological, both valid, neither one disqualiﬁable no matter how much context was available.
4. The cyclical nature of life: Louise turning into her mother p. 70
5. Visual illusions: p. 75.
6. Reading Goldilocks (p. 76): if you already know how the story goes, why do you need me to read it to you? Why do we take pleasure in a story even when we know the ending?
7. Her experience of time (similar to “Weed of Time”): “occasionally I have glimpses when Heptapod B truly reigns, and I experience past and future all at once; my consciousness becomes a half century-long ember burning outside time. I perceive—during those glimpses—that entire epoch as a simultaneity. It’s a period encompassing the rest of my life, and the entirety of yours.”