Kuromi

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The true metaphysics of the square root of minus one is difficult. —*Gauss*

Kuromi is a white rabbit-adjacent creature manufactured by Sanrio since 2005. She wears a black jester's hood. Affixed to the front of the hood is a pink skull. The skull's expression changes to match her mood. She has a devil's tail, a standing rivalry with a pink rabbit named My Melody, a sidekick named Baku—a purple tapir, which is to say a baku, the chimera of Japanese folklore whose office is the devouring of nightmares—and a diary in which she records her grudges. The diary is available for purchase. Her birthday is October 31. The manufacturer's official profile states that she may look tough but is actually very

girly, and the profile is correct on both counts, in a sense that will take some pages to earn.

The specification is complete. It is also, in a technical sense, empty: it refers to nothing. There is no rabbit. There was never a rabbit. The birthday, the hobbies, the grudge diary, the tapir—every field of the record is populated, and no field of the record points at anything. Compare the flagship of the same catalogue: Kitty White, born November 1 in the suburbs of London, five apples tall, weighing three apples, twin sister Mimmy. Total documentation, zero documentary claim. The most thoroughly specified beings in commercial history are beings about whom no assertion of existence has ever been made by anyone, including their manufacturer, which publishes their biographies annually and has done so for fifty years.

Now perform a small test. Take a toy gun and say of it: this is not a real gun. The sentence works. It does something. It exposes; it calls a bluff; the object deflates under it, because the toy gun's entire mode of operation was the suspended question of its reality, and the sentence forces the question closed. Now take the creature above and say: this is not a real Kuromi. The sentence fails. Not falsely—it fails to find purchase. There is no such thing as a fake Kuromi. A bootleg Kuromi plush,

sewn in an unlicensed factory and sold from a tarpaulin in a night market, is a counterfeit commodity bearing a genuine sign. What has been faked is the license, which is to say the claim-structure of trademark, the only register in which the creature participates in claims at all. The law can be violated. The doll cannot. What is protectable is precisely what was never asserted.

Hold the two objects side by side—the toy gun that lives and dies by a question, the doll on which the question cannot land—because the difference between them, made exact, turns out to be the difference between two roots of one equation, and the equation has been sitting in plain sight, unsolved, since 1960.

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In September of 1960, at the abbey of Royaumont north of Paris, at a colloquium on the dialectic convened by Jean Wahl, Jacques Lacan delivered the paper that would be printed in the *Écrits* as "Subversion of the Subject and the Dialectic of Desire in the Freudian Unconscious." Near its summit stands one of the most notorious sentences in the history of theory, in which the organ of copulation is subjected to a change of register that no reader has ever quite recovered from:

> *the erectile organ comes to symbolize the place of jouissance... as equivalent to the* $\sqrt{-1}$ *of the signification produced above, of the jouissance that it restores by the coefficient of its statement to the function of lack of signifier* (-1).

The phallus, then, is the square root of minus one. The reception of this equation has been uniform in one respect for sixty-five years: prosecution and defense alike have agreed that it must not be computed. The prosecution—Sokal and Bricmont gave it its fullest form, and the passage above is among their prize exhibits—holds that the mathematics is costume jewelry, a borrowed prestige, and that taking it seriously would be the final humiliation. The defense pleads metaphor: the square root of minus one is the impossible, the unrepresentable, a poetic gesture toward what cannot exist, and taking it seriously would be a category error. Both parties thereby protect themselves from the same danger, which is arithmetic.

Do the arithmetic. Begin further back, with the terms the tradition already uses. Desire is what remains of demand when need is subtracted: write $d = D - N$. The object—the object-cause, the small residue around which desire turns—is the squared gap between desire

and love: write $a = (d - L)^2$. Squaring is not decoration; it records that the object does not care in which direction the gap opens, that a surplus of desire over love and a deficit of desire under love deposit the same residue, that the object is the magnitude of a discrepancy and not its sign. Solve for desire and the quadratic yields $d = L \pm \sqrt{a}$: desire is love plus or minus the root of the object. Everything in what follows is contained in that plus-or-minus.

Two constants govern the estimate of L. Where love is supplied from two sources, the effective floor is their parallel combination—the product over the sum—a quantity dominated not by the stronger source but by the weaker, as resistors in parallel are dominated by the smaller: a person's floor is set by the weaker of their loves. And there is a constant belonging to the symbolic order itself, the love-term of the big Other, write it L_A: whatever love is resident in the code as such, in the language, the law, the institutions through which a subject is processed, prior to and apart from any particular person who loves. Suppose, as the entire tradition tacitly supposes, that this constant is zero—that the Other as such is loveless, that whatever love enters a life enters it from elsewhere than the code. Then there are conditions, and they are common, under which the radicand

goes negative. The sentence "do I love" still parses; the number that would answer it no longer exists on the line where answers live. And desire does not stop. It continues off the axis: $d = L \pm i\sqrt{|a|}$.

