Class-Owned Standing Structure

The Ownership Principle for Indistinguishable Closure Classes — Standing Structure to the Class, Realized Allocations to the Members, and the Named Route to Thirds

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General Reader Summary

The central claim, first

The central claim of this paper is simple, and it names a pattern the programme has now produced four times without naming. Again and again, the corpus has taken a quantity that physics habitually attaches to individual things and shown that it really belongs to something larger: transport content belongs to loops rather than faces; conserved weight belongs to a shared bath rather than separate accounts; identity belongs to invariant structure rather than hidden labels. This paper states the common rule. Where several objects are *perfect copies* of one another — genuinely indistinguishable, with no fact of the world telling one from another — then no permanent structure may belong to one of them *rather than another*, because an unequal permanent possession would be exactly the distinguishing fact the copies are defined not to have. Permanent structure belongs to the class — the family of copies as a whole. And when every copy permanently carries the *same* share — as every electron carries the same charge, always — that is not a counterexample to class ownership but class ownership itself, written out one member at a time: a possession that singles out no member is a fact about the family, in member-sized notation. What an individual copy can do beyond the family's uniform content is *carry* some structure for a while: hold weight, realize a state, occupy a channel. Carrying is ordinary physics and breaks nothing. Owning unequally, permanently, by label, is forbidden. The rule in one line: **classes own; members carry — and uniform permanent carriage is the class's ownership, spelled member by member.**

Why the distinction matters

The rule's parts are all essential, and the programme's own results show why. The Bath Criterion proved that the conserved weight of a family of identical sectors can be *unequally distributed* at any moment — one copy holding everything, the others nothing — without harming the family's indistinguishability in the slightest. So "no member may ever observably differ" would be false. Equally, every electron in the universe permanently carries −e, and no principle worth having may forbid that; the paper shows that this case was never member-ownership at all — identical permanent shares are the class's title deed copied k times, one notation for one fact. What the family cannot tolerate is an *unequal standing* difference: a fact, written into what the members permanently *are*, that singles one out. The paper draws those lines exactly — standing versus realized, and within standing, asymmetric versus uniform — proves that asymmetric standing member-ownership is impossible on pain of contradicting the programme's identity results, proves that uniform standing carriage collapses into class ownership rather than escaping it, and verifies the whole against every place the corpus has already, implicitly, used it.

The door this opens

One consequence is flagged with care, because it points at numbers physics has never explained. Quarks carry electric charge in *thirds* — e/3, 2e/3 — and the corpus's charge paper, which derived the integer charge ladder, has carried "the e/3 generator" as an unpaid debt ever since. The ownership principle supplies, for the first time, the structural shape a payment would take: if response winding — the quantity behind electric charge — is *class-owned*, then a whole-number winding belonging to a three-member family might be read at member grain in three equal shares. Thirds, not because the charge ladder breaks, but because the ladder belongs to the class and each member's permanent share is a third of a rung. And the same logic, run on a two-member family, predicts a permanent shared *half* — and the paper is careful about where to look for it. The weak doublet's famous ±1/2 turns out not to qualify: it tells the two members apart, plus on one and minus on the other, and a shared family possession cannot do that — so the paper claims only its *size* as suggestive and assigns its plus-and-minus to the broken, asymmetric phase of the world. The cleanest second fractional number in physics sits one line away: hypercharge, which both doublet members share permanently and identically, and which is fractional — in thirds, again — exactly at the next fence the programme has named. The paper does not derive either. It states the route as a named successor obligation, with its open questions listed — including the hardest one, which is why free particles always show whole charges; the candidate answer, the paper notes, lives in how composites fill the geometry's housing, not in the families themselves. The debts now have an address, and that is more than the corpus had before.

Why nature likes fractions

Fractions in fundamental physics have always looked like an embarrassment: why should the world contain a third of a charge? The ownership principle offers a different reading. The fraction is not the fundamental object — the whole is. A quantity owned by a family and read at the grain of one member appears divided by the family's size, not because nature divides anything, but because the title is held in common and each member shows one share. Thirds appear naturally at the triplet level, while the doublet level continues to point toward half-integral structure — suggestively for now, with the clean fractional input waiting at the next fence the programme has named. And the reading comes with a built-in limit that doubles as a test: the geometry can only house families of one, two, and three, so the only fractions a single family can ever show are wholes, halves, and thirds — and where two family grains mix, sixths — but never a quarter or a fifth of anything, because there is no room for a fourth or fifth identical copy anywhere in the architecture. The paper is careful about which fractions it has actually banked — the thirds are exhibited twice in nature's bare inputs, the halves only suggestively so far — but the shape of the explanation is the point: fractions from ownership, not from division.

The honest condition

The principle is exactly as strong as the identity results beneath it — the programme's theorems that identity is exhausted by invariant structure and that hidden surplus identity is inadmissible — and it creates one genuinely new exposure of its own, which the paper names rather than buries: the line between "standing" and "realized" must itself be drawable in the source ontology. If the corpus's foundations cannot cleanly separate what a member permanently *is* from what it momentarily *carries*, the principle's fence has no post to hang on. The paper states where that separation lives, what confirms it, and what follows if it fails.

Abstract

The headline. Across four arcs the corpus has performed one move — relocating structure from individuals to the relational level where distinguishability actually exists — and this paper states the move as a principle and proves it at its exact grain: **standing transport structure carried by a class of mutually indistinguishable members is class-owned — asymmetric standing member-assignment is inadmissible, and symmetric standing attachment is not a rival category but class ownership in member notation; members' relation to standing structure beyond the class's uniform content is exhausted by realized allocation.** The principle consolidates the Bath Criterion (its conserved-weight instance), the Price of Copies (its identity engine), and the Capacity Census (its housing instance), and it opens one named successor route: class-normalized response winding as the structural form of the e/3 generator — with the fractional hypercharges as the route's fenced second target and the T_3 magnitude suggestive only. The remainder of this abstract states the results at referee grain.

The distinction, defined. §3 fixes the load-bearing definition in the Indistinguishability Lemma's own vocabulary. **Standing structure** is structure recorded in a member's invariant tuple — invariant under the class's admissible history, and label-indexed if attached to one member rather than another. **Realized allocation** is contingent configuration content — exactly the content the Lemma's clause "absent realized configuration differences" exempts; contingency, not motion, is the criterion. The distinction is not new machinery: it is the Lemma's own exemption, promoted from a clause to a definition, so that the principle inherits the identity programme's vocabulary rather than introducing a primitive.

The theorem, in two clauses. The **Class Ownership Theorem** (§5): for a class $\mathcal{C}$ of $k \geq 2$ mutually indistinguishable members [S3], (a) **no asymmetric standing assignment** — a standing attachment of W to one member rather than another is either *observable*, entering the catalogue and contradicting tuple equality [the Indistinguishability Lemma's first horn], or *hidden*, surplus identity excluded by No-Surplus-Identity [the second horn]; and (b) **the identification** — a symmetric standing attachment, identical invariant content carried by every member across all admissible history, is indexed to no member, invariant under every class relabeling, and reducible by No-Surplus-Identity from k per-member ownership facts to one class-level fact: it *is* class ownership read at uniform member grain, two notations for one structure. The exhaustion clause — members own nothing beyond the class's uniform content

read at their grain — is therefore a definitional collapse, not an exclusion [Proven: (a) conditional on the grounding pair at the identity programme's source; (b) additionally consuming relabeling covariance, the predecessors' unconditional half]. An **Ownership Uniqueness Proposition** upgrades the modality: class ownership is not the admissible survivor but the *unique* admissible standing ownership structure — every alternative either distinguishes members (excluded by (a)) or reduces to the class description (collapsed by (b)). The trichotomy for general structure (§4) is stated alongside, with the realized horn explicitly admissible.

The consistency audit. §6 verifies the principle against the corpus's own extreme cases. The Translation Lemma's basis states — one member observably carrying the entire class weight — are realized allocations, admissible and load-bearing; the census's partial housing — an observably vacant channel — is realized configuration, admissible and load-bearing; and the universe of electrons — uniform standing carriage of $-e$ — is the identification's ordinary case, class ownership member by member. All pass; the first two would have refuted an overbroad ban on observable member difference, the third would have refuted a ban on standing member carriage, and the audit records why both lines are drawn where they are. The Bath Criterion is repositioned exactly: not an analogy but the **weight instance** — $W\_\boldsymbol{\mathcal{C}}$ standing and class-owned, the $|w_i|^2$ contingent allocations — conditional on W0 only where the weight instance is consumed.

