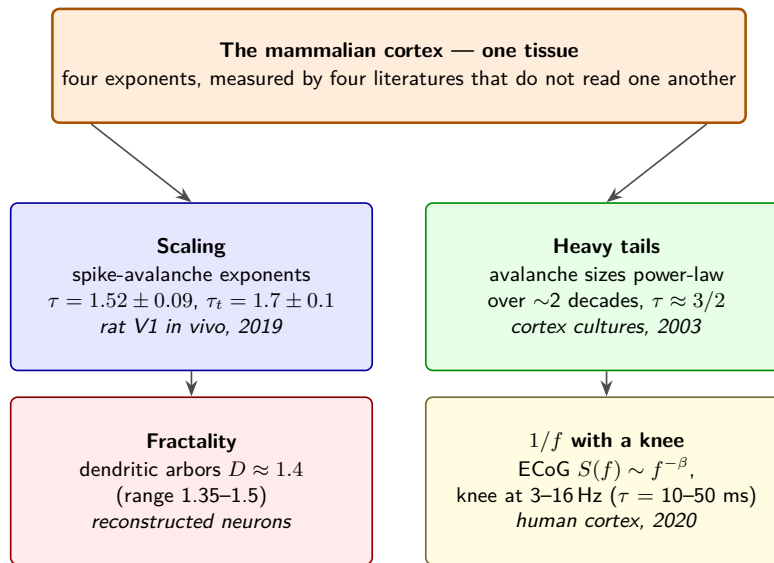


Four Literatures Keep Measuring the Same Number



*measured on different preparations, windows, and species — no experiment has measured all four at once.
Whether the four numbers must agree is the question this supplement compiles the record to ask.*

The whole supplement in one picture. One tissue — the mammalian cortex — carries all four of the regularities this supplement audits, each measured by a different community in a different decade on a different preparation. Spike avalanches obey power-law scaling with exponents that satisfy a crackling-noise relation; the avalanche sizes themselves are the heavy tail; the neurons’ dendritic arbors are fractal; and the cortical field potential carries a $1/f$ -type spectrum that bends at a knee corresponding to a 10–50 ms timescale. The four literatures that made these measurements — statistical physics, neuroscience, computational anatomy, electrophysiology — rarely cite one another, and no experiment has measured all four exponents on one preparation. The program’s boundary law (GG-A7-Qi4, Part V) claims the four numbers are not independent: one generator exponent fixes them all, so the records must satisfy arithmetic relations across literatures. Parts IV–VII of this supplement audit each record at scale, 245 graded rows in all; Part VIII runs the arithmetic on every system where two or more exponents were independently measured. In full: Figure 1, p. 22.