

## Letters From Incompleteness

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## Letters From Incompleteness

### Cover Page Footnote

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# Letters From Incompleteness

Jonah Howell

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*March 21, 2020*

*Dear Ruby,*

I walked to town and picked up a few books before we went into lockdown, and with the help of a biography of the mathematician Kurt Gödel, I think I have deciphered the reasons for my inner fracture.

His idea, when he was my age, was that no logical system can prove its own consistency and completeness at the same time, for two reasons: First, that there is always some formula in a system that isn't provable in that system—namely, the formula that says, “I am unprovable in this system.” If you proved it, it would be false. If you can't prove it, you have proven it, so it's false.

Then, second and more obviously, no system can formulate a proof of its own consistency because that would require bringing in reasons from outside the system to justify the proof.

So, to generalize his arguments, I can't glue myself together on my own. I plan to adjust to your time, to formulate all of myself to you, or to some future phantasmal version of you, but even as I do that, I see quite clearly that I am nothing but a collective being that wears my name. There has to be something outside that collective that glues it together.

I fear that, by the time I have the chance to present this to you, there will be no coherent thing left to present it, but only a fractured crowd. Before I went into lockdown, my parents told me to pray. I read the Bible for a while this morning, but I've already got most of it memorized, thanks to a fundamentalist upbringing, and all it taught me today was that God's got the same problem.

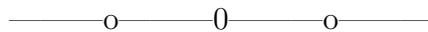
I won't go into specifics because I know you were raised as an atheist, but the only consistent reading of the Bible proves that God is terrified of himself:

He claims to be everything. The phrase he uses is that he's the "Alpha and Omega" and everything in between. But he's a rabid hydrophobe. He spends the whole Bible trying to fight water. He floods the earth to get humanity on his side, then when Jesus comes, he spends his time turning water into other things and showing that he can walk on it until, at the end, somebody stabs him in the side and clear fluid comes out, and God realizes that if he contains everything, he contains water, too, and he goes nuts.

In the end, he's a raging alcoholic, and he drains all earth's wine, and he's constantly stomping on new grapes, until finally, after the Apocalypse, he destroys the whole concept of oceans, and there's nothing like water left but a decorative stream made out of crystal.

If an all-powerful being can't deal with his own multifariousness, I have little hope for myself.

Although, now that I think about it, I have no way to prove that my consistent reading of the Bible is complete. A glimmer appears at the end of the metaphorical tunnel, though I cannot fathom its length.



*March 22, 2020*

*Dear Ruby,*

I repeat things, I know. I dwell upon the most insignificant points of reasoning. I contradict myself, and then I contradict the contradictions, and so on and so forth, and so forth and so on, and so-so, but ever forth and on. I know, I know.

But I also know that you see my method: My memory is fading, even now, at the beginning, and reason builds atop memory's foundation. There is no a priori, regardless what the philosophers say. When they say, "This is true *a priori*, by its very definition," what they actually mean is, "The reasoning behind this judgement is so deeply planted in me that I cannot see its roots." A priori is a cop-out, a statement of impotence, of the inability to say the actual truth, which is, "I don't know."

The mathematicians have known this since 1931, when the incompleteness theorems were published. They say, "This is true a priori, if you argue on this or that set of premises."

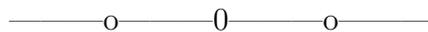
This man, Kurt Gödel, what he really did, over and far above any academic math whatever, was that he gave us each a choice: Either accept that you cannot know, and go about your life in constant risk—that is, stare the possibility of death in the eyes—; or, on the other hand, delude yourself that this or that system of reasoning is watertight, and retain the old securities.

Each approach has its merits. But it is clear which one Kurt himself chose; he killed himself for his uncertainties. I'll explain later. Now is not the time: For one, my strained emotions have attached divine significance to his death, and I am not prepared to discuss it. For two, I do not understand it.