The successor obligations. The route's prior question is named rather than inherited: **CO-0 (The Carrier Theorem)** (§7) [Conjectural] — derive that the carrier of the U(1) response is the minimal transport-stable unit, which under the bath is the class: the ledger's monomial transport preserves member lines (member carriers, windings integral member-wise), the bath's irreducible action preserves none (class carrier, member grain below the quantization grain) — with the $k = 1$ check recovering the charge paper verbatim and a discharge converting the observed $e/3$ into empirical pressure on W0, the node's fourth converging arc. Downstream of it, **CO-1 (Class-Normalized Response Winding)** (§9) [Conjectural — named obligation]: derive whether the class-owned winding $q \in \mathbb{Z}$ is read at member grain as the uniform standing value q/k — forced, admissible, or excluded — so that any answer discharges the obligation; a **Uniform Reading Lemma** closes the value in advance — a standing member-grain reading, if it exists, is permutation-forced to q/k (conditional on the named additivity premise AD), so CO-1's open content is existence and modality, never magnitude. Under the identification the route's deliverable is correctly classified: each member's permanent q/k is the class's winding at uniform member grain, not a member-owned fraction. The consistency requirement is proven at statement level: the charge lattice survives with the **class as carrier** — $q \in \mathbb{Z}$ at class level — and member-grain fractions are the class integer read below its own grain, not off-lattice charges. Composed with the census, the route yields the **Ownership–Capacity Principle** and its denominator ladder (§8), scoped at the route's true grain: single-class member-grain readings carry denominators dividing $k \in \{1, 2, 3\}$; composed numbers mixing two class grains may carry denominators dividing $\mathrm{lcm}(2, 3) = 6$; and the architecture-level claim is that **every admissible denominator divides 6** — sixths absorbed as the composed signature of the grains mixing, fourths, fifths, and sevenths impossible at any level, at any energy [Conditional on the joint chain, prediction-shaped]. The route's $k = 2$ question is stated carefully rather than claimed: weak isospin $T_3 = \pm 1/2$ is a *weight* of the non-abelian fundamental representation — mechanism output, not census-route output, per *Three by Two* §9's disambiguation — distinguishing the members and summing to zero rather than to a class integer; what survives is suggestive only — the class-uniform magnitude $1/2$ at the $k = 2$ grain, with the sign assignment an unwitnessed which-member fact at the unbroken level, its observed witnessing routed to the broken phase per the predecessor's distinguishability conversion (X2-B's territory) — while the route's clean second instance among the bare inputs is **fractional hypercharge**: genuinely class-uniform, standing, identical on both doublet members always — fractional in every convention ($Y = 1/3$ on the left quark doublet in the convention carried here, $Q = T_3 + Y/2$; written $1/6$ in the rival normalization), denominators dividing 6 either way, and in the thirds-normalization sitting at the colour grain exactly — a clue or a complication for CO-1 to read, stated at the arc's hypercharge fence with the convention marked [Conjectural]. The free-particle integrality flank is re-aimed before hand-off: observed composites saturate the **housing family**, not a species class — a proton (uud) fills one occupant per colour channel with species mixed — and channel-saturated composites sum integrally because each species' fractional part is its class residue mod k; the mechanism candidate is housing-family saturation, the census's G-S territory, and CO-1 inherits it aimed correctly.

The new exposure. The principle creates one exposure of its own and names it (§10): the standing/realized boundary must be admissibly drawable at source. The genuinely intermediate cases — structure invariant over some admissible histories and contingent over others — carry the fallback; the all-history-invariant symmetric case, by contrast, is resolved by the identification, not the fallback. Slot, fallback, and refuter are stated; everything else degrades along the predecessors' refinement clauses.

Epistemic markers: [Inherited] imported from prior VERSF papers; [Imported-External] imported from standard mathematics outside the programme, carried at the external source's standing; [Proven] established here; [Conditional] holding under stated inputs; [Conjectural] motivated but unproven; [Open] undecided.

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1. Introduction — One Move, Performed Four Times

The corpus has a signature move, and this paper exists because the move has now been performed often enough to deserve a name. The abelian arc relocated transport content from local data to loop holonomy: no face owns a phase; the loop carries the invariant. The second-integer paper relocated magnetic structure from local sources to global topology: no point owns a monopole; the configuration's closure carries the label. The Bath Criterion relocated conserved weight from member accounts to a shared pool: no sector owns its share as a protected fact; the class carries the total, and the shares flow. The Price of Copies relocated identity itself from hidden labels to invariant structure: no copy owns a name; the class carries the species. Four arcs, one direction — structure migrating from individuals to the relational level at which distinguishability actually exists — and the migration has been re-derived locally each time, from local premises, without anyone stating the general rule.

The rule is the **Class Ownership Principle**: in a class of mutually indistinguishable members, *standing* transport structure is class-owned, and individual members realize *contingent allocations* of it beyond the class's uniform content. Two clauses carry the proof. The first is a dilemma: an *asymmetric* standing assignment — structure attached to one member rather than another — is observable, contradicting equal tuples, or hidden, contradicting No-Surplus-Identity, and no third horn rescues it, because the third horn — realized configuration — is excluded from the standing case by definition rather than by oversight. The second is an identification, and it is where the principle earns the word "exhausted": a *symmetric* standing attachment — identical invariant content carried by every member, always — is indexed to no member, invariant under every relabeling, and reducible from k per-member facts to one class fact; it is not a surviving species of member-ownership but class ownership written in member-sized notation. Every electron permanently carrying $-e$ is the identification's ordinary case: the electron class owns its winding, spelled out one member at a time.

Two disciplines govern the statement, and both are inherited from the arc's hard lessons. First, the **realized horn is load-bearing, not residual**. The corpus's own proofs run on extreme realized asymmetries — the Translation Lemma applies its candidate unitary to basis states in which one member observably carries everything; the amended census houses a doublet on two of three channels with the third observably vacant — and a principle that forbade members from observably differing would be refuted by the basis states of the paper it generalizes. The principle therefore forbids exactly one thing — asymmetric, label-indexed standing ownership — and §6 audits the corpus's extreme cases, including the uniform standing case, to verify that every line is drawn where the predecessors need it. Second, the **consequences are priced, not gestured**. The principle's most consequential corollary points at the e/3 generator — the oldest unpaid debt in the corpus's Standard-Model ledger — and the paper states the route as a named successor obligation with its deliverable correctly classified under the paper's own definitions, its k = 2 question stated carefully (T_3 demoted to a suggestive magnitude — a representation weight, not a winding — with the clean fractional input located at the hypercharge fence), its confinement-shaped flank re-aimed at the housing family before hand-off, and its softest premise flagged inside the obligation itself (§9).

The paper is a consolidation: it closes no arc, derives no number, and adds one principle, one audit, one named obligation, and one honestly-stated new exposure to the corpus. Its claim to existence is that the next papers — occupancy, charge realization, the arc's interior — will lean on an ownership rule whether or not one is stated, and a rule leaned on silently is a slot crossed silently, which is the one thing this corpus does not do.

2. Inherited Results and Imports

The grounding pair [Inherited — *The Price of Copies* §5, at the identity programme's source conditionality]. The **Indistinguishability Lemma**: members of one class with equal invariant tuples are genuinely mutually indistinguishable — any distinguishing fact is either observable (belonging in the catalogue, contradicting tuple equality) or hidden (surplus identity, excluded); the Lemma's exemption clause — *absent realized configuration differences* — is consumed here as the realized horn's license. The **Class Multiplicity Proposition**: the species ontology presupposes non-degenerate classes. Both conditional on invariant-exhaustion and No-Surplus-Identity at the identity programme's source [⟨cite: identity programme papers; Species-as-Classes paper⟩]. The Lemma is this paper's engine; No-Surplus-Identity additionally powers the identification clause (§5b), where it collapses k identical per-member ownership facts into one class fact.

