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2006

ENERGETICA

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Winch Parts
Alex Lorman

Creation

Caroline Barry

There is something to be said for time apart, though this girl is too young to say it. If asked, she might say that she hates her brother. He always runs through her sand castles and so do the other children on the beach after she's spent hours working on them. Importantly, sand castles only stay up when the sand is damp, and she wants to trace patterns with shells on them. The space under the lifeguard stand, dark and cool, is like a fort; the sand stays damp and doesn't itch her legs. It is as close to being in a room as she can find here. At that age, five or maybe older, the idea of being alone, of being separate as a goal unto itself doesn't occur to her once. Her father says that his daughter thinks concretely but since she is always skinning her knees on concrete she doesn't like how that sounds. So the girl says she thinks rocks: smooth and tough and all different and just what they look like and nothing else.

She crawls under the lifeguard stand when the lifeguard is looking away from her. He watches the women in bathing suits, and she can pick out, easily, which will make him look. When one of them walks by, or swims (though she notices they don't swim much) the girl runs underneath. She is glad she is small enough to avoid being noticed.

She sits for a moment. She looks at her brother and father in the ocean, not swimming, as they don't, but trying to jump over each wave without getting their heads wet. Her father has to lift her brother up sometimes. Her brother is starting not to let him do that. She jumps with them on some days, except she likes getting wet. She thinks about going underneath the waves, holding her breath, letting them carry her back to shore on her back. She thinks about the words "back to shore on my back" and likes them, since they almost rhyme and the "sh" sound is her favorite. She recognizes the arms that are lifting her up, and the voice too. The face is blurred.

sound. As she gathers sand together, building it up into walls and mounds, she says, softly "back to shore on my back, back to shore on my back, back to shore shore shore on my back, back to shore on my back."

The castle is a good one, since the sand is so good today. The tide is out, but the beach is damp enough for her bridges to stand up without waves coming close to overturn them. "Back to," she sings, "back, back, back." In the last few days she has perfected a system of making bridges by molding them slowly, carefully over her foot, before pulling it away as they dried. She sings as she does this too—"shore, shore, shore on my." Bridges are her favorite, and now she can make them. She wishes she could make a castle with only bridges but doesn't want to destroy the castleness of the thing. There are connections between all the towers and smaller buildings, going in circles around each other. Her castle is like a web. Each circle has circles.

The tide is coming in and she looks at where her mother is reading a thick book on a blue beach chair far behind her. Her mother likes to know where they are all the time. She likes to know where her mother is too. She looks at her castle thinking there should be more space under here so she can make it as big as she wants. She wants to make a city, or at least a town. She could make a village if she had enough time to do it. That's the real problem, time. Her parents don't like being on the beach late into the afternoon. If only...

"Hey, kid."

No.

"You mind moving, we need to move this thing."

A life guard who's too close, and all she can see is his nose painted white, and why do they do that anyway, and his hair is white blond, and he's too close, and she just finished making it, and her legs are starting to itch even here, and she didn't do anything, and he's standing on her bridge, the biggest one, the one that took longest, just standing on it, crushing it, for no reason, and she spent hours on that bridge, it was perfect. She's crying and hates that she is, but can't stop it. She cries and cries. Her bridge! Her best bridge! He had no reason to do it!

Everything's wet.

"What happened? What's wrong?"

She always hates when she's asked this. Nothing's wrong with her. But her poor, poor bridge! She sees where his foot was, how just by putting his foot in one place he made the whole thing fall. How's that part of the castle supposed to be connected now? That was the tallest tower. That sort of thing is important. Her best bridge! No reason. She's still crying. She feels worse than when her knees get cut up on concrete. She hadn't known there were worse things.

She made it. She thinks of something else she's heard: she *created* it. Created it out of nothing. There was sand, and she made something, and now there was nothing but sand again. He made her creation nothing but something he couldn't see to step away from. She shouldn't have bothered. Nothing is wrong with her. It's him, he broke it, broke her bridge, he killed it, he...

"He tried to kill me, he tried to kill me!"

She says it loud. She wants everybody to hear. He broke it. A part of her is wondering why she's saying this. Another part, a strange and harder part, wants to punish him. He deserves this. He looks afraid, starts talking quickly, saying he just asked the kid to move, they need to move the chair, the tide, all that. He sound so much like she does when she's scared, that her heart is warmed, if only a little bit.

Her mother laughs, so now she hates her mother even more than the lifeguard. Laughing at this. She cries harder the more her mother laughs at her, though while her mother is laughing she's also rubbing her back, saying nice things. She doesn't like how easily she is confused by all of them. Her mother says she understands—she will take care of it. She keeps crying, mostly because she does not want to be put down again.

