

Your second paper is to have a technical theme. A natural way to pick a topic is to take the person you wrote your first paper on and look into some topic they worked on. What I expect to see in the paper is a description of what the work is about in your words, some precise definitions of the topics and ideas and some discussion of what is known. I don't expect to see complete proofs although some proofs or examples would be appropriate. Along the way some history or biography of the folks involved would also be appropriate.

The rules are the same, at least 5 pages, double spaced, standard margins, and a bibliography of at least three items one of which is a book or journal.

If you're still stymied for a paper topic:

Fractal dimension

Peano curves

Non-Euclidean geometry

4-color theorem

Turing machines

Mandelbrot set

Godel's incompleteness theorem

Banach Tarski paradox

Fixed point theorems

Fundamental theorem of algebra

Central limit theorem