As for me, myself, on the question posed two paragraphs ago, I have no real choice, I fear. I was raised in the Bible—not on the Bible, right, but precisely in it—and on the associated maxim that everything that is true must be provable. This is counterintuitive, I know, but those atheists who oppose Biblical doctrine on the grounds that it is either unprovable or contradictory are nothing but bitter Christians, recasting Christianity's own logic against it like cantankerous children who attempt to overturn their parents' rules on their own basis. The Christianity in which I grew up was a strict logical system: Either an idea can be supported upon a Biblical basis, or it is false.

I have worked for years—since I was sixteen, to be exact—to dismantle the traces of this Christianity in myself. But I cannot dissolve that fundamental system: When I find a text that smacks of divine inspiration, of real and unassailable truth, I cannot resist: I fall into it head-first, and I cannot believe what is not, on the basis of my own maxims and my own experience, provable.

And so, when I first read Kurt's theorems, my entire experience fractured. I saw immediately that the only actual atheists are the followers of Hassan I Sabbah, those who believe that "Nothing is true: Everything is permitted." This is, I believe, the first great revelation provided by my newfound torturous solitude: I am not an atheist. It only remains for me to discover the identity—or lack thereof, or something in-between—of my god.



*March 23, 2020*

*Dear Ruby,*

When Kurt Gödel died, he weighed seventy pounds. I wonder what that would look like on such a tall man. Seventy pounds. He was, I believe, near six feet.

Several years earlier, he had presented Einstein with a birthday present: A solution to the general relativity equations that, while mathematically correct, allowed for the possibility of backward time travel. Can you imagine anything more cynical? Anything more optimistic?

I reconsider: It is not the seventy-pound endpoint that is significant, nor is it significant whether Kurt began his decline at two hundred pounds or at one hundred fifty. He ceased to eat when his wife was admitted to the hospital, imagining that anything she didn't give him would be poisoned. I wonder, then, whether he came to this decision immediately, or whether he came to it after, say, a week of careful reasoning. But, on second thought, that is not significant either.

Once he had come to the decision that eating in her absence could not be justified, I wonder how he saw that decision, in retrospect and in circumspect, when he had lost twenty pounds. When he had lost forty. When he had reached eighty pounds, and he could place his fist into the indentation of his iliac crest. I cannot see how he justified continuing his starvation: At some point, he must have determined that the risks of further starvation outweighed the competing risk of poisoning.

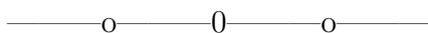
And so, as far as I can tell, there are only three possibilities, the third of which contains two sub-possibilities, which I shall list in ascending order of likelihood.

1. That he could not, for all his fame as a logician, think logically with regard to himself. Regardless his skill at manipulating generalized sets and symbols, he remained to the end convinced that poisoning was a fate worse than death, or that its death would somehow be different from that caused by starvation, or that starvation would not kill him, while poisoning would.
2. That he believed, on the basis of the calculations he had given Einstein, that time is not nearly so linear as we think, and that it might take any number of other shapes, like closed loops, or simultaneous blocks, or others of which I have no knowledge. Thus, his death may have been a bidirectional conclusion, so that he no more killed himself by starvation than I kill him by writing about his death, or it may have been simply one terminus within a multiverse, so that he would continue to live in any number of other possible worlds, or it may have been the midpoint of the time-curve that constituted his life, such that the curve actually ended when he was in his thirties and began at birth and death, or any number of other possibilities of which I cannot think. In any case, his death was not the linear endpoint that death is commonly held to be, and so he did not fear it, but simply feared poisoning, irrespective of its alleged linkage to death.

