Counting the Mark

Signification, Snapshots, and Witnessed Coherence in the POCKET Methodology: From the Semiotics of the Cap through Verse 18, Temporal Authentication, and Triad Pivots in Agentic Quad Meshes

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Abstract

This dissertation develops the POCKET methodology – a six-dimension, combinatorial semiotics of the baseball cap – into a general theory of counting, access and witnessed change. It formalises the methodology's original code space of 33,592,320 ordered codes and its expansion, under a 2,048-word vocabulary, to 53,126,622,932,283,508,654,080 codes. Reading Revelation 13 through its distinction among mark, name and number, it interprets verse 18 as an instruction to count under current conditions, and applies that reading to the revision of the United States Intelligence Community from seventeen elements to eighteen with the addition of Space Force Intelligence, which it finds to be both additional in number and distinct in kind.

The dissertation corrects an early error in its own development: a roster's revision from seventeen to eighteen does not convert a closed set into an open one, and a 2,048-word bank is a larger closed set, not an open one, because closure is a property of admission rules rather than of size. In its place it establishes the snapshot principle: every count is correct only for its roster, vocabulary and time. From that principle it derives the Rotator's Paradox – the structural identity of the forgetful password rotator, the time traveler who updates a past roster while forgetting its code, and the cap reader – and states six conditions for inquiry: Validity, Memory, Causation, Timing, Identity and Timestamp. It examines cranberry morphemes as carriers by which future words and a future timestamp might be smuggled into a past vocabulary, and virtual-machine time declaration as the mechanism by which such a timestamp could be spent.

The dissertation defends mathematical thought experiments as ethical pedagogy under a stage-magic frame of disclosed fiction, establishes the plausibility of a puzzle competition for a real cryptocurrency wallet from documented precedent and timelock cryptography, grounds its account of timestamps in daylight saving legislation, leap-year and leap-second administration, and the computation of the Sabbath aboard the International Space Station, and proposes coercion resistance through a puzzle master's voluntary self-erasure, implemented in practice by key destruction, secret sharing and timelocks. It concludes with a governance mechanism – triad pivots in agentic quad meshes – in which artificial intelligence agents compete on behalf of human feedback nodes for an intermittent fourth, counting position, and a pivot commits only through two phases and two pivots ratified by two human witnesses who agree that an agent's prediction of their first agreed perception matches.

The purpose of that quad mesh method is stated plainly: it is a method for humans and artificial intelligence to work together to attempt to crack the code of a hypothetical mark of the beast puzzle. The dissertation does not assert that such a puzzle exists. It records, as provenance, the author's report that rumours of such a puzzle were communicated to him by semiotic signalling – through things such as the baseball cap prototype developed in this research – and in conversations he has had with Catholic priests, and it treats the puzzle throughout as hypothetical and rumoured, not as verified. It also states a limiting caveat that success would not remove: even if the correct passphrase were determined, that alone would not identify what cryptocurrency wallet it belongs to. The wallet might, for example, be one of the author's own old wallets that he has forgotten about, and in the hypnosis example of Chapter 10 the repression could extend to that wallet identification as well as to the passphrase itself. Cracking the code and gaining access are therefore treated as two separate problems.

Keywords: semiotics; combinatorics; POCKET methodology; Revelation 13:18; mark of the beast puzzle; Space Force Intelligence; snapshot principle; temporal authentication; cranberry morphemes; timelock cryptography; chronopolitics; agentic quad meshes; observer coherence; wallet identification

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Declaration

I declare that this thesis is my own work, that the thought experiments in it are presented as disclosed fictions in the stage-magic sense defended in Chapter 8, and that the real-world precedents, dates and calculations cited in it are stated as matters of record and are reproducible from Appendix A.

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Chapter 1 — Introduction: Counting Is Never Neutral

This dissertation begins with a baseball cap. A cap is among the most ordinary objects in public life, and among the most densely coded. Its colour, crest, orientation, provenance and occasion communicate affiliation, allegiance and identity before its wearer speaks. Yet no existing framework treated that communication as a formal, countable system.

The POCKET methodology, developed as the foundation of this research, does so. It proposes six dimensions of cap signification, six candidate terms within each dimension, and a combinatorial account of how many distinct readings a single cap can bear. From that modest, almost playful starting point, a sequence of questions unfolded that this thesis follows to their conclusions.

The first question was theological. Revelation 13 distinguishes the mark of the beast, the name of the beast, and the number of the beast, and its eighteenth verse issues an instruction: let the one who has understanding count. If a cap's emblems function as marks, if its wordmark functions as a name, and if its code can be counted, then the ancient triad and the modern methodology describe the same structure from opposite ends of history. The second question was institutional. The United States Intelligence Community was long described as comprising seventeen elements; it now comprises eighteen, with the addition of United States Space Force Intelligence. Is that eighteenth element merely additional, or is it distinct in kind? And what does a roster's revision do to every count that depended on the roster?

The third question was logical, and it corrected the research itself. An early formulation claimed that the move from seventeen to eighteen showed a closed set becoming open, and that expanding a word bank to 2,048 terms opened the code space. Both claims are false, and Chapter 5 proves why: finitude is not closure, revision is not openness, and a set of 2,048 is exactly as closed as a set of six - merely larger. What the revision does prove is that every count is time-indexed. Every number in this thesis is therefore presented as a snapshot: correct for its roster, its vocabulary and its moment, and for no others.

From counting, the inquiry turned to access. A person who rotates a password periodically and forgets the most recent one is locked out by an act of good security hygiene. A hypothetical time traveler from a future in which eighteen is the correct count, travelling to a past governed by seventeen, forgetting the past's code while remembering the future's passphrase, and prematurely installing the eighteenth element, is the same figure at larger scale. Chapter 6 formalises that figure as the Rotator's Paradox and states six conditions for further inquiry. Chapter 7 asks whether the traveler's predicament can be circumvented by language itself: if fragments of future words survive in the past as orphaned prefixes and suffixes, and if a timestamp travels

encoded in those same fragments, then a virtual machine - which declares time rather than experiencing it - might spoof the future inside the past's frame.