Relabeling covariance [Inherited — *The Price of Copies* §5, the split theorem's *unconditional* half]: admissible structure on a class is invariant under every class permutation, σ-invariance with no exchange import consumed. The identification's second ground (§5b): structure invariant under every relabeling of members is structure about the orbit, not the points.

S3 (class structure) [Inherited — *The Price of Copies* §3]: classes as Representation Classes, member-indistinguishability derived, non-degeneracy inherited. The classes this paper's principle governs.

The Bath Criterion [Inherited — at its statuses]: the bath/ledger dichotomy; the Translation Lemma with its basis-state proof; W0/W1 at the Born-arc slot [Open]. Consumed in §6 as the principle's conserved-weight **instance** — the weight half of the principle is conditional on W0 exactly where the Bath Criterion is, and the generalization beyond weight is this paper's content, not W0's.

The Capacity Census [Inherited — *Three by Two*, at its slots]: the amended theorem's partial-housing clause; the Distinguishability Ceiling; the named-but-unassumed saturation import G-S. Consumed in §6's audit (partial housing as realized configuration), §8 (occupancy as realization), and §9 (the housing-family saturation flank, which lands in G-S territory).

The charge lattice [Inherited — the charge paper]: carrier responses classified by $q \in \mathbb{Z}$; the e/3 generator reserved, unpaid, to the multi-Fold arc since the abelian papers. Consumed in §9, where CO-1 names the payment's form.

No new physical imports. The paper adds one *definition* (standing/realized, §3 — built from the Lemma's own clause), one *theorem* over inherited premises (with the identification clause consuming relabeling covariance), and two *named obligations* (CO-0, the carrier question; CO-1, the realization question — §7, §9). The single genuinely new exposure — that the standing/realized boundary be admissibly drawable at source — is stated as its own slot in §10 rather than smuggled into the definition.

3. Standing and Realized — The Distinction, Defined Exactly

The principle's entire content lives in one distinction, and the distinction is defined in the identity programme's vocabulary so that it inherits that programme's standing rather than petitioning for its own.

Standing structure. Structure is *standing* for a member when it is recorded in the member's **invariant tuple** — the catalogue content by which, per the identity programme, the member's identity is exhausted. Standing structure is invariant under the class's admissible history: it is part of what the member *is*, not part of what the member is currently doing. Within standing structure one further line matters, and §5 turns on it: a standing attachment is **asymmetric** when its content depends on which member carries it — "c_i, and not c_j, owns W," a label-indexed fact — and **symmetric** when every member carries identical invariant content, with no dependence on the labels at all.

Realized allocation. Structure is a *realized allocation* when it is contingent configuration content — the state the class is currently in, as opposed to what its members invariantly are. A realized allocation can be wholly asymmetric: one member carrying the entire class weight, one channel of a housing family vacant. **Contingency, not motion, is the criterion**: a static configuration is as realized as a flowing one, and an allocation need not change to be an allocation — it need only be the kind of content that admissible history *could* change. Realized content is exactly what the Indistinguishability Lemma's clause *absent realized configuration differences* exempts from the indistinguishability requirement — the exemption is the Lemma's own, stated at source, and this definition adds nothing to it beyond a name.

The boundary. The distinction is the catalogue/configuration boundary the identity programme already maintains: invariant tuples on one side, realized states on the other. Standing = tuple content; realized = configuration content. The definition therefore consumes one structural fact about the source ontology — that the boundary is admissibly drawable, with tuple content and configuration content separable in the construction — and that consumption is a genuine exposure, named and slotted in §10 rather than treated as free. [Definition; the boundary's drawability: slotted, §10.]

One consequence of these definitions is recorded now and spent in §5: the trichotomy's realized horn is not an escape the dilemma must argue away — realized content is not tuple content, by definition — and the symmetric standing case is not a gap the dilemma overlooks, because the dilemma was never aimed at it: its target is the asymmetric case, and the symmetric case receives its own clause, the identification, with its own proof.

4. The Trichotomy

Let a class $\mathcal{C} = \{c_1, \ldots, c_k\}$, $k \geq 2$, of mutually indistinguishable members [S3] appear to have a transport quantity W attached to one member, c_1. Exactly three cases exist for the attachment, and they exhaust the possibilities by the §3 boundary:

Horn one — W is an asymmetric standing observable property of c_1. Then "c_1 owns W" is admissible invariant content, belongs in the catalogue, and enters c_1's invariant tuple — which now differs from its classmates'. By the Indistinguishability Lemma, unequal tuples end membership: c_1 was never the others' copy, the class was mislabeled, and the refinement clause relocates c_1 to its own class. The case does not break the principle; it breaks the *class*, which is the Lemma's first horn doing its inherited work.

Horn two — W is an asymmetric standing hidden property of c_1. Then "c_1 owns W" is a fact of the world represented by no admissible invariant — surplus identity, the precise object No-Surplus-Identity excludes. The case is inadmissible at the identity programme's source, not merely at this paper's.

Horn three — W is a realized allocation of class-owned structure. Then c_1 currently carries W — possibly all of W, possibly statically — as configuration content, while owning none of it as tuple content. No tuples differ; no surplus identity exists; the Lemma's exemption clause covers the case explicitly. **This horn is admissible**, and it is not a marginal case: it is the generic state of every class the corpus has built, from the Bath Criterion's flowing weights to the census's partially occupied channel families.

One case is deliberately absent from the trichotomy, because it is not an attachment *to c_1 rather than its classmates* at all: the **symmetric standing** case, in which every member carries identical invariant content. That case is §5's identification clause — resolved by collapse into class ownership, not by any horn — and listing it here as a fourth horn would misdescribe it as a rival to be excluded when it is the principle's own content in another notation.

The trichotomy's moral, in one sentence: *the question is never whether a member may carry; it is whether a member may own unequally* — and unequal ownership, being standing and label-indexed, faces only the two horns the identity programme already closed. [The trichotomy: Proven at the §3 definition, conditional on the grounding pair at source.]

5. The Class Ownership Theorem — The Dilemma and the Identification

Class Ownership Theorem. *Let $\mathcal{C} = \{c_1, \ldots, c_k\}$, $k \geq 2$, be a class of mutually indistinguishable members [S3], and let W be a standing transport structure associated with $\mathcal{C}$ — winding, holonomy response, conserved weight, charge-carrying structure, or any other invariant transport content. Then W is class-owned, in the exact sense fixed by two clauses:*

(a) — the dilemma — no admissible standing assignment attaches W, or any portion of it, to one member rather than another: asymmetric standing member-ownership is inadmissible;

(b) — the identification — a symmetric standing attachment, in which every member carries identical invariant content across all admissible history, is admissible, and is not a rival ownership category: it is class ownership read at uniform member grain — "each member standingly carries w" and "the class owns kw, uniformly distributed" are two notations for one structure;

whence the members' relation to W beyond the class's uniform content is exhausted by realized allocation.

Proof of (a). Suppose W were assigned standingly and asymmetrically to c_i. By §3 the assignment is invariant-tuple content, label-indexed: "c_i owns W" persists across admissible history and distinguishes c_i from its classmates as a matter of what the members are. By the trichotomy (§4) the assignment is observable or hidden — the realized horn is excluded from the standing case by the definition of standing. If observable: it enters the catalogue, c_i's tuple differs, and by the Indistinguishability Lemma c_i is not a member of $\mathcal{C}$ — contradiction. If hidden: surplus identity, inadmissible by No-Surplus-Identity. Both horns close. [Proven, conditional on S3 and the grounding pair at the identity programme's source.]

Proof of (b) — the identification, argued. The clause does real work and is argued rather than assumed, on three convergent grounds. **(i) The indexing test.** A fact is member-attached, in the sense clause (a) forbids, only if its content depends on *which* member carries it. A symmetric attachment — "every member of $\mathcal{C}$ standingly carries w" — has no such dependence: delete the labels and nothing is lost; permute the members and the fact reads identically. A fact whose statement survives the erasure of all member labels is not about any member. **(ii) Relabeling covariance.** By the predecessors' unconditional half [Inherited — *The Price of Copies*], admissible structure on a class is invariant under every class permutation. The symmetric attachment is precisely the σ-invariant case — and structure invariant under every relabeling of the members is structure about the *orbit*, not the points: the class is the orbit, and the attachment's invariance locates its content there. **(iii) The surplus collapse.** Suppose the symmetric attachment were nonetheless read as k distinct per-member ownership facts — "c_1 owns w," "c_2 owns w," …, identical in content, identical in history, distinguishable in no role. The k facts over-describe: nothing admissible turns on their being k rather than one, and No-Surplus-Identity — which at source excludes hidden individuators, and is here extended one level up, to redundant individuation of *observable* content: k facts with no distinguishing role are the forbidden object in descriptive rather than ontological dress — collapses them to the single class-level fact "$\mathcal{C}$ owns kw, uniformly read at member grain." The two notations therefore describe one structure; the exhaustion clause is a definitional collapse, not an exclusion; and the theorem forbids exactly what the dilemma proves and no more. [Proven — (b) — conditional additionally on relabeling covariance at its inherited status.]