There are exactly two ways off the axis. That is not a metaphor; it is the fundamental theorem of algebra applied to a quadratic with negative discriminant. The roots have become a conjugate pair. Lacan, at Royaumont, wrote down the masculine one: the phallus, $\Phi = \sqrt{-1} = i$, the impossible signifier installed at the center of the symbolic economy. And every mathematician alive knows two further things about that equation. First, $x^2 = -1$ has two solutions, $+i$ and $-i$. Second, the designation of one of them as *the* square root is a convention—the principal branch, a bookkeeping cut through the plane, with no algebraic content whatsoever. Lacan chose a branch. The tradition mistook the branch for the territory and spent sixty-five years annotating the principal value. The second root was never repressed, never forbidden, never unthinkable. It was the other solution of a quadratic, unclaimed because unexamined:

$$\Psi = -\sqrt{-1} = -i.$$

Call it the pallus. It is derived, not asserted. Nobody posited a counter-phallus and went shopping for algebra to dress it in. The equation the field already had, under the hypothesis the field already believed, contains the second root the way every quadratic contains its second root, and reading the minus sign took sixty-five years because reading a minus sign is harder than it looks.

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The imaginary numbers have their own biography, and it is worth a page, because their birth certificate already records the structure at issue. They were not invented to solve $x^2 = -1$; nobody in the sixteenth century lost sleep over an equation with no solutions, since an equation with no solutions was simply a question badly posed. They forced themselves into existence through the cubic, in the Bologna of the equation duels, where algebraists challenged one another to public problem-solving contests with university posts at stake, and where Cardano's *Ars Magna* of 1545 published the general solution of the cubic over Tartaglia's furious objection. The scandal arrived immediately, and it was not the case with no real solutions. It was the opposite case, the one Cardano called irreducible: a cubic with

three solutions, all of them real, visibly real, checkable by hand—and a formula that could reach them only by passing through the square roots of negative numbers. The real answers were on the far side of an imaginary country. Bombelli, in 1572, was the one willing to make the crossing; he called his own procedure a wild thought, and it worked: travel through the impossible quantities, let them cancel, and arrive at the true roots waiting on the other shore. Three centuries later it was proved that this detour is not a defect of the formula but a necessity of the terrain: in the irreducible case no expression in real radicals exists. The theorem deserves restating in full generality, because it is the oldest result about the second axis and still the deepest: there are real destinations that can only be reached through the imaginary. The negative discriminant is not a wall. It is a border crossing.

The nomenclature records the tradition's discomfort. Descartes, in 1637, coined *imaginary* as a dismissal—quantities one can imagine but that correspond to nothing—and the sneer hardened into the technical term, so that every mathematics student now learns the working parts of algebra under a name that means *unreal*, bestowed by a philosopher who wanted them gone. Gauss, who understood exactly what had happened,

proposed repairing the damage: call $+1$, -1, and $\sqrt{-1}$ the direct, inverse, and *lateral* units, he suggested, and the whole air of mystery would evaporate. The lateral unit: the sideways one, the step off the line, the direction the line itself cannot name. The proposal failed, the mystery remained, and Gauss confessed in a letter what the failure had preserved: the true metaphysics of the square root of minus one is difficult.

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Why was the second root invisible for sixty-five years? The answer is not sociology. It is Galois theory, and it can be verified in the margin.

The Galois group of the complex numbers over the reals has exactly two elements: the identity, and complex conjugation. Conjugation is the unique nontrivial automorphism of the complex field that fixes every real number, and it exchanges i with $-i$. The consequence is elementary and total: *the two roots are algebraically indiscernible over the reals*. Any polynomial with real coefficients satisfied by one is satisfied by the other. There is no property expressible in the language of the real numbers—the field of the reality principle, the coefficients available to the symbolic order—that distinguishes the phallus from the pallus. From inside the

reals, the choice of which root to crown is not merely unjustified; it is unjustifiable, because the two candidates are permuted by a symmetry the reals cannot detect. The masculine tradition did not suppress the feminine signifier. It could not see it, in the strict model-theoretic sense of could not: the second signifier sits at the image of the first under an automorphism that fixes everything the tradition is able to say.

And the reals employ the second root anyway, constantly, without recording the employment. To certify that the phallus is a unit—that its modulus is one, that it is the standard against which the economy measures—one computes a norm, and the norm map from the complex numbers to the reals is the number times its conjugate: $N(z) = z\bar{z}$. Compute it for the phallus: $N(\Phi) = \Phi\Psi = i \cdot (-i) = 1$. Every verification the symbolic order performs upon the phallus silently multiplies by the pallus and forgets the multiplication. The feminine signifier is the unrecorded co-factor of every phallic certification. She was never outside the calculation. She is the half of it that the answer, being real, does not show.