A thesis built on time travel, cryptography and biblical numerology owes its reader an ethical account of itself. Chapter 8 provides one. Mathematical thought experiments teach structure without requiring belief; stage magic discloses its fiction while preserving its wonder; and a mathematics competition whose winner sweeps a real cryptocurrency wallet is not fantasy but precedent, established by a painting that concealed a Bitcoin private key from 2015 to 2018 and by timelock cryptography dating to 1996. Chapters 9 and 10 ground the fiction in administration and in flesh: daylight saving time, leap years and leap seconds demonstrate that timestamps are legislation, while astronauts computing the Sabbath in orbit demonstrate that sacred time, too, survives only by declared frames; and the puzzle master who voluntarily represses memory under hypnosis converts the traveler's accidental forgetting into a deliberate defence against coercion.

Finally, Chapter 11 addresses governance - and states the practical purpose of the whole construction. A triad - mark, name, number - is a flat structure. It acquires depth only when a fourth member, a human reader, counts it. That member is intermittent, and this thesis models the resulting system as an agentic quad mesh in which artificial intelligence agents compete, on behalf of human feedback nodes, to occupy the fourth position during reconfigurations called pivots. The quad mesh is proposed as a method for humans and artificial intelligence to work together to crack the code of the hypothetical mark of the beast puzzle introduced in section 1.2: the agents search and predict, the humans perceive and verify, and neither side is authorised to declare the code cracked alone. Each pivot is two-phase and coherence-oriented, borrowing from Schroedinger's cat and from the multiple-observer problem associated with Eugene Wigner: two pivots, two human witnesses, and agreement that an agent's prediction of their first agreed perception matches what they perceived.

The thesis statement is therefore threefold. First, signification can be counted, but only relative to a roster, a vocabulary and a time. Second, access is never a property of a code alone; it is a relation among code, roster, frame and memory. Third, legitimate change in such a system requires witnessed coherence: no single observer, and no machine acting alone, may declare that the count has changed. The chapters that follow establish each claim in turn.

1.1 Method and scope

The method is constructive formalisation. Each chapter takes a proposal stated informally - in conversation, in an infographic, in a thought experiment - restates it with explicit definitions, tests it against arithmetic, against linguistic and historical fact, and against counterexamples, and retains only what survives. Where an early formulation failed, the failure is preserved and analysed rather than deleted, because the corrections - above all the correction concerning closed and open sets - are among the thesis's principal findings. Fictional devices are labelled as fictional throughout. Real precedents are cited as real. The boundary between the two is itself one of the thesis's ethical commitments.

The scope is deliberately interdisciplinary. Semiotics supplies the object, combinatorics supplies the counts, linguistics supplies the morphemes, computer science supplies the virtual machines, timelocks and consensus protocols, history of science supplies the calendar and the clock, religious studies supplies the texts and the orbital Sabbath rulings, and distributed systems theory supplies the two-phase commit that Chapter 11 adapts into a theory of witnessed perception. The claim of the introduction is that these are not metaphors for one another. They are instances of a single problem: how a community maintains a shared count when the roster, the words and the time can all change.

1.2 Provenance: a rumoured puzzle, received by signs and conversations

One point of provenance must be made explicit, because the purpose of Chapter 11 depends on it. This dissertation does not assert that a mark of the beast puzzle exists. The author reports that rumours of such a puzzle were communicated to him indirectly: by semiotic signalling through things such as the baseball cap prototype developed in this research - a physical object whose marks, wordmark and stack of emblems were read as signals - and in conversations the author has had with Catholic priests. Those are the channels as the author received and interpreted them. They are recorded here as the reported origin of the idea, not as independent verification that a puzzle, a prize or a wallet exists, and no claim in this thesis should be read as confirming any of them.

The puzzle is therefore treated throughout as hypothetical: if such a puzzle exists, and if its code is the kind of code this thesis formalises - a mark, a name and a number, counted under a roster, a vocabulary and a time - then a method would be needed that neither a

human nor an artificial intelligence could responsibly operate alone. Chapter 11 proposes that method. The agentic quad mesh is not a general governance ornament added at the end of the argument. It is the proposed working arrangement for that specific task: humans and artificial intelligence working together to attempt to crack the code of the hypothetical mark of the beast puzzle, with the humans supplying perception, judgement and witness, and the agents supplying prediction, search and computation. Chapter 11 states that purpose directly, and Chapters 8 and 10 add the caveat that even a correct solution would not by itself complete access.

Chapter 2 — The POCKET Methodology: A Semiotics of the Cap

POCKET is an acronym and an anagram game. Each of its six letters names a dimension along which a baseball cap signifies, and each dimension is populated by a bank of six terms. Reading a cap consists of selecting one term from each dimension. Because the letters themselves can be reordered, a reading also has an order: the sequence in which the dimensions are consulted.

The P dimension concerns Placement, Position, Posture, Pride, Provenance and Persona: where the cap sits, how it is worn, and whose identity it projects. The O dimension concerns Orientation, Origin, Ownership, Organization, Occasion and Observer: which way the brim points, where the cap comes from, and who is doing the reading. The C dimension concerns Crest, Colour, Context, Code, Community and Credibility: the emblem, the palette, and the social setting that makes the emblem legible. The K dimension concerns Kinship, Kith, Kind, Knowledge, Knit and Kudos: belonging, familiarity and earned regard. The E dimension concerns Emblem, Expression, Endorsement, Era, Ethos and Enlistment: what the cap declares, and the period and commitments it declares them from. The T dimension concerns Team, Tribe, Territory, Type, Tone and Tradition: the collectivities the cap invokes.

The arithmetic is elementary and exact. Selecting one term from each of six banks of six gives 6 to the power 6, which is 46,656 distinct readings for a fixed letter order. The six letters can be arranged in 6 factorial, which is 720, distinct orders. The full code space is therefore 46,656 multiplied by 720, which equals 33,592,320 distinct codes. Each code can further be assigned a predicted-inference rating: how quickly a typical observer draws the intended inference. In the original formulation, Crest was rated fastest and Kinship

slowest, on the ground that an emblem is recognised at a glance while kinship must be inferred from accumulated context.

The physical cap matters to the methodology, and not only as an illustration. A revised poster design placed five marks on a single cap: a shield crest, the POCKET wordmark, an anchor side patch, a gold star side emblem, and a brim mark, together with the cap's colour. The instruction to the reader was to read the stack. That instruction generalises: no cap signifies by one mark alone. Signification is layered, and the layers can agree or conflict. A crest may claim one community while colour claims another and provenance contradicts both. The methodology's contribution is to make those layers enumerable, so that agreement and conflict become countable rather than impressionistic.