Calibration of (b), the ordinary case. Every electron carries −e, invariantly, across all admissible history. Under the identification this is not a tolerated exception to class ownership but its most familiar expression: the electron class owns its winding, and "each electron carries −e" is that single fact in member notation. A principle that forbade it would be refuted by every charged particle in the universe; a principle that merely *permitted* it as un-analyzed member-ownership would leave the theorem's exhaustion clause overclaiming. The identification is the exact strength at which both errors close. [Calibration; no marker.]

Three remarks fix the theorem's weight.

First, its grain. The theorem is exactly as strong as the grounding pair and relabeling covariance, and not one step stronger. It does not forbid members from differing — they differ constantly, in realized configuration, and the corpus's proofs depend on it. It does not forbid members from permanently carrying — uniform standing carriage is the class's ownership spelled out, by clause (b). It forbids one thing: a label-indexed standing inequality, the fact "this copy, and not that one." The forbidden object is precisely the hidden individuator the Price of Copies excluded, now excluded at the level of transport structure.

Second, its direction. Conventionally, quantities are attached to particles by default and collectivized only under duress. The theorem reverses the default for indistinguishable families: the class is the title-holder, uniform member carriage is the title read at member grain, and anything finer than uniform is allocation — contingent, flowing or static, owned by no one.

Third, its inheritance. The theorem introduces no new principle — clause (a) is the Indistinguishability Lemma's dilemma run on transport structure; clause (b) is No-Surplus-Identity and relabeling covariance jointly collapsing a redundant description. A referee pressing the theorem presses the grounding pair and the covariance half, at their sources, which is exactly where the corpus has already placed those exposures.

Ownership Uniqueness Proposition. *For a class of mutually indistinguishable members there exists exactly one admissible standing ownership structure: class ownership. Every alternative either introduces distinguishing information or reduces to the class-owned description.*

Argument. Standing ownership structures partition exhaustively by the §3 line: an assignment's content either depends on which member carries it (asymmetric) or it does not (symmetric) — a mixed assignment, symmetric on some members and not others, depends on the labels and is asymmetric. Every asymmetric assignment is excluded by clause (a); every symmetric assignment is reduced by clause (b) to the class-level fact it notates. No standing ownership structure survives as an alternative. [Proven, at the theorem's conditionality.]

The proposition's value is in its modality. The theorem alone shows that member ownership *fails*; the proposition shows that class ownership is not merely the admissible survivor but the **unique** admissible standing ownership structure — there was never a menu. Successors consuming the principle may cite it at this strength: not "class ownership is permitted" but "nothing else is."

6. The Instances — Bath, Copies, Census, Electrons, Audited

A principle extracted from a corpus must be audited against the corpus — in particular against the cases that would refute any broader or narrower form of it — and the audit is this section's content.

The Bath Criterion: the weight instance. Under W0's bath reading, the conserved total class weight

$$W\_\mathcal{C} = \Sigma_i |w_i|^2$$

is standing structure: invariant under admissible transport [U1], class-level, owned by no member — the Bath Criterion's interpretive coda says it in the ontology's own words: "individual sector weights are contingent allocations of a shared quantity." The member weights $|w_i|^2$ are realized allocations, and the bath's defining feature — that they *flow* — is the allocations' contingency made dynamical. The Bath Criterion is therefore not an analogy for this paper's principle; it is the principle's **conserved-weight instance**, derived there for its own reasons, with this paper supplying the general form. The weight instance is conditional on W0 at its Born-arc slot, exactly as the Bath Criterion left it; the principle's other instances are not, and the conditionality does not propagate sideways. [The repositioning: Proven at the level of the two papers' statements.]

The audit, extreme case one — basis states. The Translation Lemma's hard direction applies its candidate unitary to the basis state e_j: a class state in which one member observably carries the *entire* class weight and every other member carries nothing. Under an overbroad ownership principle — "no observable quantity may belong to one member" — this state would be forbidden, and the Translation Lemma's proof, which the entire Bath arc rests on, would consume an inadmissible object. Under the theorem at its true grain, e_j is a realized allocation — maximally asymmetric configuration content, with every member's invariant tuple untouched — and the proof stands. The audit passes, and the pass is the reason the standing/realized line is drawn at the tuple boundary and nowhere shallower. [Audit: passed.]

The audit, extreme case two — partial housing. The amended Capacity Census houses a k = 2 class on two channels of the axis triple, the third channel observably vacant. The vacancy is an observable asymmetry of the configuration — and it is realized configuration, exempted by the Lemma's clause, exactly as the census's own justification states ("the vacancy is realized configuration, which the Lemma exempts"). Under the theorem, the channel family's structure is standing and class-governed; *which* channels are occupied is allocation. The audit passes, and the census's amended clause is revealed as an application of the principle one paper early. [Audit: passed.]

The audit, extreme case three — the universe of electrons. Every member of the electron class carries identical standing charge, always. Under a principle that excluded *all* standing member carriage, this — the most ordinary fact in particle physics — would be forbidden, and the principle would be dead on arrival. Under clause (b) it is the identification's generic case: one class-level fact in member notation, with the k per-member readings collapsed by No-Surplus-Identity. The audit passes, and the pass is the reason the theorem carries two clauses rather than one. [Audit: passed.]

The Price of Copies: the identity engine. The Price of Copies excluded arbitrary labels as individuators; the theorem excludes unequal ownership as an individuator — the standing fact "this copy owns more" being a label with cargo. The relation is engine to application: the grounding pair supplies the dilemma, the covariance half supplies the identification's second ground, and this paper runs them on transport structure. Nothing in the Price of Copies is amended; its split theorem, its floors, and its grading are untouched, since the principle governs ownership, not group membership. [The relation: stated.]

7. The Generalization — What the Class Owns

The theorem quantifies over "standing transport structure," and the inventory deserves explicit lines, because each line is a commitment a successor can consume:

Conserved weight. Class-owned, with member weights as flowing allocations — the Bath Criterion's instance, conditional on W0 (§6).

Response winding. The charge paper's classifying integer, read at the class: *if* the carrier is the class — k indistinguishable members as one transport unit — then the winding $q \in \mathbb{Z}$ that classifies the response is standing structure, and by the theorem it attaches to the **class carrier**. The antecedent is this entry's honest exposure, and the paper names it rather than letting the route inherit it silently: the theorem proves that *whatever standing structure the class carries* is class-owned; it does not prove that the winding is carried at class grain rather than member grain. A skeptic grants the theorem and makes each member its own carrier, with its own integral winding — and the thirds route then dies before CO-1 opens, since q/k readings exist only if the class is the unit the lattice quantizes. The derivation is therefore a named successor obligation, prior to CO-1:

CO-0 (The Carrier Theorem) — *named successor obligation* [Conjectural]: derive that the carrier of the U(1) response is the minimal transport-stable unit, and that under the bath that unit is the class. The candidate argument's shape: under the ledger, admissible transport is monomial and preserves the member lines up to permutation and phase — each member is a transport-stable sub-carrier, the carrier decomposes, and the lattice quantizes member-wise, every winding integral; under the bath, the class group acts irreducibly on the carrier and *no member decomposition survives transport* — a member-attached winding would be standing structure indexed to a sub-object admissible transport does not preserve, so the attachment point itself fails to be standing. The proof's joints, named for the successor: the charge paper's record construction (a winding is read off a persistent subject's closed-loop response, and under the bath the persistent transport subject is the class, not the member); the $k = 1$ consistency check (the singleton collapses CO-0 to the charge paper verbatim — the electron's $-e$ recovered as the one-member case); and the principal refuter (a source construction ordering the U(1) response member-wise *prior to* the non-abelian mixing — a fact about how the abelian and non-abelian structures compose, slotted at the structure-group paper's imports). One consequence is recorded at pointer strength and priced at CO-0, not here: the carrier question is W0-conditional in both directions — ledger ⟹ member carriers ⟹ all fundamental charges integral; bath ⟹ class carrier ⟹ member-grain fractions available — so a discharge would make the observed $e/3$ pattern *empirical pressure on the bath*: a ledger substrate quantizes member-wise and cannot produce the fractions the world contains. That would be the W0 node's fourth converging arc and its first external data point. [The obligation: Conjectural; the slots: the charge paper's response construction and the Bath Criterion's transport structure; the refuter: at the structure-group imports.]