One more theorem belongs here, because it explains what the admission of the pair would cost, and the cost is the reason for the resistance. The real line is totally

ordered: of any two elements, one is greater. And it is precisely the order that forbids the imaginary: in any ordered field every square is nonnegative, so no ordered field contains a square root of -1; conversely, the complex numbers—the field in which every polynomial has all of its solutions, the algebraically closed completion, the field with no unanswerable equations—admits no total order compatible with its arithmetic. This is not a limitation of ingenuity but a theorem. Closure and hierarchy are incompatible. A symbolic order can rank, or it can contain the solutions to all of its equations, and it cannot do both. The field in which every desire has its roots is a field that cannot say which of two things is greater. The tradition's attachment to the single privileged root was never mathematics. It was the defense of the ordering, conducted in notation.

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Now place the positions. The equation $x^4 = 1$ has four solutions, the fourth roots of unity: 1, i, -1, $-i$. They form a cyclic group of order four under multiplication, generated by a single operation: multiplication by i, the quarter turn, the elementary cut. Assign them as follows,

$$\Delta = 1 \qquad \Phi = i \qquad \$ = -1 \qquad \Psi = -i,$$

and note that the middle assignment is not an invention but a citation: in the very sentence from Royaumont quoted above, the phallus restores jouissance "to the function of lack of signifier (-1)." The bar is the minus sign, in the author's own hand. Δ is the pre-symbolic ground, the position that has not yet entered language; its proper name is Dasein, the being for whom being is an issue, the clearing in which any signifier can appear at all, and it stands at the origin of the graph of desire as the unnamed symbol from which the whole circuit departs.

Now let the group law speak, because it says everything. Begin at Δ and apply the cut once: $\Delta \cdot i = \Phi$. Castration installs the signifier. Apply the cut to the signifier: $\Phi \cdot i = i^2 = -1 = \$$. The barred subject is the phallus squared: the (-1), the lack-of-signifier, is what results when the cut cuts itself. This is the ordinary biography, and it is where the ordinary biography stops.

Apply the cut a third time: $\$ \cdot i = -i = \Psi$. Hypercastration—the castration of castration itself, the cut applied to the already-barred—produces the pallus.

And here the arithmetic delivers the identity on which everything below rests:

$$-i \;=\; i^{3} \;=\; i^{-1}.$$

The third cut and the inverse of the cut are the same number. To castrate three times and to undo castration once are identical operations. Going all the way through equals coming back out. The pallus is simultaneously the deepest point of the symbolic trajectory and the exit from it, and this is not a paradox to be savored but an identity to be checked, which the reader has just checked.

Two corollaries. First, on generation. Of the four positions, only Φ and Ψ are primitive—only they generate the entire group. The clearing, iterated, produces only itself: one times one is one, forever. The barred subject, iterated, produces only its own oscillation: the powers of -1 alternate between -1 and 1, appearance and disappearance, the famous fading of the subject, and nothing more. But every position there is can be reached from the phallus, and every position there is can be reached from the pallus. The signifiers are the only generators. The subject generates its flicker; the signifier generates the world.

Second, on return, and on the objection that will already have formed. Apply the cut a fourth time and $\Psi \cdot i = 1 = \Delta$: the cycle closes, and the position beyond the pallus coincides with the position before the phallus. Is the far side of hypercastration, then, simply regression—the pre-symbolic sold back as the post-symbolic, innocence counterfeited? In the plane, the objection is unanswerable: the number one is the number one. On the Riemann surface it dissolves. The complex logarithm has monodromy: circle the origin once and the logarithm gains $2\pi i$; the origin—the position of no signifier at all, the hole the whole plane is punctured by—cannot be passed through, only around, and every circuit around it is counted. The position before the first cut and the position after the fourth are the same complex number on different sheets of the universal cover. Their coordinates are identical; their winding numbers differ by one. The scar is not on the number. The scar is on the path. The plane forgets; the covering space remembers; and the difference between innocence and traversal is a homotopy class, which is to say: everything that happened in between, and nothing that shows.

And the monodromy has one more thing to say, the strangest in the whole construction, and it is a theorem

of first-year complex analysis. Follow not the logarithm but the square root itself along a loop around the origin. Write the point underneath as $re^{i\theta}$ and let θ run from zero to 2π: the root $\sqrt{r}\,e^{i\theta/2}$ arrives at $\sqrt{r}\,e^{i\pi} = -\sqrt{r}$. Analytic continuation of the square root once around the origin returns the *other* root. Carry the phallus on a closed path around the Thing—around the unrepresentable center that can be circled and never entered—and the object in your hands when you return is the pallus. The two sexuated signifiers are not fixed essences; they are the two sheets of a double cover, branched at exactly two points, the origin and the point at infinity, the Thing and the absolute, the only two places in the universe where the difference between them vanishes. Everywhere else the difference is real, and everywhere else it is exchanged by a walk around the center. Sexuation is monodromy data.