Sitting near the blue beach chair now, her legs and arms and eyes are dry and she thinks the phrase again. "Back to shore on my back"—it is an almost rhyme she has created, and said fast enough, it becomes something like an almost song. Her mother is looking at her, but doesn't make her say anything. She doesn't try to think up a castle or even look at the sand, only out at the ocean, where the two types of blue never fully touch.



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Drawing for Freshman Laboratory
Katrina Dimitrijevic

Questioning Moses: An Essay on Book XI of Augustine's Confessions

Chelsea Batten

Length of days is subject to peculiar variation. Good days go by too fast, while a long day is one occupied with onerous work or tiresome people. But there also is a kind of day whose length seems to stretch into eternity, longer than any hard work could make it, rich with the rare goodness that I usually only realize in memory.

I grew up beside the Pacific Ocean, and the kind of day I mean is one that often starts just before noon, when the fog burns off and the waves begin to sparkle. The day must end well before the sun goes down, because if the kids are not in bed by the time it is dark, their weariness will make them unmanageable. The span of this day is only five or six hours if one measures it by a clock. I have stood out past the white water, submerged up to my neck, where the waves murmur as they slowly swell past, until they curl into slopes that shine like glass under the sun. I linger with my cold toes reaching into the dark, and the sun full and blinding on my face, waiting for the next set to take me into the shore. In that period, time stretches into both ends of infinity. How can I explain how it feels, the peculiar serenity of that moment? I know in that moment how long we have been there and how long we will stay, and I don't mind acknowledging that we will not really be there forever. I have the same peace inside as if we had been, and will be. I don't fear the day ending, even though I know that it will.

Such serenity is unique to those moments. And now I look at the prospect of writing about time and find myself growing frantic. I have read this book, the *Confessions*, several times now; I have read through it, and read over it, and read into it.

Though I am pleased to find that I can now understand St. Augustine's explanation of time, I do not feel any better about the burden that time lays on me. As Augustine himself said, "I have been talking about time for a long time....I am in a sorry state"

(R.S. Pine-Coffin, Chapter 25), and I feel myself in exactly the same state. The understanding of time does not console me or make me feel more capable of dealing with mortality, as I hoped that it would. I can only claim that I have spent much time thinking of time, and now I must spend more time refining the articulation of my thoughts. The only good that I seem to be serving anymore in this occupation, is that of fulfilling an academic requirement. But that is where Augustine begins, as well—with a requirement, and one much more stringent than mine.

God's calling on a man has two parts; it involves a general requirement of holiness and right living, as well as a specific direction for that man's particular energies. The mystery inherent in calling is that God—fully powerful and unconstrained by time—places a demand on mortals to carry out His work. To say that He ordained this means of carrying out His will sounds true, but to say that He needs men to accomplish His will, as if they were His only resource, belittles His omnipotence and His deity.

Augustine says as much when he asks, "are you unaware of the things that I tell you?If you see them, why do I lay this lengthy record before you? Certainly it is not through me that you first hear of these things." (1) This question is not rhetorical. Writing the story of his conversion is his calling, but he would choose another occupation if he could—"I have long been burning with desire to contemplate your law..." (2) As he writes his book, he feels time siphoning away his opportunity for this contemplation, this central desire, and it makes him frantic. "Every particle of sand in the glass of time is precious to me..." "I do not wish to allow my time to slip away by undertaking any other task..." "No moment of time passes except by your will. Grant me some part of it for my meditations on the secrets of your law." "let me drink you in and contemplate the wonders of your law..." (2)

There was a year in my life when nothing at all was happening for me. I had few friends, uninteresting work, no great joys and no great trials. Then I met a man who had just returned from a safari in the Serengeti Plain, before which he had been filming a documentary in India. He was rich and at leisure, and seemed full of his own abundant existence—full enough, at any rate, of advice for frus-

trated young women. He told me, "the only thing holding you back is you."

But he was wrong. I was never without plans for escape from my drab life; I never lacked the will to rebel. What held me back was a belief that I could not shake off, that God had called me for that time to stay where I was. I often wished that I could shake it off, but there it was. For I do not much fear experiencing pain, but I am in terror of being stagnant. When I worry, it is seldom over what will happen; instead, I worry about *when* anything will happen.

Like Augustine, I have a central desire for how I would like to spend my life. He says to God, "Give me what I love, for truly I love it and this love, too, was your gift. Do not abandon what you have given me." (2) I believe, with him, that my central desire is planted by God—I did not ask for it, and certainly life would be simpler without its nagging persistence. How can I help concluding that this desire is also God's will for me? But as Augustine had not yet had his weakness swallowed up in God's strength, I have yet to fulfill this thing that is my desire and God's calling on my life. So I live in frustration, submitting to God's demand of my obedience, submitting to a calling that seems to have nothing to do with my heart's fundamental desire. What does God do this for? Why did He give me a desire that He does not allow me to try to fulfill?