A uniform member-grain reading of the class winding — each member standingly at q/k — is, by the identification, the same ownership in member notation; whether the physical realization takes that uniform standing form is the question CO-1 (§9) converts into an obligation, downstream of CO-0. [The attachment: CO-0's deliverable; the realization: CO-1's.]

Holonomy response. The class's transport behaviour — how the family responds to the derived phase, the structure the predecessors' mechanism gauges — is standing and class-owned; the members' momentary amplitudes are allocations. This is the reading under which the Bath Criterion's "the class is the carrier" and the census's "classes are housed" were always one statement.

Charge-carrying structure. The composite of the above: whatever invariant structure makes a family a charged family belongs to the family — read uniformly at member grain where the realization is uniform, per clause (b).

What the class does **not** own: realized states, occupancy patterns, momentary asymmetries, records of particular histories. The principle relocates the invariants and only the invariants; everything contingent stays exactly where physics finds it. [The inventory: each line at the theorem's conditionality.]

8. Consequences — Occupancy as Realization

The principle reorganizes one open question and sharpens one inherited bound.

Occupancy, reframed. The census's O1 asks which physical multiplets anchor to which channel families. Under the principle the question acquires its correct grain: occupancy is a **realization question** — how class-owned standing structure (the winding, the housing, the transport behaviour) is realized in members and channels. The practical guidance for a reading at the PFD slot is now stated at the theorem's exact grain: what an occupancy reading should *not* look for is **member-specific invariants** — label-indexed standing properties distinguishing one member of a class from another, which clause (a) proves empty as a category. What it *should expect* are **class-uniform invariants** — identical standing content across all members, which clause (b) classifies as the class's ownership at member grain and which is the generic signature of a class (every electron's $-e$ is one). Allocation rules — how the class distributes its realized structure over its housing — fill the remainder. [Reframing; O1 remains [Open] at its slot.]

The Ownership–Capacity Principle. The complementarity with the census deserves a name and its numeric content, because this is the first place in the corpus where the two papers' outputs compose into something neither contains alone. The Capacity Census determines how many indistinguishable members a class may contain; the Ownership Principle determines how standing structure may be held by those members. *Capacity counts the copies; ownership* *governs the distribution of invariant content across them.* Composed, with CO-1's uniform reading as the conditional bridge:

census: $k \in \{1, 2, 3\}$ — singleton, doublet, triplet; ownership: class winding q at member grain $\Rightarrow q/k$ — wholes, halves, thirds.

The composition's sharpest output is a **denominator ladder**, scoped at the grain the route actually governs — because the scoping closes a hole and sharpens the kill. At **single-class grain** — member-grain readings of one class winding — the admissible denominators divide the owning class's size: 1, 2, and 3 exhaustively, since a fraction q/k requires a k-member class and the architecture houses no $k \geq 4$. **Composed numbers** — quantum numbers built by mixing readings across two class grains, as electric charge mixes the doublet number with hypercharge — may carry the least common multiple of their constituents' denominators: lcm(2, 3) = 6, and no more, since 2 and 3 are the only nontrivial grains the census supplies. The architecture-level claim is therefore: **every admissible denominator divides 6** — wholes, halves, thirds, and sixths, with fourths, fifths, and sevenths impossible at any level, single or composed, at any energy. The scoping strengthens the prediction rather than weakening it: a sixth, where one appears in the bookkeeping, is the composed signature of the two grains mixing — confirmation, not counterexample — while a quarter anywhere remains a kill. Nature has so far obliged in both normalizations: in the convention this paper carries ($Q = T_3 + Y/2$) the bare fractional inputs run in thirds; in the rival convention ($Q = T_3 + Y$) the quark-doublet hypercharge is written 1⁄6 outright — both inside the divides-6 ladder, neither outside it, and the convention-independent fact is the one the ladder governs: every denominator in the Standard Model's bookkeeping divides 6. The ladder is prediction-shaped and carried at its honest conditionality: it consumes the census's premises, CO-0's class-attachment (§7), and a positive CO-1, and it is recorded so that the composition is auditable the day its conditions discharge. [The principle: stated at the two papers' joint grain; the ladder: Conditional on the full chain, prediction-shaped.] The Distinguishability Ceiling and the Ownership Principle remain the statics of indistinguishable families — the Ceiling counts the rooms, the Principle assigns the property rights — and successors consuming one will generally consume both.

9. CO-1 — The Named Route to Thirds (and Halves)

The principle's most consequential corollary points at the longest-standing number in the corpus's debt ledger, and the paper states it at full discipline: as a named obligation, with its deliverable correctly classified under the paper's own definitions, its premises graded, its consistency requirement proven at the level of statements, its second instance stated before a hostile reader supplies it as an objection, and its open flank re-aimed before hand-off.

The debt. The charge paper derives the integer lattice — $q \in \mathbb{Z}$ — and reserves the e/3 generator to the multi-Fold arc: quarks carry thirds, the lattice is in units of e, and the corpus has never said how thirds arise from a theorem that forces integers. The reservation has stood unpaid through six papers.

The form of a payment, correctly classified. Under the Class Ownership Theorem, with the carrier question itself assigned to CO-0 (§7), response winding is class-owned: granted CO-0, for a class of k indistinguishable members the integer q classifies the **class's** response — the class is the carrier, and the lattice theorem applies to it intact. If the class's winding is read at member grain *uniformly and standingly* — each member permanently at

q/k per member, $k = 3 \Longrightarrow$ thirds —

then by the identification (§5b) this is not member-owned fractional charge but **the class's integer winding read below its own grain**: one fact, member notation. The classification matters, because a quark's $2/3$ is invariant across all admissible history — standing, by §3's definition — and a route that described it as "realized allocation" would misclassify its own deliverable. The route's deliverable is the uniform standing reading, and the identification is what makes that reading class ownership rather than a violation of clause (a).

The consistency requirement, proven at statement level. The route does not contradict the charge paper, and the non-contradiction is structural rather than hopeful: the lattice theorem classifies the response of *the carrier*, and the theorem here identifies the carrier, for indistinguishable families, as the class. $q \in \mathbb{Z}$ at class level is the charge paper's result verbatim; q/k at member grain is the same integer in finer notation, legislated against by nothing. An off-lattice *fundamental* charge would still refute the lattice; a member-grain reading of a class-level integer is not one. [Proven at the level of the two statements; the physical realization is the obligation below.]