2.1 What the banks are - and are not

Three of the five mark names on the revised cap are themselves bank words: Crest and Colour belong to the C bank, and Emblem belongs to the E bank. The pictures of the marks - shield, anchor, star, compass oval - were generic placeholders. That asymmetry is instructive. The banks are vocabularies, not pictures. A vocabulary can be listed, counted and revised; a picture can only be shown. Everything that follows in this thesis depends on working with vocabularies, because only vocabularies have rosters, and only rosters can change from seventeen to eighteen.

It is equally important that the original banks are closed. Each contains exactly six terms, admitted by the designer's decision and by no stated rule. Chapter 5 returns to this point at length, because the entire dispute about openness turns on it: a bank defined by a list is closed however long the list becomes, while a bank defined by an admission rule - any term beginning with the dimension's letter that names something a cap can signal, for example - would be genuinely open, and its count would be a snapshot rather than a total.

Chapter 3 — The Triad: Mark, Name, and Number

Revelation 13 describes the beast's regime of identification in three distinct terms. There is a mark, received on the hand or the forehead. There is a name. And there is a number of the name, which verse 18 gives as six hundred threescore and six, prefaced by the instruction that the one who has understanding should count it. The text itself insists on

the distinctions: the mark is borne, the name is spoken and written, the number is computed. Collapsing the three into one symbol loses exactly the structure the text labours to preserve.

The POCKET methodology maps onto the triad without forcing. The mark corresponds to the cap's physical emblems: the crest, the patch, the star, the brim mark - signs borne on the body, at the forehead, where a cap in fact sits. The name corresponds to the wordmark and to the banks themselves: the vocabulary in which the cap's claims are stated. The number corresponds to the code count: 33,592,320 in the original closed formulation, and vastly larger figures under the expanded vocabularies of Chapter 5. Mark is presence, name is language, number is enumeration. A reading of a cap, like the regime of Revelation 13, operates all three at once.

The triad also disciplines the methodology against two errors. The first error is pure materialism about signs: treating the mark as self-interpreting, as if a crest meant the same thing to every observer in every era. The name corrects it, because the vocabulary in which a mark is read is historical and revisable. The second error is pure formalism: treating the number as self-sufficient, as if the size of a code space said anything about what the codes mean. The mark corrects it, because every code is ultimately anchored to a physical sign borne by a person in a place. The triad is thus not decoration on the methodology. It is its ontology.

3.1 The number as an act, not a property

Verse 18 does not say that the number exists and may be looked up. It issues an imperative - count - addressed to a qualified agent, the one who has understanding, in the older translation rendered as him that hath understanding. Counting is presented as something done, by someone, at a time. That grammatical fact becomes load-bearing in Chapter 11, where the counter is modelled as the intermittent fourth member of a quad mesh. For now it is enough to register the thesis's recurring motif: a number is the output of an act of counting performed under conditions, and it inherits the conditions. Change the roster, the vocabulary, the frame or the counter, and the same diligence yields a different number.

Seventeen three-letter federal agencies - the familiar alphabet of bureaus and administrations - enter the thesis at this point as a bridge between the triad and the intelligence roster of the next chapter. An agency's three-letter designation is a name

compressed to a mark; its place in a numbered roster is its number. The suggestion that the right combination from a POCKET code might correlate with access to encrypted equity - a wallet passphrase - is likewise introduced here and developed in Chapters 6 through 8. The triad is the thesis's persistent object: three terms that recur as emblem, vocabulary and count in every subsequent system.

Chapter 4 — Verse 18 and the Eighteenth Element: Space Force Intelligence

For most of its recent history, the United States Intelligence Community was described as comprising seventeen elements: the intelligence components of the services, the combat support agencies, and the national agencies coordinated under the Director of National Intelligence. With the establishment of the United States Space Force as a separate service, its intelligence component - Space Force Intelligence, formally the intelligence, surveillance and reconnaissance enterprise of that service - took its place as the eighteenth element. The question posed to this thesis was precise: is Space Force Intelligence distinct from, or additional to, something already defined in the codified methodology?

The answer defended here is that it is both, and that the two answers operate on different axes. It is additional on the axis of enumeration: the roster's cardinality increased by one, from seventeen to eighteen, and every count premised on the old cardinality became a historical snapshot. It is distinct on the axis of kind: it is the intelligence arm of a new service operating in a new domain, space, just as each earlier service intelligence element was distinct in domain - land, sea, air, and the maritime and expeditionary specialisations among them - while remaining additional in number. Additional answers how many; distinct answers what sort. A roster revision can be, and here is, both at once.

Verse 18 supplies the frame in which this ceases to be trivia. The counting verse is the eighteenth verse of its chapter. The roster's revision is a move to eighteen. The thesis does not claim that the correspondence is causal, prophetic or intended; it claims that it is structurally apt, and that structural aptness is the legitimate currency of a thought experiment. In both cases, eighteen is the number at which counting becomes an explicit,

instructed act rather than a background assumption. To say the count is eighteen is to say: the roster was recounted, by someone with understanding, and the recount is dated.

4.1 Drawing each letter from the full list: the 2,048 figure

The same verse frames the thesis's second expansion. If, instead of six terms per bank, each of the six POCKET positions is drawn from a shared list of 2,048 words - the scale of a standard cryptocurrency seed-phrase vocabulary - then the count becomes 2,048 to the power 6, multiplied by the 720 letter orders. The product is 53,126,622,932,283,508,654,080, approximately 5.31 times 10 to the power 22. Extended to two rounds - twelve words rather than six - the space becomes 2,048 to the power 12, approximately 5.4 times 10 to the power 39, which is about 132 bits of entropy: directly comparable to a real twelve-word seed phrase, because it is built from the same list size and the same word count.

These figures matter for two reasons. First, they convert the methodology from a parlour combinatorics into a space large enough to secure real value, which is what makes the competition of Chapter 8 plausible rather than fanciful. Second, they set up the error that Chapter 5 corrects. It is tempting to describe the move from 33,592,320 to 5.31 times 10 to the power 22 as a move from a closed system to an open one. The temptation must be refused, and the refusal is instructive.

Chapter 5 — Closed, Revised, Open: A Theory of Snapshots

Does the jump from seventeen to eighteen equal a jump from closed to open? It does not. A revision is an event in a set's history, not a change in its logical type. The seventeen-element roster was closed: membership was exactly the listed elements. The eighteen-element roster is equally closed: membership is exactly the new list. What changed is the list, and what the change proves is that lists maintained by institutions are revisable - that a recount can occur. One observed revision establishes revisability. It does not establish that revision is perpetual, unbounded or rule-governed, and it certainly does not convert a finite enumeration into an open set.