Augustine's response to God's intractability is not to insist on an answer. Rather, he seems as if he would persuade God by cajoling—"Listen, my God, as I tell you the cause of my longing." (2) He proceeds to meditate on the character of Christ as the efficient cause of God's will. Of all biblical metaphors on which to dwell, his choice is curious. "He is your Word, by which you have made all things....he is the one of whom Moses wrote." (2)

This provokes him to consider what a boon it would be to question Moses regarding the Son of God, to whom Moses attests in the first words of the Bible. But these words—"In the beginning God created the heavens and the earth"—seem sufficiently straightforward. The words indicate the interconnection of time with creation. Furthermore, as Augustine asserted just before, in accordance with the Gospel of John, time and creation came about through the ceiving

mary agent of God's will, the one whose Person most belittles the necessity of humans to carry out God's will. "He was the one whom you sent to find us when we were not looking for you, and you sent him to find us so that we should look for you." (2) What more could Moses tell him?

The point that Augustine dwells on is not the anticipated answer of Moses. Instead, he considers that Moses' answer would not illuminate his own understanding unless God mediated between them with Truth. And as God Himself is the Truth, then God Himself must mediate. As Augustine says in chapter nine, the Truth is synonymous with the Word. Again, we see that the activity of the Son is necessary to carry out God's will, this time in teaching the believer. What would be the good of questioning Moses at all?

The existence of earth and the heavens is in the "voice" that proclaims the truth of their being creation, for they could not have created themselves. But that truth could not be known by Augustine, either, unless God whispered it to him. Certainly there are many to whom God has apparently not whispered this truth. Why examine earth and the heavens, or even logic, when the answer can only really come from the activity of the Word? Why not merely ask for the illuminating Truth?

Quite often, one does make such a prayer. Quite often, one's prayer is refused, leaving us again with the intractability of God. Why does He confuse us, and then refuse to answer us?

To see how a man uses truth as arbiter in his own mind, Augustine makes a comparison to the mundane act of a craftsman. The craftsman takes things that already exist and uses his intelligence to direct him, his physical senses to transmit the idea, and tools as the means to work on his material. Finally, he consults the truth, "which presides there" in his mind, as to whether his desired effect has been carried out.

This process is described as being all very commonplace. A man judges of his own work according to his own idea. Is the truth by which he judges a truth of his own making, as well? He can compare the idea in his mind to the effect—the likeness between the idea and the effect is where the truth must come in, and there is little room for error unless the man is half-witted or willfully de-

himself. He may forgive imperfect likeness, as craftsmen will, because there is enough likeness to serve the purpose for which he began the work. If we think of truth as degree of likeness between the ideal and the effectual, there seems to be no room for relativity. Truth is simply the percentage. A moral evaluation may be relative; a numerical evaluation is not.

Let us compare this to God, the Truth, and His work of creation. Presumably, there is no difference between His ideal and His effectual. The percentage is total, the likeness perfect, between them. For this reason, we may indeed call Him the Truth. And Augustine seems to indicate that this is at least partly due to the tool, or channel, that He used for "this vast work" of creation. (5) Not having anything material to work with, "it must therefore be that you spoke and they were made. In your Word alone you created them." (5)

The idea of something being created "in" the Word is curious. If Augustine had said "by the Word," I would have taken the Word as being God's tool. But a craftsman does not make a thing "in" a tool. Augustine begins to examine the nature of this Word, comparing it to the voice of God that spoke when Jesus Christ was baptized. In that case, God worked within the creation, using words that sounded in time and then died away, to express His Word, "which is silent and eternal... far, far different from these words which sound in time... the Word of my God is above me and endures for ever." (6)

The Word in which creation takes place seems to be something like an agent with its own will, or sharing God's will—not lifeless as a mere tool must be. If it exists outside of creation, it must be changeless; thus Augustine can call it "eternal." If it does not require speaking, in the sense of a sound beginning and ending, we can consider it "silent." And if the Word is with God, and is God, as the Gospel of John states, then the Word must be whole and perfect as God is.

There we must confront the nature of the Word being uttered all at once and eternally, for time consists of beginnings and endings. Here Augustine coins a synonym for the Word, to illuminate its character. He calls it the "eternal reason," which dictates mortal beginnings and endings. It works in time. An example of this is the

Word subjecting itself to the laws of time and earth, making "himself audible to the bodily ears of men, so that they should believe in him and, by looking for him within themselves, should find him in the eternal Truth." (8)

So the Truth, the arbiter of men's minds, receives the Word's communication and compares that effect to some ideal in their minds. Is this ideal, to which the effect is compared, one of desire? Some proof or reason they longed to see, a need they longed to fulfill, a power they hoped to possess, a glory they hoped to witness? Whatever it is, the effect of the Word matches the ideal within men's minds. Thus they "find him in the eternal Truth"—in the total percentage of what they were looking for.