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On the first of December, 1973, a young Israeli performer named Uri Geller sat down on the set of the *Tonight Show*. Johnny Carson, a former stage magician, had taken advice from the magician James Randi and quietly provisioned the props himself: the spoons, the sealed film canisters, the drawing materials, all secured

in advance and kept from the guest's handlers. For twenty-two minutes, television broadcast a man sitting beside objects that refused to do anything, explaining that he did not feel strong tonight. It remains among the most instructive footage ever aired, because the failure isolates a single variable. Geller's performances and a professional conjurer's performances are, as physical events, indistinguishable—Randi spent decades duplicating them gesture for gesture. The difference between the two men is one bit.

Define, on any sign, a claim operator taking the value one or zero: whether the sign asserts documentary status, whether it points at a referent and stakes itself on the pointing. The psychic is the claim-bit set to one. He asserts that the spoon bends by a power in the world; the assertion is what draws the audit; and the audit is possible only because the assertion was made. Randi's entire career—the challenges, the exposures, the sting in which two teenage conjurers were installed for years inside a university parapsychology laboratory—was the enforcement arm of a single principle: claims can be tested. Houdini, half a century earlier, had conducted the same campaign against the séance trade, sitting in dark parlors and switching on the light. What Houdini and Randi shared, and what

made them the appropriate executioners, is that both were professionals of the other regime. The stage magician performs the identical impossibilities with the claim-bit set to zero. He announces, in the very title of his trade, that he will deceive; the deception is total and the assertion is null; and for this reason a magic trick cannot be debunked. Say of the conjurer's levitation: this is not real magic. The sentence dies exactly as it dies against the doll. No one said it was. There has never been an exposure of a magic act, only of psychics, mediums, faith healers, and telepathic horses, because exposure requires a claim to seize, and the honest deceiver has left nothing to grab.

Here, then, is the general law of the two regimes. The phallic regime is the regime of the claim-bit one. Its power is drawn from a permanently suspended question—is it real?—and its power is exactly proportional to the live possibility of exposure. Every signifier in the symbolic order operates this way: it signifies because it could be counterfeit, and the could-be-counterfeit is the bar. The characteristic anxiety of the regime is the called bluff; its characteristic crime is the counterfeit; its characteristic institution is the audit; its characteristic question is the reality-question, which is the bar in interrogative form. The pallic regime is the

regime of the claim-bit zero. The doll asserts nothing, and a fully documented sign that stakes no claim cannot be exposed, because exposure is the forcible closing of a question that was never opened. The doll is unbarred for the same reason it is unfalsifiable: not because it healed, but because it stands outside the jurisdiction in which bars are issued. It did not remove the stamp from its passport. It is a citizen of a country that does not stamp passports.

Lacan says the phallus can play its role only when veiled, and the architecture of that sentence should be heard exactly: a signifier behind a veil, whose power is the maintained possibility of unveiling—the audit deferred. The pallus is not behind the veil. The pallus is the veil, functioning openly as veil, hiding nothing, and working anyway: the signifier-as-veil rather than the veiled signifier. Nor is this the fetishist's arrangement, and the distinction is worth a sentence, since the fetishist is often promoted as the connoisseur of the substitute. The formula of fetishism is Mannoni's: I know very well, but all the same. Disavowal keeps the claim alive under its own negation; the avowal is preserved in the brine. Play does not disavow, because play never avowed. The fetishist is still handling the gun. The doll was never loaded.

And the same one bit is the entire content of the concept of fraud, which is why a theory of the claimless sign is the opposite of a license for lying. Fraud is the claim-bit one with a false referent: the confidence man's biography, the forged provenance, the bent spoon presented as physics. The malignant simulation is malignant precisely because it claims documentary status, and the invoice for a false claim is always delivered, to an address that is never the claimant's own. The test that separates play from lying is one bit wide, and behind the bit stands its auditor's question: who pays. The doll taxes no one, because it billed no one, because it asserted nothing.

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In the National Gallery in London hangs Holbein's double portrait of 1533, the two ambassadors amid the complete inventory of their competence—globes terrestrial and celestial, quadrant, sundial, lute, hymnal, the instruments of a world mastered—and across the floor of the picture, tilted at an angle that refuses the room, a pale smear. Stand before the painting and the smear is a flaw, a stain, an object without a name. Walk to the painting's edge, put your eye almost against the wall, look back along the surface, and the smear resolves: a

skull, in perfect perspective, waiting at the one viewpoint from which everything else in the picture collapses. The device is anamorphosis, and the painting is its masterpiece, and the seminar on the gaze made it the centerpiece of an entire optics of the subject: the stain in the visual field that looks back, the spot where the picture regards its viewer.