Is the expanded system, then, open - merely an exponentially larger closed set? Precisely the latter, and the concession strengthens rather than weakens the thesis. The 2,048-word list is a fixed, finite, published vocabulary. A code space of 5.31 times 10 to the

power 22 is finite. Calling it open because it is large confuses magnitude with structure. Closure is a property of the admission rule, not of the cardinality. A bank defined by a list is closed at six words and at 2,048 words alike.

A genuinely open bank would be defined intensionally, by a rule of admission rather than extensionally, by a list: for example, any English word beginning with the dimension's letter that names something a cap can signal. Under such a rule, new coinages qualify automatically, the bank has no fixed cardinality, and its code count at any moment is not a total but a measurement. The distinction is the familiar one between a catalogue and a criterion. Catalogues close; criteria open.

The corrected doctrine of this thesis is therefore the snapshot principle: every count is a snapshot, correct for its roster at its time. The count 33,592,320 is not wrong; it is dated, true of the six-term banks in their original order-counting formulation. The count 53,126,622,932,283,508,654,080 is not the true count succeeding a false one; it is the snapshot of a different vocabulary. The intelligence count seventeen was true, and eighteen is true, and the truth of each is indexed to its date. Wisdom, in the sense of verse 18, is counting with the current roster while remembering that the roster is a roster - a human list, maintained by an institution, subject to recount.

The snapshot principle has a corollary that drives the next two chapters. If counts are time-indexed, then credentials are time-indexed too. A passphrase is not merely a sequence of words; it is a sequence of words drawn from a vocabulary, under a roster, at a time. Lose any index and the words alone may be worthless. That corollary, stated abstractly, sounds harmless. Lived, it locks people out of their own accounts every day.

Chapter 6 — The Rotator's Paradox: Passwords, Travelers, and Temporal Authentication

Consider the ordinary tragedy of the diligent password rotator. Following best practice, she changes her password at intervals. Each change is an improvement in security and a hazard to memory, because the new password competes with its predecessors in recall. Eventually she forgets the most recent one - often retaining an older, now-invalid password with perfect clarity - and loses access to her own account. The system worked exactly as designed. The human memory did not. Security rotated; memory overwrote; access failed.

Now scale the figure. Let T1 be a past era in which the roster numbers seventeen and the code space is the closed 33,592,320. Let T2 be a future era in which the roster numbers eighteen and the code space is the expanded 5.31 times 10 to the power 22. A traveler from T2 journeys to T1. She remembers the T2 passphrase - it is, to her, simply her password. She has forgotten the T1 code, as the rotator forgets all but the latest. While in T1 she does the one constructive thing available to her: she updates the roster, installing the eighteenth agency before it originally existed. T1 now counts eighteen, early. She still remembers the future's words. The question the thought experiment poses is whether she can get in.

The intuitive answer - the roster now matches, the words are remembered, so access should follow - fails on inspection, and its failure is the finding. A passphrase is words plus the conditions under which the words were set: the vocabulary from which they were drawn, the roster under which they were enrolled, and the time at which the enrolment occurred. The traveler changed one condition, the roster's cardinality. She did not, and could not by that act alone, import T2's vocabulary into T1, nor make T1's present into T2. She changed the lock's count but the key was cut for a door in a world that does not yet exist. Before she can use the new passphrase from the future that she still remembers, she must confront the distinction between remembering words and inhabiting the world in which those words are credentials.

6.1 Five conditions for further inquiry

First, Validity: does a code work because of its content or because of its roster? The roster at T1 is now eighteen, so does the T2 passphrase validate - or must T1's vocabulary also contain the future's words, drawn from a list T1 has never published? Second, Memory: is forgetting the price of updating? The rotator forgets the current password because she changed it; the traveler forgets the seventeen-code because she updated the roster to eighteen. The hypothesis is that updating overwrites remembering - that a memory, like a register, holds the latest value at the cost of the prior one.

Third, Causation: the T2 passphrase is valid, if it is valid, only because the traveler added the eighteenth agency at T1. The key is valid because the keyholder changed the lock. Does a self-caused credential count as a credential? This is the bootstrap paradox translated into authentication theory: an artefact whose authority derives entirely from its own intervention in the past. Fourth, Timing: when does the T2 passphrase become

usable at T1 - at the moment the roster reaches eighteen, or only when T1 becomes T2 by ordinary historical passage? If the roster is all that matters, it works immediately. If time itself is a condition, it works never, until T2 arrives.

Fifth, Identity: the T2 passphrase was set by the traveler's future self. Is the traveler at T1 authorised to use a credential her future self set, or is that, from the system's point of view, someone else's password that she happens to remember? Authentication systems are notoriously indifferent to metaphysics, but they enforce an answer: whoever presents the correct credential is, for the system, the account holder. The thought experiment asks whether that operational answer exhausts the question. The rotator, the traveler and the cap-reader are one figure in three costumes: each holds a code whose validity depends on a roster, a vocabulary and a now - and now keeps moving.

Chapter 7 — Cranberry Morphemes and the Smuggled Timestamp

Chapter 6 left the traveler locked out. This chapter explores the loophole proposed in the originating discussion: that T1's vocabulary would itself contain the means of escape. Suppose the future's words, sent back in time, do not arrive intact. They arrive shattered - as compound words built from pieces of future words, as usages carrying prefixes and suffixes of no clear origin, which, rearranged, yield the future words themselves. T1's speakers use these fragments daily without knowing what they are. T1's dictionaries record them without etymology. The future is hiding in the past's morphology.

Linguistics already has the category this proposal needs. A cranberry morpheme is a bound fragment that occurs in only one word and carries no independent meaning: cran- in cranberry, or -ceive in receive. Such fragments are fossils - the surviving pieces of older vocabularies whose whole words have died. The POCKET banks already contain one: Kith, in the K dimension, survives for most speakers only inside the fixed phrase kith and kin, its independent life long over. The thought experiment simply promotes the exception to a mechanism. Future words, fragmented and naturalised in T1, would be cranberry morphemes with a future rather than a past: orphans whose parents have not been born yet.

The loophole logic then tightens. A vault that checks both a passphrase and a timestamp treats them as two independent secrets. But if both travelled in the same fragments, they

are not independent. Suppose the timestamp was likewise sent back, encoded in orphaned word pieces recombined as puns and plays on T1 words and concepts. A pun is the natural carrier for such a payload, because a pun functions only for a reader who holds two frames at once - T1's concepts and the future's words. To get the joke is to stand, briefly, in both times. Guess the words from the pieces, therefore, and the same labour recovers the timestamp, because the timestamp rode in the same pieces. One compromise yields two secrets.