Here, at last, Augustine gives us the identity of the Word. The Word is "your Son, who is your Strength, your Wisdom, and your Truth." (9) A creation made "in" Wisdom is one governed by order and will. A creation made "in" Strength attests to the power that enforces that order and will, and even the right to do so. A creation made "in the Beginning" means it was made within the bounds of that period of time. So, a creation made "in" the Truth can similarly mean within the bounds of Truth, which governs not time but satisfaction.

Without a creation made in Truth, men would not question the meaning of their lives, for there would be no answer. It is plain enough, from life experience or from reading the Stoics, that the appurtenances of life are not themselves the meaning. They point to the Truth in which those accessories are made, and in which men themselves are made. And the Son is the embodiment of them all—Strength, Wisdom and Truth.

Rightly should Augustine shudder as this mystery unfolds. I too shudder at its inexorability. When the creation is sublime as this, it seems a meager complaint to say, as Augustine does, "I cannot sustain my blessings." (9) But that is where I began from. Knowing that my murmurs are piteously insignificant does not make them go away. It only stifles them.

Augustine says "I do not wish to let my time slip away by undertaking any other task when I am free from necessity of caring for my bodily needs, of studying, and of giving to others the service

which I render them, whether it is my duty to give it to them or not." (2) But with the elusiveness of time, I feel sometimes that even indulging such necessities allows time to slip away. Even with a spartan resolution like Augustine's, my sense of urgency cannot be assuaged. Is there any way to escape frustration at time's escape? Even when I am devoting my attention as fully as possible to what is at hand, and even when what is at hand is exactly what I wish for, and I know that it is what I wish for, time itself intrudes so that I cannot sustain my blessings.

As an example, I can tell a story of something that occurred last summer. It is a hot, beautiful day in July and I have taken my eight-year-old brother and two of his friends to the park. We have run around all afternoon, exploring museums and climbing on sculptures and racing each other across the amphitheatre. The boys and I are on the brink of exhaustion, slurping ice cream off wooden sticks, when we see that the fountain is playing at the other end of the park. The boys shove their ice cream sticks into my hands, strip off their shoes and their shirts, and jump into the fountain's basin with twenty or thirty other kids. It is all gloriously messy and potentially unhygienic, so naturally I must stand back and look prudent, as they kick water at each other, and catch water from the fountain jets in their mouths, and splurt it back out in each other's faces, from lips still sticky with ice cream. And me? There is nowhere in the world that I would rather be, unless it was in the fountain with them. I put away from my mind all thought of how I'm going to get them dry enough to take home without staining the seats in my mom's car, as well as the thought that it is getting later in the day and I'll be vilified by all the parents for letting their children eat ice cream so close to dinnertime. And if somebody gets sick from swallowing dirty fountain water, I will be the one liable. I don't let any of that bother me. Instead, as I feast my eyes on the careless beauty of their childhood, I feel a cold hand creeping into my warm thoughts. That word, "childhood," does it. This moment will not last. It has not lasted for me—here I am watching, instead of playing in the fountain with them. The day must end, so must my brother's childhood, and his simple happiness, and his perfect trust in his older sister. I am assailed by the fear, *am I paying enough attention? Am*

I keeping this perfectly in my mind so that I will always have it?

I know that the moment is contraband, stolen from circumspectness as well as time. Maybe that knowledge distracts me. Sometimes, just knowing that time is there is enough for it to win despite my best attempts to thwart it with memory, or to extend it with diligent, relentless attention to the present. I concur with Augustine's lament, "but now my years are but sighs." (29) We cannot partake of eternity with impunity. We don't belong there, and what we can enjoy of it, we must enjoy as interlopers.

We must have time because we are created—we must have a beginning and an end. God places a call on us, a demand as to how we should act in time, and in doing so He shows us something of who He is and how He works outside of time. In the beginning of this chapter, Augustine said, "by setting [these things] down I fire my own heart and the hearts of my readers with love of you, so that we may all ask, 'Can any praise be worthy of the Lord's majesty?'" (1) Our mundane work leads us to trust the Truth, which He has put within us, so that when He communicates to us by the Word subjecting itself to time, Truth will make us believe.