The k = 2 question, stated carefully before it is asked. The route's logic does not stop at $k = 3$, and the paper says where the halves are rather than waiting for a referee to ask why nobody has seen $e/2$ — but the saying must respect a distinction the route itself creates, because the obvious candidate fails it. The doublet's famous half-integral number, weak isospin $T_3 = \pm 1/2$, is *not* an instance of the route as stated: it takes opposite signs on the two members — distinguishing them, which a class-uniform share cannot do — and it sums to zero over the doublet, not to any class integer. Structurally, T_3 is a *weight* of the non-abelian fundamental representation, and the corpus already obtains representation weights for free from the transport mechanism — they are SU(2) structure, exactly as the gluon count is SU(3) structure, per *Three by Two* §9's disambiguation. Claiming T_3 outright would count mechanism output as census-route output, and the paper's own division of labor forbids the double-counting. What survives, at suggestive strength only: the *magnitude* $1/2$ is class-uniform and sits at the $k = 2$ grain, while the sign assignment — which member is "+" — is at the unbroken level exactly the unwitnessed which-member fact, with its observed witnessing assigned to the broken phase per the predecessor's distinguishability conversion (*Three by Two* §10; X2-B's territory). [Suggestive; the weight-versus-winding distinction noted; the sign structure at X2-B.] The route's clean second instance among the Standard Model's bare inputs sits one line away, at the fence: **hypercharge** is genuinely class-uniform — standing, identical on both doublet members, always — and it is *fractional* for the quark doublets. The specific denominator is convention-borne, and the paper marks it rather than leaning on it: in the convention carried here ($Q = T_3 + Y/2$) the left quark doublet's $Y = 1/3$ — thirds again; in the rival normalization ($Q = T_3 + Y$) the same content is written $Y = 1/6$. The pointer rests on the convention-independent facts: the quark-doublet hypercharges are fractional in every convention, their denominators divide $6 = 2 \times 3$ — the product of the census's two nontrivial grains — and in the thirds-normalization they sit at the colour grain exactly, which is either a clue that the bare fractions originate at the $k = 3$ class or a complication CO-1 must read. Hypercharge is the arc's fenced interior, so the pointer stops at the fence: if the route has a second instance among the bare inputs, it is the fractional hypercharges — and the fence is where the successor looks. [Conjectural; convention marked; the mixing $Q = T_3 + Y/2$: fenced as before.]

The Uniform Reading Lemma — why q/k is the only candidate. Before the obligation is stated, one piece of its apparent freedom is removed by proof, because it was never free. *Suppose a standing member-grain reading of the class winding exists: a standing assignment $c_i \mapsto w_i$ of values to members, composing to the class winding, $\Sigma_i w_i = q$. Then the reading is uniform: $w_i = q/k$ for every member.* The argument is clause (a) run in reverse: a standing assignment whose values differed across members would be an asymmetric standing structure — label-indexed invariant content, the theorem's forbidden object — so the assignment is invariant under every relabeling, all values are equal, and additivity fixes the common value at q/k. The composition premise is named rather than assumed: **AD (additivity at member grain)** — member-grain readings, where they exist, compose to the class winding — inherited in form from the charge paper's composition law (responses multiply, windings add), with its *application* at member grain as the premise CO-1's slot must confirm. [Proven, conditional on the theorem and AD.] The lemma's effect on the obligation is exact: the question "what value would members read?" is closed — q/k or nothing — and CO-1's entire open content is *existence and modality*: whether the standing member-grain reading exists at all, and whether the realization forces it. The identification (§5b) guarantees consistency in advance: the unique reading, being uniform, is class ownership in member notation, not a revival of member ownership.

CO-1 (Class-Normalized Response Winding) — *named successor obligation* [Conjectural]

Derive whether the class-owned winding $q \in \mathbb{Z}$ of a k-member indistinguishable class is read at member grain as the uniform standing value q/k — **forced, admissible, or excluded** — so that any answer discharges the obligation (the value itself carries no freedom, by the Uniform Reading Lemma: if a standing reading exists it is q/k, and the obligation's open content is existence and modality, not magnitude): a forced uniform reading establishes the thirds-and-halves route; an admissible-but-unforced reading hands the selection to occupancy; an exclusion returns the e/3 question to its prior standing at one [Conjectural]'s cost. The softest premise is flagged inside the obligation, where it belongs: indistinguishability forces symmetric *treatment* of members — that is this paper's theorem — but whether the physical realization takes the uniform *standing* form (each member permanently at q/k) rather than leaving members with contingent allocations only is a fact about the realization dynamics, and CO-1 must read it rather than inherit it. [⟨slot: the realization dynamics — plausibly the reconstruction arc's state space on class carriers, and the PFD anchoring account⟩]

The open flank, re-aimed before hand-off. Free particles are never observed carrying fractional charge; quarks, which carry the thirds, are never observed free. The mechanism candidate is stated at the correct target, because the obvious gloss aims one structure too high: observed composites do not complete a *species class* — a proton (uud) is two members of the up class and one of the down, the completion of no single class — they saturate the **housing family**: one occupant per colour channel, species mixed. And channel-saturated composites sum integrally *regardless of the species mix*, because each species' fractional part is its class residue mod k — three channel-occupants at thirds total an integer whatever thirds they are. The mechanism candidate is therefore **housing-family saturation** — the census's G-S territory, where the named-but-unassumed saturation import already lives — and CO-1's second deliverable is the derivation: whether admissible free configurations are exactly the channel-saturating ones, with isolated members inadmissible as free. The flank is named, aimed, and handed forward so that the successor chases the right closure. [The flank: Open, at CO-1; the re-aim: at the level of the census's definitions.]

The obligation's significance is stated once, plainly: every previous successor obligation in the arc pointed at structure the Standard Model also possesses (groups, multiplicities, conditions). CO-1 points at numbers — $e/3$ directly, with the T_3 magnitude suggestive and the fractional hypercharges waiting at the fence — that the Standard Model carries as bare input and has never explained. A discharge would be the corpus's first strict over-explanation of the conventional theory; a negative answer costs one [Conjectural] and returns the debts to their ledger. The asymmetry of those stakes is exactly why the obligation is stated now, at full discipline, rather than after a hasty derivation. [Calibration; no marker.]

10. The New Exposure — Drawing the Boundary

The paper creates one exposure that no predecessor carries, and names it rather than letting successors discover it.

The exposure. The §3 definition consumes the separability of invariant-tuple content from realized-configuration content — the catalogue/configuration boundary. The theorem's case analysis is exhaustive *only if* that boundary is admissibly drawable in the source ontology: a construction in which some structure is neither cleanly standing nor cleanly realized — invariant over some admissible histories and contingent over others, say — would present cases the dilemma and the identification do not between them cover, and the principle's fence would lose its post.

One boundary case already resolved. The case of structure invariant over *all* admissible history yet attached at member grain — the uniform standing case — is not an intermediate case and does not invoke the fallback: it is resolved by the identification (§5b), which classifies it as class ownership in member notation. The fallback below covers only the genuinely intermediate, history-dependent cases.

The slot. The boundary is the identity programme's own: invariant-exhaustion presupposes a determinate catalogue, and the Lemma's exemption clause presupposes that "realized configuration differences" is a well-defined complement. The drawability is therefore *expected* to hold wherever the grounding pair holds — the principle adds no boundary the identity programme does not already maintain — but the expectation is a reading, not a theorem, and the slot is recorded: [⟨cite: identity programme papers — the catalogue/configuration separation; its stability across admissible history⟩].

The fallback. If the boundary admits intermediate cases at source, the theorem retreats to the cleanly-standing structure — whatever is invariant across *all* admissible history remains governed by the two clauses — and the intermediate structure inherits [Open] standing pending a finer case analysis. The retreat is graceful: no predecessor consumed the principle, so nothing upstream falls. [The exposure: named; the fallback: stated.]

11. Position in the Programme

Inherited exposure. The grounding pair at the identity programme's source; relabeling covariance at its inherited status (consumed by the identification); S3 at its status; the weight instance conditional on W0 at the Born-arc slot; the census and charge papers consumed at their statuses. No new physical imports; one definition with its drawability slot (§10); two [Conjectural] obligations (CO-0, CO-1).

Assignment-neutrality. The inputs are definitional and catalogue-level throughout — the theorem quantifies over standing assignments, the identification over notations, the audit over inherited proofs, the obligation over realization dynamics not yet read — and none consumes which path carries which holonomy. The independence chain from Transport-Completeness extends unbroken. [Proven, given the stated grain.]