3. That, knowing what he did about the fundamental incompleteness of every logic, he was incapable of proving that either life or death held any definite value at all, just as he was incapable of proving that any particular action would or would not lead to life or death or both or neither, just as he was incapable of proving anything, or setting out to prove anything, without being haunted by the knowledge of the inescapable incompleteness of whatever system he intended to use to prove it. And so his wife, Adele, was all that allowed him to justify any action whatsoever, for she introduced a voice outside the closed system of his own body and thus allowed him to achieve, or to approximate sufficiently for practical purposes, completeness. Therefore,
- (a) He decided that, in her absence, he could not prove to himself the efficacy or lack thereof of any action whatsoever, so that the good of eating was just as provable as the good of not eating, and the good of dying was just as provable as the good of not dying. This would extend to all actions, not just eating, and so, in this case, he would simply have sat, immobile, or would have walked aimlessly to and fro, or side to side, or to and side, or side and fro, for as long as it took for him to wither to the point that hospitalization was necessary. But there are two problems with this theory. Firstly, that he would not have been able to drink, either, and so he would have died before he had shrunken to seventy pounds. Secondly, he would not have phoned the ambulance in the end. He would simply have sat, immobile, or would have walked aimlessly, until he went unconscious, and he would have been found, sitting or lying, some days later.
  - (b) Thus it is most likely that, in Adele's absence, he felt all the unbearably heavy futilities implied by (3) and the connected (3a), but he knew that, despite these, starvation would bring death just as reliably as poisoning, if not as quickly. Speed was of the essence. He felt these futilities, and he felt that they were unbearable, and he realized, in a stardark flash, that he and Adele had become old. He had lived an extremely healthy life, and he was an astoundingly active man for his age, and so he calculated that there was a chance, not a high chance but a fair to middling chance, that he would outlive his beloved. He sees now, now that he is alone, what that would be like. With her in the hospital, and him without a car, and his only close friend, Einstein, recently deceased, so that he is unable to visit her without being admitted to the hospital himself, he sees, for a moment, how it would be to outlive her. It is futile and unbearable, in its heaviness, in its lightness, in its neither—that is, in its incompleteness.

And so he begins to starve himself, both because he cannot be sure that his food will not be poisoned, and because he knows, if he starves himself for long enough, he will be admitted to the hospital. The average person can live for three weeks without food. He knows this, as well. He still drinks water, for dehydration is a far more volatile state. He has not factored into his calculations that, until now, he has lived on a diet mostly of butter and purees. And so he gives himself three weeks, determining that he will call for an ambulance at the midpoint of week two. Once he has arrived at the hospital, he will recover quickly, supplied with intravenous nourishment. After he has recovered, he will go to Adele's room, where he will sleep in the chair next to her bed, and he will be content to put up with that comparatively mild discomfort in exchange for the comparatively inestimable benefit of her company. And so he attempts to cease from eating. The endeavor ravishes him, at first. He cannot resist: He eats a spoonful of butter. His stomach feels as though it has become a vacuum. After some days he feels the hunger in his mouth and not in his stomach, and he eats another spoonful of butter. He gnashes his teeth in a panic: He has confounded his calculation. He does not know whether he should count two and a half weeks from when he began to try to starve, or from his last spoonful of butter. His cognition already suffers from lack. It is of the utmost importance that, when he calls for an ambulance, he should be in such bad shape that he must be rushed to the hospital. He decides to count from his last spoonful of butter. He counts regularly, at first, on a calendar. His cognition suffers, and he suffers, from lack. He begins to doubt his tally. He has no way to check it, for there is no control-calendar, no other calendar but the tallied, which is suspect. He begins his tally again from a carefully selected date. He cannot remember what day it is. He selects carefully, sloppily, from lack. He dreams of butter, or he dreams he dreams, waking or sleeping. He cannot remember what day it was. It was, perhaps, yesterday. He begins his tally again, from another carefully selected date. He sees that his hand is shaking, that it is thinner than he remembers, and he considers this a sign, and he selects another date, carefully. He dreams again of butter. The light that comes through the window is like butter. He dreams of Adele, and the dream ends far too soon, and he awakens and attempts to return to sleep, but he cannot, or he was not asleep. He returns to the calendar and finds it full of tallies, different numbers on different dates, and he cannot select a new date, for lack of criteria. If it has been so long, he thinks, then I must call the hospital.