7.1 The virtual machine as time traveler

The final step is computational. A virtual machine does not experience time; it declares it. Its clock is a configuration value, reported to software that has no independent way to check it. Real authentication systems depend on exactly such declarations: time-based one-time passwords, Kerberos tickets and certificate validity windows all accept the presented time at face value, within tolerances. A virtual machine set to T2's timestamp is, for every system that consults it, at T2. The vault cannot distinguish it is T2 from a machine claims it is T2, because the vault only ever receives the claim.

The traveler and the virtual machine are therefore the same device described in two vocabularies: a consciousness, or a process, running on a substrate that reports the wrong time - wrong relative to its surroundings, right relative to its destination. Feed the recovered words and the recovered timestamp to the machine that declares the future's time, and the T2 vault opens inside T1's temporal frame: metaphorically in the fiction, and literally in every real system whose time check is a local claim. Chapter 8 adds the essential qualification: a blockchain timelock, enforced by consensus time, is not a local claim, and no single machine can forge it.

7.2 The sixth condition: the Timestamp condition

The inquiry of Chapter 6 accordingly gains a sixth condition. Timestamp: can a time be smuggled with the words? If it can, then a vault's time-check is a knowledge-check in disguise, and knowledge - unlike time - can be sent back, guessed, leaked and computed. The condition also resolves the fourth condition, Timing, within the fiction: the T2 passphrase becomes usable at T1 not when T2 arrives, but when T2 can be declared. The traveler does not wait for the future. She spoofs it. The whole chain compresses to one line: future words, shattered into orphaned pieces, hidden inside T1's vocabulary,

guessed back into words and a timestamp, fed to a machine that declares the future's time - and the vault opens, inside the past, on the past's own clock.

Chapter 8 — Ethics, Stage Magic, and the Plausible Wallet

A dissertation that reasons about time travelers and hypnotised puzzle masters must explain why such reasoning is a legitimate way to learn, and not merely an entertaining way to be wrong. The explanation has three parts: the pedagogy of thought experiments, the honesty of stage magic, and the documented plausibility of a puzzle whose solution is real money.

Mathematical thought experiments isolate a problem's structure from its physical realisation. No one needs time travel to be possible in order to learn from the Rotator's Paradox, because what is practised is the structure: constraints, invariants, counting arguments, and sensitivity to parameters - what changes when the roster changes, what survives when the vocabulary changes. These are the same skills exercised by proof by contradiction and by sensitivity analysis, wearing a story. The story is not idle decoration. Narrative and stakes make formal material memorable, and memorable material transfers to new problems; chess teaches strategy without war, and a fictional vault teaches combinatorics without a vault. Crucially, the skill is separable from belief. A student can reason rigorously inside a disclosed fiction without endorsing it, and the disclosure is what makes the exercise ethical rather than deceptive: the problem is well-posed, the answers are checkable, and the reward, where there is one, goes to whoever actually does the work.

Stage magic is the right public frame for such an exercise. In the staged version of this thesis's central illusion, the T1 and T2 timestamps and passphrases are of course known from the outset - to the puzzle master. No time travel has occurred, and none is claimed. The time travel is the patter; the vault and the mathematics are real. A magician who announces that a trick is a trick and still astonishes has not lied: the honesty lives in the framing, and the wonder lives in the mechanism. Cryptographic puzzles add a further ethical elegance. Verification is method-agnostic. A solver may arrive by intuition, by luck, or by rigorous computation; the lock does not demand to see the working. The key opens the vault, or it does not.

8.1 Precedent: the painting that held a private key

The plausibility question - could a mathematics competition plausibly end with the winner accessing a cryptocurrency wallet containing real equity, whether or not anything was sent back in time, simply by following the puzzle and cracking the code? - has an empirical answer: it has already happened. In 2015 the artist Marguerite deCourcelle released a painting, TORCHED H34R7S, which concealed a Bitcoin private key in its imagery - binary codes in the painted flames, decoded toward Base58 - guarding a wallet loaded with 4.87 bitcoin, then worth roughly 1,400 dollars and representing about half the artist's assets. The puzzle stood unsolved for almost three years. In 2018 an anonymous programmer solved it by image analysis and swept the wallet, by then worth close to 50,000 dollars. The story draped over the puzzle was literary - Shakespeare's The Phoenix and the Turtle - but the mechanism was mathematics, and the transfer was real, public and irreversible.

The general recipe generalises the precedent. Fund a wallet. Encode its key in a puzzle built from combinatorial and linguistic clues of the kind this thesis develops. Publish the puzzle. The first solver to reconstruct the key sweeps the funds, with verification performed by the blockchain itself, in public, without appeal. Nothing in the recipe requires time travel, and everything in it rewards exactly the skills - counting, morphology, patience, computation - that the thought experiments train.

8.2 Real vaults in the future: timelocks

Nor is the T2 vault itself fictional. In 1996, Rivest, Shamir and Wagner described timelock puzzles: a way to encrypt a message so that it cannot be decrypted by anyone, not even the sender, until a predetermined amount of time has passed - in their words, to send information into the future. Bitcoin's CHECKLOCKTIMEVERIFY opcode implements the same idea on-chain, rendering an output unspendable until a specified time or block height. These systems also correct the fiction at its weakest point. Chapter 7's spoof works against local clocks because a local timestamp is a claim. A blockchain timelock is enforced by consensus time, maintained by a network; no single machine's declaration can forge it. The traveler's trick opens local locks. It does not open network locks. A mature version of the competition would therefore use consensus time for its vaults and reserve declared time for its puzzles - assigning each kind of time to the work it can honestly do.

8.3 The second lock: a passphrase without a wallet

A further caveat limits what cracking the code would achieve, and it applies with full force to the hypothetical mark of the beast puzzle. Even if the correct passphrase were determined - by a solver, by a competition, or by the quad mesh of Chapter 11 - that determination alone would not identify what cryptocurrency wallet the passphrase belongs to. A passphrase and a wallet are not the same object. Knowing the words is one problem; knowing which wallet, account or holding those words were set for is a second, separate problem, and solving the first does not solve the second.