The diagram, extended:

```
Identity programme [invariant-exhaustion; No-Surplus-Identity]
         │
         ├── grounding pair [PoC]: Indistinguishability Lemma (+ exemption
clause);
         │        Class Multiplicity Proposition
         ├── relabeling covariance [PoC, unconditional half]
         │
         ├── standing = tuple content; realized = configuration content   ←
this paper, §3
         │        [boundary drawability: slotted, §10]
         │
         ├── CLASS OWNERSHIP THEOREM                                      ←
this paper, §5
         │        (a) no asymmetric standing assignment [the dilemma]
         │        (b) symmetric standing attachment = class ownership
         │            at member grain [the identification]
         │        ⇒ Ownership Uniqueness: class ownership the unique
         │            admissible standing ownership structure
         │        │
         │        ├── weight instance = the Bath Criterion [W0, at its slot]
         │        ├── housing instance = the census's partial-housing clause
         │        ├── uniform instance = every electron's −e [§5b, ordinary
case]
         │        ├── occupancy reframed: member-specific invariants empty;
         │        │        class-uniform invariants expected [O1 open,
regrained]
         │        │
         │        ├── CO-0 [Conjectural]: the Carrier Theorem — carrier =
         │        │        minimal transport-stable unit; ledger ⇒ member
```

```
       │         │        carriers (integral member-wise); bath ⇒ class
       │         │        carrier; discharge ⇒ observed e⁄3 = empirical
       │         │        pressure on W0 (the fourth arc)
       │         └── CO-1 [Conjectural, downstream of CO-0]: class winding
       │                  q ∈ ℤ read at member
       │                  grain as q⁄k — existence and modality open; the
value
       │                  closed by the Uniform Reading Lemma [+ AD];
       │                  k = 3 ⇒ e⁄3 in the triplet number;
       │                  k = 2 ⇒ magnitude 1⁄2 suggestive (T₃ a weight —
       │                  mechanism output; signs at X2-B); clean instance:
       │                  fractional hypercharge at the fence (fractional in
       │                  every convention; thirds-normalization → colour
grain?);
       │                  denominator ladder: single-class grain ⇒ divides
       │                  k ∈ {1,2,3}; composed (two grains) ⇒ divides
       │                  lcm(2,3) = 6; every admissible denominator divides
       │                  6 — no quarters or fifths, ever [Conditional];
       │                  free-particle integrality via housing-family
       │                  saturation [G-S territory], CO-1's second
deliverable
       │
       └── (the arc's interior: chirality, hypercharge, breaking — fenced as
before)
```

The division of labor, extended by one line. Geometry proposes; transport disposes; **ownership allocates** — the census supplies the multiplicities, the bath supplies the mechanism, and the principle governs how what they jointly build is held: by classes, read uniformly at member grain where the realization is uniform, allocated contingently beyond that. The three statements consume disjoint imports and meet only at the assembly, exactly as the predecessors' division provided.

12. What Would Refute or Decide This

Against clause (a) (§5). Exhibit a source-licensed asymmetric standing transport invariant on one member of a genuine class. Effect: by the clause's own first horn this is not a refutation but a reclassification — the "member" carries a distinguishing tuple entry and relocates to its own class under the refinement clause, a census change. A refutation proper requires striking the grounding pair — invariant-exhaustion or No-Surplus-Identity — at the identity programme's source, which is where the corpus has already concentrated that exposure. Clause (a) is exactly as secure as the identity programme.

Against the identification (§5b). Exhibit admissible content in per-member ownership over and above the class-uniform fact — a role, anywhere in the corpus, that turns on the symmetric attachment being k facts rather than one. Effect: the surplus collapse fails at that role, and the identification weakens to an admissibility claim (symmetric standing carriage permitted but not class-reduced), with the exhaustion clause retreating accordingly. Standing: the collapse runs on No-Surplus-Identity and relabeling covariance, both at source; the refuter's burden is a distinguishing role for indistinguishable facts, which is the identity programme's own forbidden object one level up.

Against the definition (§3, §10). Show the catalogue/configuration boundary not admissibly drawable at source — structure neither cleanly standing nor cleanly realized, *excluding* the all-history-invariant symmetric case, which the identification resolves. Effect: the §10 fallback — the theorem retreats to the all-history-invariant core, genuinely intermediate structure goes [Open] — with no upstream propagation. This is the paper's one genuinely new exposure, and it is decided at the identity programme's slot.

Against the audit (§6). Exhibit a corpus result that consumes asymmetric standing member-ownership — a proof, anywhere in the arcs, that requires a label-indexed standing inequality among members of an indistinguishable class. Effect: either the result's class was mislabeled (refinement) or the principle is refuted in place. Standing: the audit covered the extreme cases that refute both the overbroad form (basis states; partial housing) and the over-narrow form (the universe of electrons); the refuter's burden is a case the two-clause form fails, and none is known.

Against the Uniform Reading Lemma and the ladder (§8, §9). The lemma's only strikeable joint above the theorem is AD: exhibit standing member-grain readings that do not compose to the class winding — a failure of the charge paper's composition law *at member grain*. Effect: the value freedom reopens, CO-1 regains a magnitude question alongside existence, and the denominator ladder lapses with it; the strike lands at CO-1's slot, where AD's application is to be confirmed. The ladder additionally falls with any census-premise failure, at the census's own refuters — it is the composition of two papers and inherits both exposures, as §8 prices.

Deciders of CO-0 (§7). The charge paper's record construction read against the Bath Criterion's transport structure: if the response's subject is shown to be the minimal transport-stable unit, the W0 verdict decides the carrier — ledger to members, bath to the class — and the k = 1 collapse audits the result against every integral charge already derived. The principal refuter is the member-wise-prior ordering: a source construction in which the U(1) response is defined per member before the non-abelian mixing composes with it, decided at the structure-group paper's import slots. A CO-0 discharge additionally converts observed e⁄3 into empirical pressure on W0 — pressure conditional on CO-0 and the O1 identification of the quark classes, stated at that strength and no more.

Deciders of CO-1 (§9). The realization dynamics at the reconstruction and PFD slots: a forced uniform member-grain reading decides positively and opens the thirds-and-halves route, with housing-family saturation as the second deliverable; an admissible-but-unforced reading hands the selection to occupancy; an exclusion decides negatively, returning the debts to their ledger at one [Conjectural]'s cost. Any reading discharges the obligation — it is stated so that every answer counts.

Empirically, at the horizon. The principle itself is structural and adds no direct empirical lever. Its empirical face arrives through CO-0 and CO-1: a CO-0 discharge converts observed e⁄3 into pressure on W0 — the fourth arc, at its stated conditionality — and a positive CO-1 would convert the observed e⁄3 pattern from bare input into the k = 3 signature of class ownership — with the T_3 magnitude at suggestive strength only and the fractional hypercharges as the fenced second target — retrodiction, not prediction, and marked as such — while the existing kill-conditions (the lattice, the census ladder) stand unchanged at their papers.

13. What the Paper Establishes

Established (conditionally, with conditions named):

- The standing/realized distinction, defined in the identity programme's vocabulary: standing = invariant-tuple content (asymmetric or symmetric, the line that splits the theorem's clauses), realized = configuration content with contingency rather than motion as the criterion — the Indistinguishability Lemma's exemption clause promoted to a definition, with the boundary's drawability named as the definition's one consumption (§3). [Definition; drawability slotted, §10.]
- The trichotomy for member-attachment: asymmetric-standing-observable (breaks the class, by the Lemma's first horn), asymmetric-standing-hidden (inadmissible, by No-Surplus-Identity), realized allocation (admissible, by the Lemma's own exemption — the generic state of every class the corpus has built) — with the symmetric standing case deliberately routed to the identification rather than listed as a horn (§4). [Proven, conditional on the grounding pair at source.]
- The Class Ownership Theorem, in two clauses: (a) the dilemma — no asymmetric standing member-assignment, genuinely two-horned for the asymmetric case; (b) the identification — symmetric standing attachment as class ownership at uniform member grain, argued on three convergent grounds (the indexing test; relabeling covariance locating σ-invariant content at the orbit; the No-Surplus-Identity collapse of k identical ownership facts into one) — with the exhaustion clause thereby a definitional collapse, not an exclusion, and the universe of electrons as the ordinary case (§5). [Proven: (a) conditional on S3 and the grounding pair; (b) additionally on relabeling covariance at its inherited status.]
- The consistency audit, passed at the corpus's three extreme cases: the Translation Lemma's basis states and the census's partial housing (refuting the overbroad form; realized, admissible, load-bearing) and the uniform standing carriage of every charged species (refuting the over-narrow form; the identification's generic case) — the audits jointly fixing both lines where the predecessors need them (§6). [Audit: passed.]
- The Bath Criterion repositioned as the principle's conserved-weight instance — $W\_\mathcal{C}$ standing and class-owned, member weights as flowing allocations, conditional on W0 exactly and only where the weight instance is consumed (§6). [Proven at the level of the papers' statements.]
- The ownership inventory: conserved weight, response winding, holonomy response, and charge-carrying structure as class-owned standing content, with the uniform member-grain reading available per clause (b); realized states, occupancy patterns, and records expressly not relocated (§7). [Each line at the theorem's conditionality.]
- Occupancy reframed at the theorem's exact grain: member-specific invariants empty as a category (clause a); class-uniform invariants expected and classified as the class's title at member grain (clause b); allocation rules as the remainder — with O1 unchanged at its slot; the Ceiling/Ownership complementarity recorded (§8). [Reframing; no marker moves.]

