DG 002 · TECHNICAL BRANCH · SPECIMEN

Entropy Production in a Minimal Information-Writing System

A canonical article pointing to work published elsewhere

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SPECIMEN — FICTIONAL

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ABSTRACT

A plain-language account of a peer-reviewed result published elsewhere: a minimal apparatus that writes one bit into matter while its entropy production is measured directly, locating the cost far above the Landauer floor. This page is the imprint's summary and pointer. It is not the paper, and it is fictional placeholder text.

What this page is

This is a **pointer**. The research it describes was written for, submitted to, and accepted by a journal, and that journal is where the work itself lives. What you are reading is the imprint's canonical article about it: a plain-language summary, a record of where the work stands, and a link out.

The distinction matters enough to state twice. The imprint did not peer-review this result and does not present the journal's authority as its own. The PDF offered on this page is **this article** — the summary you are reading — and not the accepted manuscript, which belongs to its venue.

Everything below is fictional placeholder text. The venue does not exist, the identifier resolves to nothing, and the result is invented.

The result, in plain language

Erasing a bit of information has a minimum thermodynamic cost. That much is settled physics and has been for decades. The open question is practical rather than theoretical: how far above that minimum does a real apparatus actually sit, when you build the smallest honest one you can and measure it directly rather than inferring it?

The answer reported here is: far above. Roughly four orders of magnitude above, in a device deliberately stripped of everything not required to write a single bit into a physical substrate and hold it there.

That gap is the interesting quantity. A theoretical floor tells you what is not forbidden. It does not tell you what a mechanism costs, and the distance between the two is where engineering lives.

Why build the smallest possible version

Because a minimal system is the only kind whose entropy budget can be accounted for completely. In a larger apparatus the interesting quantity is buried under the housekeeping costs of everything else — the pumps, the control electronics, the thermal

management — and separating them requires assumptions that are themselves the thing in dispute.

The claim earns trust by being small. It measures one thing, states one number, and declines to generalise.

What it does not show

It does not show that the gap is irreducible, that biological systems sit anywhere in particular relative to it, or that the figure transfers to any other substrate. A single measurement of a single device is a data point, and the paper is careful to say so.

How to cite

Cite the journal article, not this page. This page is a summary and has no standing as a source.

```
Specimen, A. and Fictitious, C. (2026). Entropy production
in a minimal
information-writing system. The Quarterly of Entirely
Fictional Physics,
14(2), 208-231. doi:10.0000/dg-specimen.002
```

If you need to refer specifically to this summary — for instance to note where the plain-language framing came from — cite it as a canonical article of the imprint, with its canon number, and make clear that it is not the research.

Reading the review state

The chip at the head of this page reads **accepted**. It means what it says: the venue has accepted the manuscript, and it has not yet appeared in an issue. It is not a synonym for published, and the imprint does not round it up to one.

The four states used across the canon are `submitted`, `under-review`, `accepted` and `published`, and each is displayed exactly as recorded. A work under review must not look published — that rule exists because the temptation to blur the distinction is strongest precisely when the work is good.

Colophon

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This is a **specimen**. It is fictional, it carries a prototype canon number, and it exists to test the typography of the canon rather than to say anything.

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