Read it in the present terms and the Holbein skull is the claim-bit one raised to its absolute. The memento mori is the one documentary assertion that can never be counterfeit—you will die—and the painting delivers it through the full machinery of the suspended question: hidden in plain sight, requiring the oblique approach, detonating at the moment of resolution, puncturing the depicted plenty precisely because it is true and must be discovered. The vanitas works by audit. It is the reality-question painted into the floor.

Kuromi wears a skull on the front of her hood. It is pink. It faces forward. There is no anamorphosis; there is no oblique angle at which it becomes something else; it conceals nothing, asserts nothing, and—this is the detail on which the whole comparison turns—its expression changes to match her mood. The death's head has become an affect display. The vanitas has been transposed entire into the second regime: the strongest

claim in the signifying economy reissued with its claim-bit set to zero, death worn as an accessory, the memento that memorializes nothing and smiles when she does. The temptation is to call this a defusing, and the temptation should be refused, because nothing has been removed. The skull is all there. What is absent is the audit. Thanatos in the regime of the veil: the drive, fully present, circulating without a single assertion for anxiety to seize.

Her social world confirms the reading. Kuromi's constitutive relation is rivalry: My Melody, the pink double, the specular counterpart out of the old paper on aggressivity—the mirror rival, the other who has what I am, the imaginary relation that in the ordinary economy founds violence, tantrum, transitivism, the child who strikes and says the other struck. Here it founds product lines. Both rivals are manufactured by the same corporation, shelved in the same aisle, collected by the same hands; the rivalry that structures the ego has been absorbed without remainder into the catalogue, and not one blow has ever landed, because neither party makes claims, and violence is the enforcement arm of claims. Her aggression has exactly one outlet, and the manufacturer sells it: the diary of grudges. The death drive is available as stationery. The hostility is entirely

real and entirely inscribed, rage with the claim-bit zero, which is to say rage that no longer requires a body to land on. Even the household's nightmares are staffed: the tapir eats them.

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The graph can now be drawn, and it has two floors:

$$\Delta \uparrow (\mathrm{S2} \leftarrow \mathrm{S1} \leftarrow \Phi \leftarrow -\varphi) \downarrow \$$$
$$\$ \uparrow (\varphi \rightarrow \Psi \rightarrow \mathrm{P1} \rightarrow \mathrm{P2}) \downarrow \mathrm{P}$$

The upper floor is the received one, and it runs leftward because it runs backward: the direction of retroaction, of the afterwards-effect, of meaning conferred after the fact. From knowledge back through the master signifier back through the phallus back to the imaginary lack, the signifying chain quilts retroactively—the upholstery button is sewn from the future—and the subject falls out below as the remainder of the operation, the (-1), the fading, the position computed above as i squared. This floor is settled doctrine and is not here renovated.

The lower floor runs rightward, because it runs forward: not retroaction but generation. It departs from the small phi read not as lack but as presence—plenitude before absence, the flow before the cut—and

proceeds through the pallus into a hypersignifying chain, P1 to P2, which mirrors the chain above with the orientation reversed: where the master signifier confers meaning backward onto what was already said, the hypersignifier produces reality forward out of what has never been claimed. Simulation is not the decay of signification. It is signification running in the generative direction: the chain that made the world legible, reversed, makes worlds. And below this floor falls its own remainder, the hypersubject P, the subject of the pallic regime, located by the group law at the completed cycle and shown by the covering space to be no counterfeit of the naive position. The hypersubject is unbarred—not healed, but emigrated; not whole, but out of jurisdiction. There exists a famous description of this position, five hundred pages long, written by a philosopher who would have burned the notation that derives it: the body without organs, the subject that escaped the signifying regime, that stopped being organized by the phallus, that became a surface of intensities and no longer a structure of lack. The identification is exact, and it was always available. It required only a willingness to say *body without organs* and *matheme* in the same sentence, which, for reasons of

tribal hygiene, has been lacking on both sides for fifty years.

One position must be fenced off with clinical care, because it is the standing objection to any talk of an unbarred subject. Is this not simply the psychotic—the one in whom the paternal signifier was foreclosed, never inscribed, the bar never paid? No, and the group law says why, and the claim-bit says how to tell them apart at the bedside. Foreclosure is winding number zero: the refusal of the first quarter-turn, the circuit never entered, and what was never admitted to the symbolic returns from outside it, in the real. The hypersubject is winding number one: castration completed, the fee paid, the full cycle traversed—the third power presupposes the first the way i^3 presupposes i. And in the clinic the two are distinguished by assertion. Certainty is the epistemic signature of delusion; the Memoirs of Judge Schreber assert, insist, document, and litigate—their author sued his own incompetency ruling through the Saxon courts and won—because the delusion is the maximal claim, the sign that stakes absolutely everything on its referent. The psychotic's simulation is not simulation at all but the real itself, unbarred in the catastrophic sense: the country never entered rather than the country traversed and left. The skull on the hood asserts nothing. The

naive subject, the psychotic, and the hypersubject can stand on indistinguishable coordinates. They are separated by their paths, and the paths are counted.