We receive blessings in time, such as the love that God gave Augustine, and the summer day He gave me with my boys. They are troubling gifts because we cannot keep them. Augustine says "in endurance we await the fulfillment of your promises." (9) Why does it please God to make His creatures wait? Put another way, "why is it that what He has created is not also eternal?" (10)

It is nonsense that anything created should be eternal. That question is one asked by men who are trying "to savor the taste of eternity" but are still obsessed by time:

[T]heir thoughts still twist and turn upon the ebb and flow of things in past and future time. But if only their minds could be seized and held steady, they would be still for a while and, for that short moment, they would glimpse the splendor of eternity which is for ever still.
(11)

In that summer day, I was doing my best to seize my mind and hold it still, trying to grasp the stillness of eternity for a moment. I

almost did it, but the consciousness of time intruded. Augustine asks, whether that is because time itself keeps moving? To this question, he gives a clear answer.

"If, therefore, the present is time only by reason of the fact that it moves on to become the past, how can we say that even the present *is*, when the reason why it *is* is that it is *not to be*?" (14)

The present is the only time that can actually *be*, for the past and future do not exist in actuality. But the present has no duration—"if its duration were prolonged, it could be divided into past and future." (15)

In this small way, the present, that short moment that Augustine spoke of earlier, is like eternity. In the rapidly vanishing present—not a hundred years, not an hour, not a minute fraction of time, but whatever instantaneous interval that the present is—there is no past and no future, but only the glorious now in which everything is happening at once. But these moments must come at the expense of each one that follows, for it takes time for human beings to grasp the moment's importance and to savor it. As we try to hold on to the moment wherein we stumbled on eternity, each part of it slips away in the past, gone back into its secret refuge, lost to us and leaving us no idea of how to find eternity ever again.

I hoped in studying this book to find that memory and hope are a man's means of enjoying eternity as best he can, but even hope and memory are ersatz versions of the glorious now. If I enjoy something in memory that has been seen, am I not missing the fresh impressions of the present? If I linger on a hope of the future, I am probably missing the coming-to-pass of a future I might well have been hoping for yesterday.

It is no consolation to suppose that the past and the future do not actually exist. They must, for prophets have seen visions of the future, and we have proof of the past in photographs, stories and scars. But in acknowledging the past and future, we find that we do not have them as they were, or will be. We have them only as "a present of past...[and] of future things." (20) To those who exist in time, the past and future are merely players in the present, shadows

in the mind that shape how we handle the present.

"If the future and the past do exist, I want to know where they are." (18) I concur with the petulance that demand expresses, but what does it actually mean? Augustine wants to collect into his keeping all the events and impressions that ever have been and will be, to hold on to the sensation of the past, which we lose when it is gone, and possess the certainty of the future, which we cannot enjoy until it occurs. He longs for the all-at-once that only God enjoys.

In an attempt to possess the all-at-once, the stillness of eternity, we measure passing time into periods. Because of this, Augustine can call time an "extension of the mind itself." (26) In an attempt to seize itself and hold still, as Augustine prayed that men's minds might, the mind stretches to encompass all the impressions of a period in their fullness, and to absorb them all at once, like someone burying their nose in an enormous bouquet to smell all the flowers simultaneously.

We who dwell in time have imposed our bounds on everything about us, including things that are not conscious of time. We call such things "regular" and then direct our motions by them. But Augustine insists that time is not the movement of heavenly bodies or anything else that we call "regular." The earth's movement round the sun does not change in pace, but still we call a day long or short. Length of time is really measured by the depth of the impression left by the moments as they pass. A long day impresses me with the tedium of its tasks, or the nastiness of the people I encounter. A summer that went by too fast saw me so active and eager that I did not absorb all the possibilities it presented.

I say, I measure time. What I measure is the impress produced in you by things as they pass and abiding in you when they have passed: and it is present. I do not measure the things themselves whose passage produced the impress; it is the impress that I measure when I measured time. Thus either that is what time is, or I am not measuring time at all. (F.J. Sheed, Chapter 27)

We divide our "regular" periods for convenience, calling a year

shadows longer than a day because there will likely—hopefully—be more impressions in a year than in a day. But I know exceptions to that assumption. This is because the impression's depth depends, at least in part, on me.

If I am not paying enough attention to the present, the events rush away and I remember only the franticness I experienced, rather than the actual events. When a mother says her child grew up "too fast," it is likely she remembers chiefly her urgency that she should bring him up right, the difficulty he gave her, her fear that he would turn out badly. Suddenly he is grown and she has little memory of how he looked at her from the crib, the feeling of his hand grasping hers, his arms around her neck, his smile when he encountered something unknown. If you ask her about how it is to raise a child, she will sigh with dissatisfaction, remembering mostly the teenage years, the difficulty he gives her now in exchange for long hours of his past, the time she spent caring for him and lulling him in the middle of the night as a baby. But can she remember how the baby felt against her heart?