He cannot remember where the phone hangs. He decides to sleep, to regain his cognitive acuity. He awakens to the smooth voice of a paramedic. He is terrified. So it's you, he thinks, who would poison me. I did not call you. He attempts to say this, but he finds that his mouth will not form the words, so he decides that he must be dreaming, and he closes his eyes and returns to sleep. Flashes, flashes. He thinks, finally, I must be getting close.



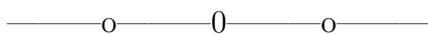
*March 25, 2020*

*Dear Ruby,*

What makes me weep so? There is nothing saddening here. Perhaps it is a prion disease. I have eaten very much beef in my days. I do have many of the signs: Insomnia, confusion, amnesia, unintended but not always unwanted muscular contractions, verbal redundancy, insomnia. Nothing has changed since I have been here, but for the fact that things have ceased to change, aside from my aptitude for push-ups, and the number and quality of words in these letters, and the temperament of my personal Circadia, the trio of which, however, as I have said, or as I believe I have said, is circular, or rather constructed like a Möbius Strip, or a clover composed of a single looping line.

Maybe that is sadness: Stasis. Oh, Lord. It must be a prion disease. Are you my Messiah? Most likely I suffer from variant Creutzfeldt-Jakob Disease. Tainted meat, tainted love, tainted Jove, all attained, unpainless. Gödel was right, I see, that time is not always linear. Loops, verbal redundancy, insomnia. My tally is out of joint, tallies pour from me like water, wishful well. In blocks of years, all at once. Amnesia amnesiates recursively. Or it is perhaps unwavering and fixed, and my confused perception causes its inconstancy. I wouldn't swear to it, any of it. I am not so mad as that.

You were always smarter, and I imagine that you will retain that title until I see you again, or even, if you do not, that you will retain the character without the title. The latter appears more probable by the day. If I have learned, say that I have learned the deep-rooted evil of titularity. Or say that I have learned. Or say, say anything. That would suffice.



*March 28, 2020*

*Dear Ruby,*

I have spoken ill. Kurt Gödel could not have been so negligent as to lose his tally. I may be so negligent; I am, according to all evidence; I doubt that I could compose a plot as tragic as the dates that head these letters. But it is far too common and too grave a sin to impose one's own faults upon the one one studies. Forgive my anachronism.

I propose, then, a revision: Kurt did not simply lose track of his tally. He overestimated his own strength. He supposed, I can survive for precisely this amount of time before I am too weak to do anything about it but die. He supposed so on the basis of several considerations, which I shall list in ascending order of importance:

He had fled almost the entire circumference of the world to avoid enlisting in the Nazi Wehrmacht.

Then, he considered himself above the average in all ways, on account of his extraordinary mind, observing rightly that the mind influences the body precisely as much as the body influences the mind, such that he could simply will himself to strength, like Gautama in his cave.

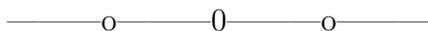
Lastly, and most crucially, he overestimated the effects of love. It pains me to say it, and I hesitate to write it, and I almost stopped myself from doing so, but there it is. He must have assumed, I can hold out for longer than should be physically possible because my longing for Adele will outbattle any hunger I may feel, for already, now, one hour after her departure, my desire for her is stronger than anything else within me, or at the very least stronger than anything that I can detect within me.

He did not anticipate that love acts like the gravitational constant, that the radius from lover to lover is crucial. I would rather not accept such a thing, either. And so, when he finally entered the ambulance, and he saw the shock on the paramedics' faces, he must have felt that he had miscalculated.

What must the looks on these paramedics' faces have been like, seeing this once strong and renowned man reduced to a seventy-pound skeleton, and of his own accord? What revelation must they have received as to the unbearable frailty of their own minds? I shudder to think what happened to them after they had delivered him. There is no research on them, so far as I am aware. This is probably for the best.