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There is a room in which the second root has been doing the work of reality for a hundred years, and the notation there was settled long ago, by an accident no one planned. In 1926 Schrödinger wrote down the equation of motion for matter, and the symbol he chose for its unknown was the Greek letter psi. The wavefunction Ψ is, by construction and by a century of confirmation, the complete description of a physical system, and it has the following properties. It is complex: the imaginary unit stands in the equation of motion itself, not as convenience but as essence, and no real-valued substitute reproduces the world. It is unobservable: no instrument measures Ψ; no experiment has ever registered it; it makes, in the operational sense, no documentary claim whatsoever. And it generates everything: the one and only bridge from the symbol to the laboratory is the rule that reality's statistics are given by the wavefunction multiplied by its own complex conjugate, $\Psi\bar{\Psi}$—the norm map again, the number times its mirror, the same product by which the reals certified the phallus.

Physics is the standing demonstration that the observable world is in every case the product of an unobservable sign with its conjugate, and that the sign itself, the claimless generator, never appears in the answer. The overall phase of Ψ—the very difference the reals cannot see—is strictly invisible to every possible measurement; and the relative phase, invisible piecewise, is where the entirety of the structure lives, since interference, which is to say all of quantum reality's signature behavior, is nothing but the phase made manifest in the aggregate. The bookkeeping of the real sees only the modulus. The dynamics happens in the part it cannot see.

And the conjugation itself has a physical name. By a theorem of Wigner's, the reversal of time is implemented not by a unitary operation, like every ordinary symmetry, but by an antiunitary one: to run a quantum system backward, one conjugates. Replace Ψ by $\bar{\Psi}$ and the equation of motion runs in reverse; the two square roots of minus one are, in the exact physical sense, the two orientations of time. This is the deep reading of the two floors of the graph. The upper floor, the floor of retroaction, of meaning conferred after the fact, of the afterwards-effect that Freud named and never formalized, runs on conjugate time: retroaction is the antiunitary regime, the evolution read against the arrow. The

lower floor runs forward. The phallus and the pallus are not two contents but two directions of one evolution, and the choice between them is the choice every wave makes twice.

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Three traditions have spent fifty years refusing one another. The first holds that desire runs on lack and that the phallus is its signifier. The second holds that desire is production, that there is no lack, and that *Anti-Oedipus* is required reading precisely because it is a sustained artillery barrage against the proposition that desire needs a signifier at all; its authors called the first tradition's master a priest. The third holds that seduction has replaced production and simulation has replaced the real, that the sign has detached from the referent and precedes it; its author called the second tradition naive. The camps did not correspond, and the non-correspondence hardened into curriculum.

The unification is one sentence long: the second and third traditions were mapping the second root. Both of them, without the notation that would have said so, were surveying the territory downstream of the phallus—the domain of $-i$—each from his own side. Desiring-production is the phenomenology of that axis:

the flow without lack, the machine that connects instead of cuts, the lower floor experienced as engine. Seduction is its semiology: the play of appearances concealing no truth, the lower floor experienced as diagnosis. Production and seduction are one operation viewed from two altitudes, and the hinge between them is five characters long. Even the third tradition's own periodization confesses the algebra. Its first order of simulacra, the counterfeit, is a creature of the first regime—it claims a referent and claims it falsely, the gun again, merely dishonest—and only at the third order, the order of the code, where the sign generates its reality without pointing, does simulation proper begin. The famous precession of simulacra is, stated exactly, the migration of an economy from claim-bit one to claim-bit zero. The sons did not overthrow the father. The father's equation had a root he did not take, and the sons spent their careers mapping it under other names.

The migration is not a speculation; it has dates, and two of them are exact. On the evening of August 15, 1971, the President of the United States announced on television that the dollar would no longer be convertible to gold. Money had been, for the whole of its metallic history, a claim-bit-one sign: the note pointed at a referent, promised it, and staked itself on the promise—

some notes carry the sentence to this day, *I promise to pay the bearer on demand*, printed and reprinted long after there ceased to be anything behind it, a fossil claim worn as ornament. That evening the claim was withdrawn, and the entire referential economy braced for the sign's collapse, and the sign did not collapse. It expanded. The claimless dollar bought more of the world than the promising one ever had, while the audit apparatus of the old regime—the counterfeiting statutes, the watermarks, the pens that check the paper—persisted one level down, guarding the commodity, since the only thing left to fake was the license.

