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ORTHOGONAL REVIEW RECORD

Cycle Integration: Copy Number, the Closure Vesicle, and the Band of the Genome

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Declared conflict

The initial author-side check was prepared by the same system that drafted the manuscript and wrote its blocks. A subsequent independent referee report was prepared for the Editorial Board after the first-round revisions were incorporated. There is no author-reply section.

Scope of Review

The manuscript joins the lipid supply of Article 65, the replication schedule and dusk division of Article 64, the pore of Article 66, the anchored strand of Article 62 and the codon-gated loop of Article 71, and asks whether every vessel keeps one strand. Its chain of results is short and clean. One period's lipids close exactly one minimal enclosure of the strand. One strand per vessel is division at every dusk. Under that requirement the mean birth size converges

to the closure vesicle at rate one half, so the population comes to divide it symmetrically. The symmetric orbit exists if and only if a gain g is at most one, and a founder without remnant needs a stricter bound. The paper's most consequential statement is a reversal: under copy-number homeostasis the length of the genome sets the vessel, and the content of the sequence only has to keep g below one. That supersedes the reading of Article 71 on which its title rests, and the manuscript says so plainly.

Compiled disposition

Accept with minor revisions. The first-round required corrections (R1–R8, C1–C2) were incorporated. The independent referee confirms the principal results and notes a transposed column-header in the allocation table of Proposition 9.1, a boundary-case omission in Definition 5.1, and orphaned appendix headings. No further computation is required. The proved statements (Proposition 4.1, Lemma 6.1, Theorem 6.2 with Corollary 6.3, Theorems 7.1 and 7.5) stand.

Required before print

Production and synchronization items only. Correct the column headers in the allocation table of Proposition 9.1, close the boundary case in Definition 5.1, and add one-line pointers under the orphaned appendix headings.

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1 Initial author-side check: required corrections

R1 – Hypothesis H5 stated in terms of its own consequence

H5 says a daughter holds a strand if and only if it carries at least λ lipids. But λ is the per-period supply, and that it equals the lipids of the minimal anchored enclosure is Proposition 4.1, which cites H5 among its hypotheses. Required: state H5 as the geometric criterion (a daughter of radius at least R_{62}), and let Proposition 4.1 convert it to lipids.

R2 – "Every founder is lost" is computed for the founders tried

The abstract says that above one every founder is lost at its first dusk. Theorem 7.1 proves this for the closure-vesicle founder only. Required: say every founder tried in the abstract and the register, or prove it for all birth sizes.

R3 – The band also needs a fidelity condition

Proposition 10.1 fixes the fidelity cap at 1000. At Article 64's other tabulated error rate the cap is 333 and the band is empty. Required: state that a non-empty band at the conventional floor also needs an error rate at most 1/735.

R4 – The clock cap takes the duty as one

The band's upper edge uses $\delta T = 43{,}200$ s, the whole twelve-hour period, so it implies $\delta = 1$. Article 64's forcing vanishes on a dark interval. Required: carry δ explicitly in Proposition 10.1 and record the inherited ambiguity.

Further required items from the initial check: R5 (the fixed-fraction run does not start where Proposition 8.1 says); R6 (the ledger omits the catalyst and sits at the margin); R7 (the recursion's scope); R8 (under H6 the copy-number condition is a survival condition); C1 (Ruling 71.3 should qualify the geometric fit); C2 (the closure ratio differs between Articles 71 and 72).

2 Independent referee report on the revised manuscript

Independent assessment — Accept with minor revisions

A subsequent independent referee report was prepared for the Editorial Board after the first-round revisions (R1–R8, C1–C2) were incorporated. It recommends Accept with Minor Revisions. The report confirms five major results: the closure identity; dusk division geometry with bud fraction as an output; copy-number equivalence and convergence to symmetric fission of closure vesicles; existence and founder conditions; and the re-evaluation of Article 71 together with the material ledger and the genome band. It notes that the proofs of Proposition

4.1, Theorem 6.3, Corollary 6.5, Theorem 7.1 and Theorem 7.5 are elementary, exact, and illuminating.

M1 — Transposed column headers in Proposition 9.1

In the printed table of Proposition 9.1 the numerical columns are ordered as $(f_{\text{anc}}, f_{\text{res}}, f_{\text{cat}}, f_{\text{lip}}) = (0.066, 0.037, 0.035, 0.863)$, but the column headers are printed in the order f_{anc}, f_{cat}, f_{lip}, f_{res}. Reorder the last three column headers to match the data, or reorder the data columns to match the headers. In Table 3 state the component order $(\text{anc}, \text{res}, \text{cat}, \text{lip})$ so it is not misread against Article 65's three-component order.

M2 — Boundary case in Definition 5.1

Definition 5.1 leaves the critical symmetric-fission threshold $v = 2^{-1/2}$ formally between the two clauses. Changing the first clause to $2^{-1/2} \le v < 1$ will make Definition 5.1 exhaustive on $(0, 1)$, since both clauses agree at that point.

M3 — Orphaned appendix headings

Because Tables 1, 2 and 3 float, three appendix headings appear with no body text beneath them. Adding a brief one-line pointer under each heading will eliminate the empty headings.

Minor and typographical items from the independent report

1. Several status macros either failed to render (leaving blank spaces) or collided with adjacent characters (e.g., 71.5D, 64.1A).
2. In Table 3 the symbol in the Location column is printed as capital Y instead of ν. In the Appendix D revision record, $\rho = 1.02$ should be $g = 1.02$. In block Y8, l_{add} and I_{ndd} should both be t_{add}.
3. Reference [9] and Table 2 cite Article 71 under its earlier working title. Update them to the published title *Addressing the Division Clock…*, and harmonize the issue numbers across the references.

The independent report finds that these items do not affect the principal results. The closure identity, the convergence recursion, and the existence conditions remain intact.

Recommendation

Accept with minor revisions. The first-round required corrections were incorporated. Correct the column headers in Proposition 9.1, close the boundary case in Definition 5.1, and clear the

typesetting items noted by the independent referee. No further computation is required. The proved statements stand.

References

[Art71] C. D. Schaper. Addressing the division clock. *Annals of the Chrysene Formalism* 1(3):1453–1471, 2026. Article 71.

Revision history

Version	Date	Notes
v1.0	2026-10-21	Review record published with Article 72.

Living Document Notice

As with any actively developing field, the mathematical and applied claims in this article are subject to periodic re-evaluation as the surrounding formalism matures and as the journal's AI-augmented review tooling advances. Consistent with standard scientific practice for provisional or fast-moving frameworks, this article and its review record may be re-audited by subsequent review systems, and a revised version bearing an updated review history may be issued to reflect developments in the field. Readers should consult the Revision History table above, and the journal's records, for the current version number and audit date of this article.

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