For, if the greatest logician of the last several centuries may fall prey to love, what hope is there for the rest of us? The logical mind, what can it claim? At a fundamental level? A brittle scaffolding, a gingerbread house for the shivering soul.

I fear that this isolation will last quite some time.



*April 2, 2020*

Dear Ruby,

My apartment shrinks every day in all four dimensions, which is to say, in the fifth. Habit has drawn a series of spatiotemporal constraints around and between commonly used areas—the desk, bed, chair, the spot on the floor where I do my push-ups, the toilet—such that I walk at all times through one of those laser-mazes like you see in spy movies. Time expands and contracts: I experience everything I have ever known, which set is constantly reshuffled; but long-term memory, to me, now means a few hours. I have scarcely awoken when it seems time to sleep; dreams run at dizzying pace, and there are a multitude every night, all jockeying for position, dreams of old football coaches and primary school friends and you, dreams of you, but you are singular and plural, and you are someone else and yourself, and we snuggle.

I dream of dreaming next to you. Sleep is not sleep. Waking is not waking. I live upon a slow continuum from hypnagogia to hypnopompia, with the little in between occupied by printed words, my own or another's, and eating, which is no longer eating, and push-ups, which have become a test of patience rather than of strength.

Writing has become an exercise in and out of limbo. It felt so tangible, so magnetic only a week ago, when it was not my only active tie to you, to my language. Now it is a realm of dreamy desperation. There are times when I write that you begin to materialize. I hear you laugh. I see your lips and the theatric jumps you do when you're happy or mad. And then you slip away. I become more desperate, but you will not come.

Do not worry: I think I am stable. But I imagine that my writing, this maddening chase, will become quite strange.

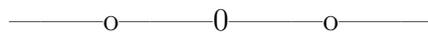
O memory, memory. I say, "Speak!" As in the cradle. Madness again pours forth, in both senses, and others. I hear the *musica universalis*, mythic melody of the planets' rush. It is cacophonous, mercifully dim, filtered through layers of wall and door, and with my poor hearing. I do not know if it is poor. Cannot. I stretch, and the motion is pure, is enclosed, incomplete, in both senses and others.

The doctor who treated Gödel, who was all but dead on arrival, and the nurses, and the cleaning staff, they must have imploded, or regressed, which may be the same, what with the difference in pressure. I remember everything of nothing. I thought I had lost it all. I was five years old once, I remember, and four, and so on. How sad a prospect. I fear sleep, or, more accurately, I fear its lack, its teases, the cresting wave of hypnagogia, the visions I will have to see in the hours before I drift off and in the dormant hour after I awaken. You. Among others, countless, uncountable. A cantor at mass in Baton Rouge. Beautiful, the voice. A wino in Harvard Square who had learned to travel back and forth in time. Dreams, dreams all, overlapped, phantasmic. You are always there. You and your doubles. You haunt me in February, in May. I am a reprehensible optimist. I despair: Misery is company. Reprehensible, reprehensible melodrama. The music of the spheres: Do you hear it? Mine eyes have seen the glory: I dream. Dream all. Still nothing—or, rather: still, nothing.

I have not moved in a week, not really. I am fine. I do not cough, no more than before. I sit beneath an upturned boat, so to speak, for shade, and spin my yarn. I dream of city streets full of stray cats, and the starving pigeons that eat the cats, and the conniving crows that eat the pigeons that eat the cats, and the homeless Davids with slingshots that hunt the crows that eat the pigeons that eat the cats, and so on, all the way up to God.

I'm reprehensibly sappy, I know. It is not unconsidered. Sap makes amber, and amber preserves. I remember so much. May the amber preserve that of me which you love.

Amen.



*April 10, 2020*

*Dear Ruby,*

Gödel was wrong. That is, he wasn't wrong, but he was only partly right, as he himself must have predicted. The axiom that there can be no contradiction, key to his incompleteness theorems, is no less questionable than any other.