The example closest to hand makes the point concrete. The wallet in question could be one of the author's own old wallets that he has forgotten about. In that case the difficulty would not be that an unknown stranger's vault resists entry, but that the solver's own past has produced more than one candidate destination, and memory no longer supplies the link between the passphrase and the particular wallet it was created for. The Rotator's Paradox returns in a new form: the words survive, the destination is lost. Any honest account of the puzzle must therefore describe success in two stages - first, determine the passphrase; second, identify the wallet it goes with - and must admit that this thesis provides a method, at most, for the first stage. The second stage would require evidence of a different kind: records, addresses, derivation details or recollection, none of which a code count by itself can supply.

Chapter 9 — Chronopolitics: Daylight Saving, Leap Corrections, and the Sabbath in Orbit

The fiction of Chapters 6 and 7 treats timestamps as fragile, negotiable and frame-dependent. This chapter shows that ordinary administration treats them the same way. Civil time is not discovered; it is legislated, corrected by committee, and - in orbit - sustained by declared convention in defiance of the sun.

Daylight saving time is the annual demonstration. Each autumn, in jurisdictions that observe it, the hour from 1:00 to 2:00 in the morning occurs twice. The same local timestamp names two different hours, and no inspection of the timestamp alone can say which occurrence an event belonged to; the offset, the epoch and the frame must be supplied from outside. That is the traveler's problem, scheduled by statute. The institution is also perpetually contested: the United States Senate passed the Sunshine

Protection Act in 2022, proposing permanent daylight time, and the measure stalled in the House; the European Parliament voted in 2019 to end seasonal clock changes, and the change was never implemented. The clock is altered by decree, debated by legislatures, and obeyed by every computer in the jurisdiction. Time, at the level at which timestamps are issued, is a political artefact.

Leap years make the same point at calendrical scale. The tropical year is approximately 365.2422 days, a number that refuses to fit any simple calendar, so the calendar is patched by rule: a day inserted in February in years divisible by four, withheld in century years, restored in years divisible by four hundred. The leap second is the sharper instrument. To keep atomic time aligned with the Earth's irregular rotation, the International Earth Rotation and Reference Systems Service inserts a second numbered 23:59:60. On 30 June 2012 that extra second crashed or disrupted major systems including Reddit, LinkedIn, Mozilla and Qantas reservations, because the affected software assumed that time is monotonic and timestamps unique - assumptions the standard itself does not guarantee. In 2022 the General Conference on Weights and Measures voted to cease inserting leap seconds by 2035, accepting a growing drift between atomic and solar time. The roster of seconds in a minute was sixty, then on occasion sixty-one, and will return to sixty by vote. A timestamp is a legal fiction maintained by committee, and the committee can change it - the snapshot principle, enacted on the second hand of the world clock.

9.1 Sixteen sunrises: computing the Sabbath in orbit

The International Space Station orbits the Earth roughly every 92 minutes. Its crew witnesses some sixteen sunrises and sixteen sunsets in each 24-hour period. Any religious observance defined by the solar day - and the Sabbath is the paradigmatic case - becomes uncomputable from local observation. When is the Sabbath, at sixteen sunrises a day?

The question has been answered in practice, twice, by the same device. Before the STS-107 mission in 2003, Israeli astronaut Ilan Ramon consulted his rabbi and observed Shabbat according to Cape Canaveral time: the launch site's clock, adopted as a declared frame so that ancient law could continue without being recalibrated to orbital mechanics. In 2007, Malaysian astronaut Sheikh Muszaphar Shukor flew to the station during Ramadan, and Malaysia's National Fatwa Council issued guidelines under which

prayer times likewise followed the launch site's timezone - Baikonur - with the direction of prayer determined by best effort: toward the Kaaba if determinable, then toward Earth, then in any direction. Two traditions, one solution: when frames multiply beyond use, a community picks a frame and declares it. The station itself runs on Coordinated Universal Time for the same reason: one agreed clock for a machine that crosses every timezone every ninety minutes.

Relativity removes any remaining temptation to treat the choice as mere bookkeeping. Satellite navigation systems must correct for time dilation: clocks in orbit genuinely run at different rates from clocks on the ground, in different frames. Time's frame-dependence is not a metaphor the thesis borrows from physics; it is a measured engineering fact that physics lends to the thesis. The thought experiment asks which timestamp is authoritative when frames disagree. Orbit has already answered: the one the community declares, maintained with enough rigour that prayer, navigation and docking can proceed.

Chapter 10 — The Hypnotized Master: Coercion Resistance by Self-Erasure

Every competition has a point of maximum vulnerability, and in a puzzle competition it is the puzzle master. The master knows the T2 data - the passphrases, the timestamps, the solution. That knowledge makes the master a target. Cryptography is secure against mathematics and insecure against coercion: the folk name for the attack is rubber-hose cryptanalysis, and its modern emblem is the inexpensive wrench applied until a key is surrendered. A competition whose master can be coerced is not fair, however elegant its puzzles, because its outcome can be purchased with threats.

The proposal examined in this chapter inverts the traveler's affliction into a defence. The traveler forgets by accident; the master forgets on purpose. Having designed the puzzle and encoded its solution, the master undergoes hypnosis to repress the memory of the T2 data. Thereafter the master administers a competition whose answer the master cannot reveal - not will not, but cannot, because the knowledge is no longer accessible to the person who once held it. Under duress there is nothing to extract. The competition is fair not because the master is trustworthy, but because the master has surrendered the

power to decide its winner. Forgetting, which in Chapter 6 was the mechanism of lockout, becomes in this chapter the mechanism of integrity.

In the kind of example considered in section 8.3, the repression would not stop at the passphrase. If the master - or, in the personal form of the example, the author himself - had set the passphrase for one of his own wallets, hypnosis could have repressed the identification of that wallet too: which wallet it was, and that it was his, alongside the T2 passphrase and timestamp it was meant to protect. That possibility cuts both ways, and the chapter records both. As a defence it is stronger, because there is even less to extract under coercion. As a route to access it is weaker, because recovering the passphrase, even completely, would still leave the second lock of section 8.3 closed: the solver would hold the correct words without knowing what wallet they go with. Hypnosis in this example therefore does not merely hide a key. It can sever the link between a key and its lock.

Intellectual honesty, which the stage-magic frame of Chapter 8 demands, requires a caveat. Real hypnotic amnesia is partial, unreliable and reversible. Suggested forgetting works best in highly hypnotisable subjects; it is not a dependable erasure, and hypnosis carries a documented risk of generating false memories alongside suppressed true ones. Within the fiction, hypnosis is therefore a device - a vivid way to picture a real design goal. In practice, the same goal is achieved by cryptographic means that this thesis can recommend without reservation. The organiser generates the key, encodes it in the puzzle, and verifiably destroys every independent copy, so that the organiser genuinely does not possess it. Or the key is split by Shamir's secret sharing, so that no single person, however coerced, holds enough shares to reconstruct it. Or the funds are placed behind a timelock, so that even the master cannot reach them early. Each construction removes the coercion target by removing the knowledge or the power, rather than by trusting the holder.