Yet sometimes, by grace, these impressions bolt through our lack of attention. I remember how it felt to rock my brother to sleep when he was a baby. The room was dim and silent and I was not only bored, but in pain. My legs were going numb under his weight, my arm ached from cradling his head in the only position that could induce him to sleep, my fingers cramped from tipping the bottle gently over his mouth. Suddenly I looked down at his face, and the immediate importance of the moment broke on me like a wave—the warmth of his soft, solid, compact, body, the contented regularity of his breathing, the tininess of his ribs swelling against me as he breathed, the downy flush of his skin, the enormity of where I was and what I was doing, his terrible fragility in my heedless hands. I never thought to pay attention, but the impression shot through my carelessness. There I realized that I must always look at him that way, in every moment of his life. I must *watch*.

This kind of impression, or the kind that I described in the essay's beginning, denotes a different kind of "long" in the concept of a "long time." Those two times were not full of a disorderly array of impressions pushing through the bottleneck of my attention. com

Instead, they brought one impression that went deep enough to plumb my attention.

What does it mean to be present where we are, all the time? Does it ever put us at a disadvantage? When I am out walking in the sunshine, is it best to dwell with all my energy on the movement of my body, the freshness of the wind, the cracks in the sidewalk, the odor of the cars' exhaust? Or should I think about my essay and what I will write? It is good for me to walk and it is good for me to think about my essay, but I have to do both things and lot of others besides, and if I took time for each one individually, I would not be able to do them all in time. (In time! What else would I do them in?) So I walk while thinking about my essay, and only sporadically notice the movement of my body and the warmth of the sun. then I trip over a crack in the sidewalk and am distracted from my train of thought on my essay, and cannot recall the brilliant exposition I was planning. Have I cheated myself in the whole process by combining two activities this way? The impress of everything skimmed past me. Two hours pass quickly from the day while I was trying to juggle too many things at the same time. I get home and try to write and cannot think of anything to say. My body is tired without appreciating the exertion I gave it. I absorbed almost nothing in two hours except the experience of overtaxing my senses and my mind.

But what else could I have done? I had to walk to keep my body healthy. I had to think about my essay. I had to go to work and I had to sleep and I had to read for my seminar. In order to sleep that night, I had to be able to tell myself that I had done everything at least in its outward appearance—that I had at least made an effort to accomplish it all. Without the imperfect attempt I would have got even less finished in the time I had.

Did I *have* that time, really? What does "having" time mean? If the impressions by which we measure time can often escape the metaphorical grasp of the mind, how can I use a word as visceral as "have" to describe my relationship to time?

"Having time" is an expression we use to indicate our readiness to commit our attention to something. If my friend asks me to help her and I say that I don't have time, that means that my attention is

committed to something else in that anticipated period. Reasonably, I say that I cannot do two things at once; however, in the case of walking and thinking about my essay, I did. Very well—I cannot devote my attention to two things at once. I cannot help my friend clean her apartment and at the same time do my seminar reading.

But both things are important. My friendship is important, and it could suffer if I am not willing to sacrifice some of my commitment to my own needs to help my friend. Both needs must be met.

Where is the extendedness of time now that I need it? When the present moment is taking place, passing on its way through the attentive mind, "it [gains] some extent in time." Does this mean that the moment's "timeness" was swelling out? Is it similar to when an image passes by a convex mirror, causing the thing's reflection to swell in size? All the possible impressions in that moment, being immediate, inflate the fullness of that moment. Or maybe it's only an aspect that swells out, since the impressions of a moment may be infinite, and are called a "disorderly throng" by Augustine. If I give up my commitment to myself in order to help my friend, the moment swells with the beauty of her smile, of her gratitude, and of our relationship. If I refuse to help her, the moment swells with my own relief at not having to cram my reading later on, as well as with her disappointment, and my remorse and fear that she will find another friend who can help her, and like me less as a result. All of this in a moment! I suppose my possession of time is only a euphemism for my possession of choice as to what I want to watch go past in a moment.

But now I ask a third time about the calling of God, wherein choice about the time I have decreases, inviting bitterness to increase. I interrogate God, who exists outside of time and makes demands on those who are doing their best to serve Him in time; who calls me to stay when I would go, to devote my attention to one task while other opportunities are "wafted away into the past" (Pine-Coffin, 27); who makes me watch as "the past increases in proportion as the future diminishes, until the future is entirely absorbed and the whole becomes past." (27)

If, as Augustine said earlier, I only experience the present of past things and of future things, then it is only this present that I

must watch disappear. Moreover, time is known only by events passing through the mind, so the diminishment of the future is only in relation to me. As far as God is concerned, the future does not go anywhere. To Him, it never was the future. Only in my own mind does an event cease to exist—to God, it is eternally present. And this, Augustine says, “is true of a man’s whole life, of which all his actions are parts. It is true of the whole history of mankind, of which each man’s life is a part.” (28)

We, in time, make the decision to dismiss something into the past, or to call something the future, rather than claim it in the glorious now. Can this be helped? Augustine response to it is this outcry:

I see now that my life has been wasted in distractions, but your right hand has supported me in the person of Christ my Lord,...who is the Mediator between you, who are one, and men, who are many. He has upheld me...in order that I may be rid of my old temptations and devote myself only to God’s single purpose, forgetting what I have left behind. I look forward, not to what lies ahead of me in this life and will surely pass away, but to my eternal goal....Then I shall listen to the sound of your praises and gaze at your beauty ever present, never future, never past.(29)

Being in time is itself one of the distractions from the glorious now; perhaps it is the worst, for it is certainly the most petty. Of all things that can tear our thoughts from the eternal goal, is not the least worthy, the most crippling, a fretful meditation on the tearing itself? I would rather devote my attention fully to an absorbing distraction than fret over the possibility of being distracted.

Admittedly, I want a remedy. “My thoughts, the intimate life of my soul, are torn this way and that in the havoc of change.” (29) And I am not content to wait for God’s summons to heaven in order to know rest from that havoc. I want to learn how to be still now. Augustine’s language is drastic—“so it will be until I am purified and melted by the fire of your love and fused into one with you. Then I shall be cast and set firm in the mould of your truth” (29,

30)—but he does not state positively that this state of being must wait until our bodies are dead.

He says that “‘never’ has no meaning when there is no time.” (30) I will make so bold as to claim that for myself. In the act of loving God more, I am striving to be fused into one with Him. If I cannot reach it, I can at least reach toward it. When I am firm in the Truth, what effect will that have on my relationship to my calling? Will my desire change to one that is fulfilled by where I am?

I have been writing about truth as a gauge of the likeness between the effect and the ideal, and accordingly, being firm in the Truth will mean that the effect of my life perfectly reflects the ideal of what is in my mind...or will it reflect what is in God’s mind? Will they not be the same, if I am firm in His truth?

In the first chapter, Augustine wrote that “I write this book for love of your love.” (1) That, then, was what he was striving for, even against his central desire to contemplate the beauty of the Lord. He was reaching for oneness with God, loving God by obeying a call that seemed less than what he was made for. “To the best of my power and the best of my will I have laid this long account before you, because you first willed that I should confess to you, O Lord my God.” (1) And Augustine says that in this calling, God frees us, and we “will find our true happiness in you.”

If we obey out of love, even against our will, we ignore the frantic demand of time. Trusting that god will bring us where He wants us to be allows us to partake in His lack of “never.” Doing so, we look like spendthrifts of time, spending it lavishly as if eternity were at our disposal. Indeed, eternity is at our disposal, if our lots are wholly thrown in with God. And then that calling becomes not only His command, but also our choice, and we “shall no longer be miserable in ourselves, but will find out true happiness in you.” (1)

It was Moses’ happiness to write of the Beginning. In questioning him, Augustine does not crave the substance of the answer, but the answer as only Moses himself could tell it. For Moses had a call to fulfill, which he did in the Word. An answer such as Moses could give, having seen God face to face and carried out a work that wrought miracles in the desert and in his own person, would be not only convincing with its truth, but compelling in its joy.

**Malherbe's Consolation to Mr. du Périer
on the Death of his Daughter**
a verse translation

Peter Kalkavage

In his long poem, *Consolation à Monsieur du Périer sur la Mort de sa Fille*, François de Malherbe consoles a lawyer friend, François du Périer, by trying to shake him out of his seemingly interminable grief at the death of his five-year-old daughter, Marguerite.¹ The poem is on a grand scale and is exquisitely crafted. Harsh in the extreme, it is anything but what most of us would call consolation.

The sentiment of the poem derives largely from Seneca, whose works Malherbe translated. Several stanzas of the poem are directly indebted to the Stoic. The most striking is stanza 12, where the poet accuses his friend of self-aggrandizement and hypocrisy: *N'est-ce pas se haïr pour acquérir la gloire/ De bien aimer autrui?* ["Is it not the case that to hate oneself is to gain the reputation for loving another well?"] These lines echo a passage from Seneca's *Epistle* 63, which, in Malherbe's translation, reads as follows: *Le pleurer excessif est plutôt marque de vanité et de vouloir être estimé affligé, que d'une véritable amitié* ["Excessive weeping is more the mark of vanity and of wanting to be esteemed afflicted than of a genuine love"]. The marks of stoic doctrine are evident throughout the poem: the emphasis on reason as the moderator of passion, the need to bear up uncomplainingly in the most painful circumstances, the connection between moderation and courage, the recognition that there are no exceptions to the natural order of things, the acceptance of misfortune and death, the alignment of our will with that of the divine, and the claim that tranquility of mind is the highest human good.