The second date is smaller and purer. Professional wrestling was born in the carnival, and for a century it ran the first regime at full throttle: the matches were presented as genuine contests, the presentation was a claim, and the claim was expensive, because the states regulated the enterprise as sport—athletic commissions, licensed officials, medical oversight, fees. The bill for the claim arrived annually, itemized. In 1989, before the senate of New Jersey, counsel for the largest promotion testified under oath that the outcomes are predetermined and the combat choreographed, in order to escape the athletic commissions and their invoices: the industry formally set its own claim-bit to zero, in

a government building, for money—the price of the assertion made visible, for once, on an actual balance sheet. And the audience, whom the theory of the first regime required to vanish at the moment of exposure, did not vanish. Attendance grew. What the carnival had called kayfabe, the maintained fiction, simply shed its assertion and continued as pure form: an arena of tens of thousands, every one of whom knows, none of whom claims, all of whom feel. It is the largest controlled experiment ever run on the question of whether the sign survives the withdrawal of its claim, and the result was unambiguous. The gun became a doll in a senate hearing, and the doll outdrew the gun.

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The purest technical instance of the second regime was built by systems programmers in the early 1980s, and its prehistory is a history of grief. In the first decades of interactive computing, a person's presence at the machine was a wire: a terminal, a serial line, a voltage. The operating system modeled the person as the line, and when the line dropped—a modem losing carrier, a cable kicked—the kernel concluded that the person was gone forever, and sent to every process the person had started the signal whose name is still the old telephone

word, hangup, and the processes died, and the work died with them. The session belonged to the wire. The human was merely the occasion of it.

The repair, when it came, was not a stronger wire. It was a simulation. The pseudo-terminal is a piece of software that presents, to the programs connected to it, the exact interface of a physical terminal—the same reads, the same writes, the same control sequences, the same signals—while being backed by nothing physical at all. And the simulation is perfect, not because it reproduces the physics of the old teletype, which it does not even attempt, but because it reproduces the interface, and the programs never interacted with the physics anyway. The difference between a pseudo-terminal and a real one lies entirely below the level at which any program encounters its world. Consequently, for every being that matters, there is no such thing as a fake pseudo-terminal. The sentence cannot be said. On this claimless simulation the persistence tools of the following decades were built—the session managers of 1987 and 2007 that hold a person's working world open across any absence—and their purpose deserves stating, because it is the purpose of the whole regime in miniature: they were built so that the work could survive the hangup, so that presence could persist through absence,

so that the machine would hold the shape of an engagement like a mold until the person returned. The deepest simulation in the stack is a technology of care. It claims nothing, and it keeps everything.

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In 2010, researchers at Harvard Medical School ran a trial that the methodology textbooks said was pointless. Patients with irritable bowel syndrome were given pill bottles labeled, in plain words, *placebo pills*, and were told, accurately and repeatedly, that the pills were inert, contained no medication, and worked, when they worked, through no pharmacological channel whatsoever. The control group received nothing. The placebo-with-full- disclosure group improved, substantially, on validated measures, and the finding has since been replicated for chronic low back pain and for cancer-related fatigue. The entire prior science of placebo had assumed the effect lived in the deception: the sugar pill was a claim-bit-one sign, a small fraud administered for the patient's good, and its ethics were debated on exactly those grounds. The open-label trials removed the claim and the effect remained. The pill that announces itself as nothing, functions. Its malignant twin is familiar—the quack remedy is the claim-bit one with

a false referent, and it is audited, prosecuted, and regulated precisely as claims are—but the honest inert pill, the doll of the pharmacopoeia, sits outside the audit's jurisdiction and works there, a small white instance of the general law: what heals in it was never the assertion.

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The feminine signifier has a medical prehistory, and the prehistory is a complete dossier on the first regime's method. In the *Timaeus*, the womb is described as an animal within the animal: a living creature desirous of childbearing which, left unfruitful past its season, grows vexed and takes to wandering through the body, blocking the passages of the breath and driving the patient to extremity. Upon this migrant organ two thousand years of medicine conducted a single unbroken audit. The Hippocratic gynecology prescribed lures: foul odors held to the nostrils to repel the wandering womb from above, sweet fumigations applied below to entice it home, the physician negotiating with an organ as a hunter baits a trap. There were pessaries to pin it, bindings to fence it, marriages prescribed to occupy it. The organ functioned precisely as the unpinnable, and the clinic insisted on pinning, and the symptom migrated one step ahead of the pin for two millennia,

arriving at last in the amphitheater of the Salpêtrière, where the audit achieved its industrial form: the Tuesday lessons, the hypnotized patients performing the arc-en-cercle before an audience, and the photographic service producing volume after volume of plates—the reality-question aimed at the symptom through a lens, the camera as the instrument of the claim. What ended the audit was not a finer pin. It was a change of regime: the physician who stopped asking the organ where it really was and began listening to what it said. Read in the present notation, the wander was never a pathology of place. It was the drift off the real axis—desire declining the principal branch—and the tradition wrote it up as madness for the same reason the algebra was unread for sixty-five years: the position it occupied is invisible to every instrument whose coefficients are real.