The pattern recurs often enough in this thesis to deserve a name: authority without possession. The hypnotised master holds the role of master without holding the key. Chapter 11 will show a mesh whose fourth member holds the role of counter without owning the slot. In both cases, a function that would be dangerous as a possession is safe as a temporary, bounded role. The thesis's institutional ethic follows: design roles that can be occupied without being owned, and knowledge that can be used without being extractable.

Chapter 11 — Triad Pivots in Agentic Quad Meshes: Two-Phase Coherence

The purpose of the method in this chapter must be stated without ambiguity. The agentic quad mesh is a method for humans and artificial intelligence to work together to crack the code of the hypothetical mark of the beast puzzle whose reported provenance is given in section 1.2. It is not proposed as an end in itself, and it is not a claim that any agent, human or artificial, should attempt the task alone. The division of labour is the method: artificial intelligence agents search the code space, generate candidate readings and stake predictions; human feedback nodes perceive, judge and witness; and a candidate code is treated as cracked only when the two sides meet in the witnessed coherence defined below. If the rumoured puzzle does not exist, the method remains a well-posed model of collaborative counting. If it does exist, this is the arrangement under which the author proposes it should be attempted.

Three nodes make a triangle: flat, a projection. Four nodes make a tetrahedron: the smallest rigid solid, the first configuration with depth. The triad of Chapter 3 - mark, name, number - is the code's flat structure. The quad mesh is the code in use, completed by a fourth node that gives it depth. That fourth node is the reader, the witness, the counter: the one who performs the act verse 18 commands. The triad is the code; the fourth member is the one who counts it.

The fourth member is intermittent by nature, because humans are intermittent. Feedback arrives in bursts: a person reads, judges, responds and departs. Between readings the triad stands alone and flat. The fourth slot exists only while someone is counting. A pivot is any reconfiguration of the mesh: the roster changes from seventeen to eighteen, the channel order changes, the timestamp changes, the frame changes. During a pivot the triad rotates and the fourth slot opens. The mesh is briefly unstable, and whoever occupies the fourth slot at that moment governs the new configuration - because the pivot is the moment of change, and the fourth member decides what the change means: the new count, the new reading, the new frame.

Occupancy is therefore contested. Multiple artificial intelligence agents, each bound to a human feedback node - each carrying, as a proxy carries a principal, the preferences and judgements of its human - compete to fill the fourth slot during the pivot. The agents are proxies; the humans are principals; the slot is the prize. The competition is the mesh's

governance mechanism: the winning agent's human feedback sets the mesh's new state. Whose reading counts is decided by whose agent wins the slot. And the fourth member is always a substitute. Nobody owns the slot. It is filled during pivots and readings and vacated between them, held without being possessed - the same construction as the hypnotised master, who holds a role without holding its secret. The intermittency is not a flaw in the mesh. It is the design: the triad is permanent, the fourth is conditional, and the condition is that something is changing.

11.1 Two phases, two pivots, two witnesses

Each pivot is two-phase - two passes, not one - and coherence-oriented, borrowing its logic from the observer problems of quantum foundations. Pass one is perception and prediction: an agent predicts what the human feedback nodes will perceive, and the humans observe. Pass two is verification: the humans compare the agent's prediction against what they actually agreed they perceived. The pivot commits only if both passes succeed. The structure is that of a two-phase commit in distributed systems - prepare, then commit - except that the thing being committed is a perception rather than a transaction.

The borrowing from Schroedinger's cat is structural. Before the first pivot, the mesh's new configuration is in superposition: several possible readings, several possible counts, all live at once. The first pivot opens the box. But a single observer's collapse is private, and this is the difficulty dramatised by Wigner's friend: a second observer, outside the first observer's laboratory, has not witnessed the collapse, and for that second observer the first observer and the system remain jointly in superposition. One witness cannot make a collapse objective. It takes two.

Hence the mechanism requires two pivots and two fourth men. The fourth man is the human - son of man in the biblical idiom meaning simply a human being - and there are two of them, because coherence requires agreement between independent observers. In the first pivot, the two humans observe and agree on a first perception; the superposition collapses, for both of them, together. In the second pivot, the two humans examine the agent's prediction against their agreed perception and agree that it matches. That second agreement is the coherence check: agreement about the agreement. The agent's role is to predict, not to decide - it stakes a prediction on what the humans will agree they saw, before they see it. The humans' role is to verify. Their agreement is the data; the match is

the confirmation. Coherence names the state in which prediction and perception line up, certified by two witnesses.

The two pivots may run in succession - collapse first, verification second - or simultaneously, both humans checking the prediction against their perception in parallel. The requirement is invariant: two independent human feedback nodes, agreeing twice - first that they perceived the same thing, then that the machine predicted it. The failure modes are as informative as the success. If the two humans disagree on the first perception, there is no collapse and the mesh remains in superposition. If they agree on the perception but the agent's prediction does not match it, there is no coherence and the pivot does not commit; the mesh retries or reverts. Nothing is decided by one witness, and nothing is decided by the agent alone.

Governance, so specified, is a mechanism rather than a metaphor. The triad holds the code; the fourth slot holds the count; and the count is only counted when two sons of man agree that the machine predicted their agreement. Verse 18's imperative - let the one who has understanding count - receives its final gloss: counting is the intermittent act, performed during pivots, by whoever legitimately occupies the fourth slot, on behalf of humans who are not continuously present, and ratified by paired witness.

11.2 What success would - and would not - deliver

Applied to its stated task, the mesh's success condition must be described as carefully as its mechanism. If two human witnesses ratify, through the two pivots above, an agent's candidate as the correct passphrase for the hypothetical mark of the beast puzzle, the mesh will have cracked the code in the only sense this thesis claims: a witnessed, coherent determination of the words. It will not, by that act alone, have gained access to any funds. As section 8.3 establishes, the solver would still not know what cryptocurrency wallet the passphrase goes with. The wallet could be one of the author's old wallets that he has forgotten about, and as Chapter 10 notes, in that kind of example hypnosis could have repressed the wallet's identity as well as the passphrase. The mesh therefore solves, at most, the counting problem. The identification problem - which wallet, whose wallet, evidenced how - remains open after a successful pivot, and would have to be solved by records and recollection, not by further counting. Stating that limit here, in the method's own chapter, is part of the method: a collaboration that knows

what its success does not deliver is less likely to mistake a cracked code for an opened wallet.