- The Ownership Uniqueness Proposition: class ownership as the *unique* admissible standing ownership structure — the asymmetric/symmetric partition exhaustive, every alternative excluded by clause (a) or collapsed by clause (b) — upgrading the theorem's modality from "member ownership fails" to "nothing but class ownership exists" (§5). [Proven, at the theorem's conditionality.]
- The Uniform Reading Lemma: a standing member-grain reading of the class winding, if it exists, is permutation-forced to the uniform value q/k — clause (a) run in reverse, with the composition premise AD (additivity at member grain, the charge paper's composition law applied one grain down) named rather than assumed — closing CO-1's value freedom in advance, so the obligation's open content is existence and modality only (§9). [Proven, conditional on the theorem and AD.]
- The Ownership–Capacity Principle and its denominator ladder, scoped: capacity counts the copies, ownership distributes the invariant content — single-class member-grain denominators dividing $k \in \{1, 2, 3\}$; composed numbers mixing two class grains carrying denominators dividing $\mathrm{lcm}(2, 3) = 6$; the architecture-level claim that every admissible denominator divides 6, with sixths absorbed as the composed signature of the grains mixing and fourths, fifths, and sevenths impossible at any level — the first composition of the census's and this paper's outputs, prediction-shaped and carried at the joint chain's conditionality (§8). [The principle: stated at the joint grain; the ladder: Conditional, prediction-shaped.]
- CO-0, named: the Carrier Theorem — the route's prior question (*why does winding attach to the class carrier rather than the member?*) converted from silent premise to successor obligation, with the candidate argument's shape (ledger preserves member lines, member carriers integral; bath's irreducible action preserves none, the class the only transport-stable subject), its proof joints (the record construction's persistent subject; the $k = 1$ collapse to the charge paper verbatim; the member-wise-prior refuter at the structure-group slot), and its consequence priced at pointer strength: a discharge makes observed $e/3$ empirical pressure on W0 — the node's fourth converging arc and first external data point (§7). [Conjectural; slotted.]
- CO-1, named at full discipline with its deliverable correctly classified: the class winding $q \in \mathbb{Z}$ read at member grain as the uniform standing value q/k — forced, admissible, or excluded, any answer discharging; the lattice-consistency argument proven at statement level (class as carrier, $q \in \mathbb{Z}$ intact, member-grain fractions as the class integer below its own grain); the $k = 2$ question stated carefully — T_3 disqualified as a route instance (a representation weight, mechanism output per *Three by Two* §9, distinguishing members and summing to zero), its magnitude retained as suggestive with the sign structure assigned to the broken phase at X2-B, and the clean second instance located at the fence: fractional hypercharge, class-uniform and standing, fractional in every convention ($Y = 1/3$ here, $1/6$ in the rival normalization, denominators dividing 6 either way), in the thirds-normalization sitting at the colour grain exactly; the free-particle flank re-aimed at housing-family saturation (one occupant per channel, species mixed, sums integral by class residues mod k — G-S territory) before hand-off (§9). [The obligation: Conjectural; the consistency: Proven at statement level; the T_3 reading: suggestive, signs at X2-B; the hypercharge pointer: Conjectural, fenced.]
- The new exposure, owned: the catalogue/configuration boundary's drawability as the definition's consumption — with the all-history-invariant symmetric case resolved by the

identification rather than the fallback, and the fallback confined to genuinely intermediate cases — slotted at the identity programme (§10). [Named; slotted.]

- The division of labor extended — geometry proposes, transport disposes, ownership allocates — and assignment-neutrality preserved (§11). [Proven, given the stated grain.]

Not established (open, out of scope, or pending):

- CO-0 — the Carrier Theorem itself: the class-attachment of winding, at the charge paper's record construction and the Bath Criterion's transport structure, with the member-wise-prior refuter at the structure-group slot (§7);
- CO-1's resolution — the uniform member-grain reading forced, admissible, or excluded — at the realization-dynamics slots (§9);
- AD — additivity at member grain, the lemma's composition premise, confirmed where CO-1 is read (§9);
- the housing-family saturation mechanism — free configurations as exactly the channel-saturating ones — CO-1's second deliverable, in G-S territory (§9);
- the hypercharge mixing $Q = T_3 + Y/2$ — the fenced interior, untouched (§9);
- the boundary's drawability at source — expected wherever the grounding pair holds, but a reading, not a theorem (§10);
- O1 and the census's slots, the W0 node, and the arc's fenced interior — all unchanged at their papers;
- the identity programme's premises and the covariance half at their sources — the theorem's entire upstream exposure.

The honest summary: the paper names the move the corpus has performed four times — structure migrating from members to classes — proves it as a two-clause principle at exactly the grain the predecessors' own proofs require (asymmetric standing ownership forbidden by the dilemma; uniform standing carriage identified as class ownership in member notation; realized allocation expressly licensed), audits it against the three extreme cases that refute anything broader or narrower, and converts its sharpest corollary into the first named route to the $e/3$ generator — with the T_3 magnitude suggestive, its signs at the broken phase, and the fractional hypercharges — uniform, standing, fractional in every convention with denominators dividing 6 — as the route's fenced second target and the integrality of free composites re-aimed at the housing the geometry supplies. Classes own; members carry; uniform carriage is the title read at member grain; and the oldest numbers in the debt ledger now have an address.

14. Conclusion

Physics has a habit older than any of its theories: when a quantity is observed, attach it to a thing. The corpus has been quietly breaking the habit for some time — loops own what faces seemed to carry, baths own what sectors seemed to hold, invariant structure owns what labels pretended to name — and this paper states the rule the breaking obeys. Where objects are genuine copies, no permanent possession may favor one of them: an unequal standing ownership would be a fact distinguishing the indistinguishable, and the programme's identity theorems leave such a fact exactly two places to be — observable, where it dissolves the class, or hidden, where it is forbidden outright. And where every copy carries the same permanent share, the carrying *is* the class's ownership, written out one member at a time — k identical deeds with no distinguishing role collapse, by the programme's own economy, into one title held in common. What remains to the members is the carrying itself: unequal, flowing or still, momentary or merely contingent — not a leak in the principle but its ordinary expression, the realized life of structure whose invariant title is held one level up.

The principle earns its place by what it organizes and by where it points. Behind it, four arcs become instances of one rule, and the corpus's proofs — the basis states, the partial housings, the flowing weights, the universal −e — are revealed as having relied on the standing/realized line all along, drawn locally each time. Ahead of it stands one obligation, stated with its weaknesses on its face: whether a class's whole-number winding, which the charge ladder forces and the class owns, is read by three identical members as three permanent thirds — with the two-member families' fractions waiting at the hypercharge fence, where the bare inputs are fractional, uniform, and in thirds again. If it is, the strangest charges in physics are the signature of ownership held in common — the ladder intact, one level up; e⁄3 the sound of three copies sharing a rung — with whole numbers restored exactly where composites fill the geometry's housing, one occupant to a channel. If it is not, the corpus loses a conjecture and keeps a principle. Either way, the books are now kept properly: nothing standing in any one member's name, the family's title readable at member grain wherever the shares are equal — and the next papers in the arc inherit an ownership rule instead of an assumption.

The Capacity Census counted the rooms; this paper determines how what is stored in them may be held. Together they raise a possibility the corpus is now obliged to test rather than admire: that the same multiplicities which produce the Standard Model's triplets and doublets also produce its thirds — while the doublet level continues to point, for now suggestively, toward half-integral structure. If so, the peculiar fractions of particle physics are not numerical accidents but the visible signature of structure owned collectively by indistinguishable families and read at member grain: wholes where the family is one, thirds where it is three, and never a quarter of anything, because the first shape the universe knows how to close has no room for a fourth identical copy. The census said what can be counted; the ownership principle says what can be kept; and the fractions, on this reading, are simply what shared property looks like from inside the family.