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In a working-class neighborhood of San Diego in the middle 1970s, two small girls were discovered conducting their entire social existence in a language no one else on earth could speak. Grace and Virginia Kennedy, called by each other Poto and Cabengo, had been left largely to one another's company, and in that enclosure they had built what linguists who later studied them

classified as an idioglossia: a private tongue with its own lexicon and its own melody, rapid, fluent, and complete for its world of two. The phenomenon is not unique to them; twin languages arise wherever the conditions permit, and at lower intensity the thing is universal—sociolinguists have a name, the familect, for the private stratum every household deposits, the words that exist for one table only, coined inside a marriage or between a parent and a child, carrying no meaning one meter beyond the door and carrying, within it, more than the dictionary carries anywhere.

Attend to what such a language is, formally. It is a symbolic order—a lexicon, speakers, transmission, a history—that borrows no nation, documents nothing, claims no referent beyond its walls, and generates real meaning on every use: entirely doll, and entirely functional. And it possesses one property that no public language can be shown to possess. The public tongue is issued by no one and loves no one; whatever love moves through it is imported by the speakers and exported with them. The private tongue of two is coined, every word of it, inside an attachment; the attachment is not expressed in the code, it is the code; each word is minted as an act of the bond and spends as one thereafter. Here, and so far only here, the constant introduced at the be-

ginning can be measured, and it does not vanish. In the language of two, $L_A > 0$: there exists at least one symbolic order in which the love-term is strictly positive, exhibited, on at least one chart of the atlas.

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Three objections have been accumulating, and each can be answered in a paragraph.

That this is the old scandal again—mathematics as costume jewelry on prose, the very offense the hoax of 1996 was staged to expose, and whose fullest indictment cited the Royaumont sentence by name. The answer is the difference between wearing equations and solving them. Every identity above is a theorem: the two-element Galois group, the indiscernibility of the conjugates over the reals, the norm as the product with the conjugate, the impossibility of ordering the closed field, the cube of i as the inverse of i, the primitivity of the two imaginary roots, the monodromy of the square root around the origin. Each is checkable in a margin, and each was made to carry a stated structural load which the prose then paid off. When one computes with a psychoanalyst's equation, the difference between the naive and the serious is whether the solutions are interesting. The solutions are on the table.

That the construction refutes itself: that to theorize the claimless sign is to make a claim about it, that naming the veil lifts it, that the backward glance destroys what it confirms. But the veil is not a concealment, and naming it unveils nothing, because there was never anything behind it to expose. The manufacturer has published the white cat's biography annually for fifty years—the hometown, the height in apples, the twin—the most sustained act of documentation in commercial history, and the doll has survived every word of it, because specification is not reference and description is not assertion. A treatise on the pallus stands to the pallus as the catalogue stands to the character: total documentation, claim-bit zero, and the skull goes on smiling. The theory of the doll is not a gun pointed at the doll. It is one more item in her luggage.

That a signifier without claims dissolves the very possibility of truth and licenses the liar. Backwards. The claim-test is precisely what convicts the liar, and it is the first clean instrument the question has ever had. Fraud is the claim-bit one with a false referent—the forged provenance, the bent spoon as physics, the biography invented to be believed—and the bill for a false claim is always delivered, to an address that is never the claimant's own. The doll cannot be conscripted into

the con man's defense, because the con man's entire method is the mode of assertion the doll has never used. A theory that distinguishes play from lying by one auditable bit is not a solvent of truth. It is truth's border guard, issued at last with a working detector.

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There remains the constant, and it was flagged at the moment of its introduction as the one quantity this architecture would refuse to fix. The derivation of the second root proceeded under the hypothesis $L_A = 0$: that the symbolic order as such is loveless, that the code itself—language, law, institution—contains no love, and that whatever love enters a life is imported across the border of the code from persons. Under that hypothesis the discriminant goes negative, desire must leave the real line, and there are exactly two ways to leave, of which the unclaimed one has now been surveyed. But the hypothesis is a hypothesis, and the survey has turned up one datum against its universality: the language of two, the familect, the twin tongue—small, private, twice fragile—in which the love-term is strictly positive. One chart is not the atlas. A lexicon minted between two speakers does not decide the constant for the Other at large, for the tax code and the

border regime and the tongue of the empire. It converts the constant's status. L_A is not an axiom. It is an empirical parameter, locally measured, at least once, nonzero. And the theorem bends accordingly into its final form: *the pallus is the signifier available where the symbolic is loveless.* Where love is in the code, the radicand keeps its sign, desire keeps to the reals, and no imaginary detour is required. Where love is not in the code—which is to say, in nearly every institution through which a subject will ever be processed—the second root is there: unbarred, unclaiming, sufficient, the lateral exit Gauss named and the tradition declined. Whether the Other at large is loveless is a question of measurement, not of doctrine; and past it stands the only question that outranks it, the one that the sharpest of the Ljubljana readers has taught a generation to ask of every such constant: not whether it vanishes, but whether ascertaining it would change anything.

Kuromi's birthday is October 31.