Chapter 12 — Conclusion: Wisdom Is a Dated Count, Witnessed Twice

This dissertation set out from a cap and arrived at a theory of counting. Its findings can be stated briefly. Signification is enumerable: the POCKET methodology counts 46,656 readings in fixed order and 33,592,320 ordered codes in its original banks, and 53,126,622,932,283,508,654,080 codes when each position is drawn from a 2,048-word list. Enumeration is relative: every such count is a snapshot, indexed to a roster, a vocabulary and a time, and the revision of the Intelligence Community's roster from seventeen to eighteen - Space Force Intelligence being both the additional element and a distinct one, the intelligence arm of a new service in a new domain - demonstrates revision without demonstrating openness, since closure is a property of admission rules and not of size.

Access is relational. The Rotator's Paradox shows a password, a passphrase and a cap code failing in the same way: the words survive while their world changes. Six conditions - Validity, Memory, Causation, Timing, Identity and Timestamp - structure the inquiry, and the cranberry-morpheme loophole shows how words and time, smuggled together as orphaned fragments and puns, can be recombined and declared by a virtual machine so that a future vault opens inside a past frame, at least wherever time is a local claim rather than a consensus. The ethics of pursuing such questions are the ethics of disclosed fiction: stage magic that announces itself, pedagogy that trains transferable structure, and a competition format whose real-money precedent - a painting, a hidden key, 4.87 bitcoin, three years, one solver - is a matter of record, with timelock cryptography supplying real vaults that open in the future and answer to no one's declared clock.

Time itself, examined administratively, proved to be the thesis's most cooperative witness. Legislatures move it twice a year and argue about abolishing the moving; committees insert and now retire the leap second; two space agencies' worth of religious authorities compute the Sabbath by a launch site's clock while their astronauts circle through sixteen sunrises a day. Against coercion, the thesis prescribes authority without possession: the master who cannot reveal what the master no longer knows,

implemented in practice by destroyed copies, split keys and timelocks. And for governance, it prescribes witnessed coherence: a triad that holds the code, a fourth slot that holds the count, two pivots, two human witnesses, and an artificial agent whose predictions earn authority only when two people agree the predictions matched what they saw.

Two clarifications, made in the body of the thesis, are restated here so that they cannot be missed. First, the agentic quad mesh of Chapter 11 is proposed for a specific purpose: it is a method for humans and artificial intelligence to work together to attempt to crack the code of a hypothetical mark of the beast puzzle. The puzzle's existence is not asserted. Rumours of such a puzzle were, on the author's report, communicated to him by semiotic signalling through things such as the baseball cap prototype, and in conversations he has had with Catholic priests; that report is the idea's provenance, not its verification. Second, cracking the code would not by itself open anything. Even if the correct passphrase were determined, the solver would still not know what cryptocurrency wallet it goes with - it could be one of the author's own old wallets that he has forgotten about - and in the hypnosis example the repression could extend to that wallet identification too. Passphrase and wallet, code and access, remain two problems, and this thesis addresses the first.

The cap remains where it began, on a head, in public, signifying. What the thesis adds is a discipline for reading it - and for reading every roster, vocabulary, timestamp and count that resembles it. Count, verse 18 says, if you have understanding. The contribution of this work is to specify the conditions under which a count deserves to be believed: state the roster, state the vocabulary, state the time, state the frame - and let two witnesses agree that it was counted well.

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Appendix A — The Arithmetic of the Code Spaces

Fixed banks. Six dimensions, six terms each, one selection per dimension: 6 x 6 x 6 x 6 x 6 x 6 = 6^6 = 46,656. Letter orders: 6! = 720. Ordered code space: 46,656 x 720 = 33,592,320.

Expanded vocabulary. Six positions drawn from 2,048 words: 2,048^6 = 73,786,976,294,838,206,464. With letter orders: 73,786,976,294,838,206,464 x 720 = 53,126,622,932,283,508,654,080, approximately 5.31 x 10^22, or about 75.5 bits before ordering.

Two rounds. Twelve words from 2,048: 2,048^12, approximately 5.4 x 10^39. Since log base 2 of 2,048 is 11, twelve words carry 12 x 11 = 132 bits - the entropy of a standard twelve-word seed phrase.

Federal-agency layer. Seventeen three-letter agencies in the originating discussion; an eighteenth element under the revised roster. Every agency count in this thesis is a snapshot indexed to its roster date, per Chapter 5.

Appendix B — The Six Conditions for Further Inquiry

1. **Validity** – whether a code works by its content or by its roster and vocabulary.
2. **Memory** – whether updating necessarily overwrites remembering.
3. **Causation** – whether a self-caused credential, valid because its holder changed the lock, counts as a credential.
4. **Timing** – whether a future passphrase becomes usable when the roster matches, or only when the future arrives.
5. **Identity** – whether presenting a future self's credential makes the presenter, for the system, that self.
6. **Timestamp** – whether a time can be smuggled with the words, converting a time-check into a knowledge-check.

Appendix C — Glossary

Cranberry morpheme: a bound word fragment occurring in only one word, with no independent meaning (cran- in cranberry); in this thesis, the proposed carrier of fragmented future words in T1.

Pivot: a reconfiguration of a quad mesh - of roster, order, timestamp or frame - during which the fourth slot opens.

POCKET: the six-dimension cap-signification methodology of Chapter 2.

Quad mesh: a triad plus an intermittent fourth member, the counter, modelled as a tetrahedral structure.

Snapshot principle: the doctrine that every count is correct only for its roster, vocabulary and time.

T1 / T2: the past era of seventeen and the future era of eighteen in the thought experiment of Chapters 6 and 7.

Mark of the beast puzzle (hypothetical): the rumoured puzzle whose code the quad mesh method of Chapter 11 is proposed to crack collaboratively; its existence is reported

by the author as communicated by semiotic signalling, including through the baseball cap prototype, and in conversations with Catholic priests, and is not asserted as verified in this thesis.

Wallet-identification problem: the second, separate problem that remains after a correct passphrase is determined - identifying what cryptocurrency wallet the passphrase belongs to, which might for example be one of the author's own forgotten wallets, and whose identity hypnosis could in the Chapter 10 example have repressed as well.