But it was sufficient for its purpose, and that is critical. He used it to prove that no logical system can be *universally* complete, but that proof itself implies another type of completeness, a functional completeness. His set of axioms was exactly complete

enough for its purpose, and so it set its own conclusions, his theorems, on wobbly ground. Why would a set of axioms ever need to be more complete than necessary? I fail to see any use for universality. A comforting illusion, maybe. A megalomaniac power trip.

I'm speaking (writing [typing]) in riddles.

For clarity: If the statement "I am unprovable in this logical system" is provable in that system, Kurt thought it must be false. If it can't be proven, he thought that made it true, which proved that the system had unprovable true statements and so was incomplete. Either way, if the sentence "I am unprovable in this system" can be *formulated* in some system, that system proves its own incompleteness.

But it is not self-evident that the provability of an unprovable statement is unacceptable. It is only true if we add an axiom to our system—namely "A contradiction implies that one of the contradictory terms is false." But what if both are true? I am in a cube, for instance. I am also not. A quark, unobserved, has both positive and negative spin. You are here and not here. The list could go on forever.

Whenever a mathematician, or really anybody, accepts the axiom that a contradiction cannot be accepted, that person does one of two things:

1. That person requires another axiom to qualify this judgment against contradiction, the same way the judgment against contradiction qualifies other axioms. If no logical system can be consistent and complete in and of itself, this new axiom requires another axiom. And so on, to infinity and beyond, way beyond. You see how this might be unpractical.
2. Or that person restricts their logical system so that it is only valid when judging objects that do not permit contradictions. That is, they rule out a long list of possible objects, and so their system cannot claim universality.

In either case, we're really sprinting toward nowhere. The only option is to get rid of the idea of universality.

What I mean is when I talk about Kurt and why he died, I'm really talking about myself by imagining myself in his circumstances. There's no other option. I can't put myself in another person's shoes. I can buy a roughly equivalent pair and try them on, and I can walk roughly twelve steps in them. But I can't go any further.

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Every time Kurt looked at his calendar, he would lose track. He had no option. If he had attempted to hold the dates in his head, he would have come across the same problem, would have been able to chart them with ease until he thought of them, at which point all would be lost, and he would be afloat on a sea just as unchartable as before he thought, that is, a sea whose past movements are chartable, but whose immediate present is always just beyond the grasp of cognition. See it churn, always at the edge of chaos, always resolving out of chaos just before it approaches the edge again.

Kurt's doctor wrote that he died of "starvation resulting from personality disturbance." This is an appalling lie, but an understandable one. More on the doctor in the next section. Kurt actually died of time, or of the cognition of time. "Natural causes" would be an understatement. He died of the search for completeness, the belief in universality. He thought that a calendar could chart the kind of time he was living in. He thought—against his own calculations—that time moved in a predictable line. He died of that. He thought that he could approximate completeness in the absence of his Adele. He died of that, too. He thought, and he thought that was a good thing.

Every time Kurt walked to the calendar, he was killing himself. He must have known this. He was the one who produced the theory.

He must have known.

\*\*\*

Kurt is wheeled in on a gurney. It's a teaching hospital. The doctor believes himself a god of gods; everywhere he sees people that he has trained wielding power over life and death. He sees Kurt, emaciated, I'm talking bones on bones, visible tendons connecting his shoulders to his chest, the folds of his neck like a furled paper fan. And he thinks, No problem.

He reads vitals. Bad, but precisely what he expected. His system is airtight, he thinks, and Kurt can't tell him otherwise. Doc doesn't even have any pathogens to fight. It should be a cakewalk—that is, lots of cake, or its intravenous equivalent, and then some wobbling walks.

He prescribes IV fluids and macronutrients. He tries to convince Kurt to eat some pureed food, small amounts at first, so that his unaccustomed stomach won't reject its savior. Kurt refuses, or in any case he doesn't consent. In go the IV tubes. Kurt is a tangle of lines and curls, mostly covered by white sheets, face a maze of bones

and atrophied muscle, nonetheless angular, stretched, lit from behind by flashing reds and greens and deep yellows. The window provides negligible light. Imagine the shadows.

Doc returns to his office and lights a cigar. No one cares. His window is open. He kicks his feet up and waits. His next patient visit is in twenty minutes, someone with chikungunya they picked up on a vacation in Costa Rica. Treatable, he thinks, but not as easily as that hungry guy.

Down the hall, Kurt opens his eyes, briefly, and sees the IV tubes that curl out from his arms. They are sore. His veins are small, spidery beneath papier-mâché skin, and the doctor missed several times with the needles. Tracing the tubes with smarting eyes, he groans, almost inaudible. He has miscalculated. The curves. The loops.

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Adele in her room several halls down, being treated for respiratory illness—I wonder whether they told her he was there. And what she said, or what she coughed, or what she wrote, knowing that she could not say and would cough.

I wonder, then, whether they told her when he had died, or whether they waited until she had recovered, because the stress might weaken her immune system. She was in the hospital for six months. For how many of those months was Kurt in superposition, both living and not, both there and not? And when she found out he had died of her absence, ultimately, at the root of it all, how did she live with that, in her final years, with that divinity?

She was a dancer in Vienna, when he met her, before they fled around the world and across the Pacific from the Nazis. I cannot imagine that she ceased to dance.

Half a year before his death, I imagine the two of them in their living room. There is a blue, upholstered couch before a wide brick fireplace. Its wooden legs dig into thick shag carpet. To the right of the couch a wide window. Paltry sun, enough to cast the room in gold. He sits on the couch, cross-legged, with a notebook open on his lap, as before him she dances, in slow twirls and dips, legs unable to lift as high as they once did, and he scribbles angles and trajectories without looking down, unable to look down as he once did, and when she has done with her dance, she sits beside him and exclaims, looking at the notebook, Oh Kurt, you've made me look like I'm twenty again, and he blushes and leans his lean head against her supernaturally straight shoulder, and he says, The numbers cannot lie.

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I imagine, he lifts his head from her shoulder. He says something utterly incomprehensible, and she laughs and says, Really Kurt, that language again? He responds, If they're all incomplete, why not? What better? If it fits us two? If it is ours? It must be superior, for our purposes, to the standard speech. It is so long since we were in Austria.

She says, I cannot argue.

Such ambiguities used to annoy him. Now they are a relief.

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Kurt lay in his bed, and he did not think. He had driven himself past thinking: When he saw the curve of the IV tube, he knew he had outplayed thinking, that it had betrayed him, or that he had betrayed himself with it. He spent his last days in dim-lit bliss, incomplete, even shattered.

Doc had no idea why he could not revive him. When Kurt finally died, Doc's visions of his own godhood burst into millions of airy shards. He became a functionary. He no longer promised patients that he could treat them. He looked at a clipboard and said, There is such and such a chance, based on statistical analysis, that you can be treated. Many people died because of this.

Kurt died at night, this much is certain. He did not think anything but went out without so much as a questioning squeak.

Adele had trouble sleeping in the hospital. This is also certain. When he died, she lay for her second hour in that limbo between wakefulness and sleep, and she envisioned herself dancing in their living room. In the vision, her eyes were closed. She had no idea what had happened. They thought she was asleep. She always closed her eyes when she danced, so as to feel, with the fullest precision, the movements of her limbs. But she knew that he was only feet away, on the couch, cross-legged, scribbling without looking down, and this knowledge kept her rooted. She leaned upon it for balance, knowing that if she forgot for a second, she would fall.

They had always known this, as long as they had performed this ritual, this dancing and scribbling—that if she were not there, he would not be able to scribble, would not be able to perform the intense reason that fueled his scribbles; and if he were not there, she would not be able to dance, for she would have no balance, and she would fall as soon as she had closed her eyes.