Malherbe's consolation, however, departs from both stoicism and the poet's official Christianity. Although the poem ends with the will of God, the dominant theme here is malevolent fortune. In

stanza 4, Malherbe speaks of "the worst fate" that hunts down "the most beautiful things." And in the stanzas devoted to Francis I, we hear that the celebrated knight-king, having dried his tears, was *contre fortune instruit*—"instructed against fortune." Francis, in other words, did not so much seize the day as realize that no amount of crying would ever bring back the son fortune had taken away. He rose up against his enemies not with fortune's blessing but against what fortune had done to him.

The malevolence of Lady Fortune finds its keenest expression in the other Lady who appears in the poem—*la Mort*, whom the poet depicts as cruel, deaf and implacable. Although formally a Christian, Malherbe never consoles du Périer by eliciting his friend's trust in God's providence or his hope for a life after death. Even the "heavenly mansion" in stanza 6 seems to be rhetorically indistinguishable from the references to the pagan underworld. It is true that Malherbe ends the poem by urging du Périer to submit to the divine will: *Vouloir ce que Dieu veut est la seule science/ Qui nous met en repos* ["To will what God wills is the only science that puts us at rest"]. But this is mere resignation. It is a far cry from the joyous merging of the human and the divine will at the end of Dante's *Comedy*, or from Piccarda's sublime utterance: "in His will is our peace" (*Paradiso* III. 85). There is no grace in Malherbe's world. Harrowed by evil fortune, man is left to his own devices and must seek consolation and peace in the power of his unaided reason.

The poem was probably written in 1598, the year of Marguerite's death. It is a revised version of a poem Malherbe had written some years before to a man named Cléophon, whose daughter, like Marguerite, died very young. That her name was Rosette adds an ironic pang to the most beautiful-sounding line of the poem: *Et rose elle a vécu ce que vivent les roses* ["And a rose, she lived what roses live"].

The present translation is an experiment in rhythm. I wanted to see how closely I could mimic Malherbe's stately alexandrines and half-alexandrines while also preserving the rhyme scheme. The shortcomings of this experiment will be immediately evident, as English iambs often overpower my attempt at anapests. I offer this translation in the hope that it will lead readers to a careful study of the original and encourage them to examine the differences between French and English verse, especially in matters pertaining to rhythm.

¹ The original text of this poem can be found in the Senior Language Anthology. For the historical background, see the notes in Antoine Adam's edition of Malherbe's works in *Oeuvres*, Bibliothèque de la Pléiade, Editions Gallimard, Dijon, 1971.

**Consolation à Monseigneur du Périer
sur la Mort de sa Fille**

François de Malherbe (1555-1628)

Ta Doleur, du Périer, sera donc éternelle,
Et les tristes discours
Que te met en l'esprit l'amitié paternelle
L'augmenteront toujours?

La Malheur de ta fille au tombeau descendue
Par un commun trépas,
Est-ce quelque dédale, où ta raison perdue
Ne se retrouve pas?

Je sais de quels appas son enfance était pleine,
Et n'ai pas entrepris,
Injurieux ami, de soulager ta peine
Avecque son mépris.

Mais elle était du monde, où les plus belles choses
Ont le pire destin:
Et rose elle a vécu ce que vivent les roses,
L'espace d'un matin.

Puis quand ainsi serait, que selon ta prière
Elle aurait obtenu
D'avoir en cheveux blancs terminé sa carrière,
Qu'en fût-il advenu?

Penses-tu que plus vieille en la maison céleste,
Elle eût eu plus d'accueil?
Ou qu'elle eût moins senti la poussière funeste,
Et les vers du cercueil?

Non, non, mon du Périer, aussitôt que la Parque
Ôte l'âme du corps,
L'âge s'évanouit au-delà de la barque
Et ne suit point les morts.

**Consolation to Mr. Périer
on the Death of his Daughter**

So your grief, du Périer, will it eternal prove?
And those speeches of gloom
That are fixed in your mind by strong paternal love,
Will they heighten grief's bloom?

The sad lot of your girl descended to the tomb
Through death that claims all men,
Is it some winding maze, where reason can't resume
Its path back out again?

I know full well what charms her childhood did contain,
And never have I tried,
Like some abusive friend, to mitigate your pain
With scorn for her who died.

But she was of the world, where the worst fates pursue
The most beautiful things:
And a rose, ah! she lived what roses always do,
The brief span morning brings.

Assume that it were so, according to your prayer,
That the course she had run
Had brought her in the end to shocks of silver hair—
What good would it have done?

Do you think that when old, having reached Heaven's gate,
She'd meet with better terms,
Or would feel any less the dust of her estate,
The coffin's hungry worms?

No, no, my du Périer! When fatality dark
From body wrests the soul,
Then one's age disappears on this side of the bark,
For the dead, plays no role.

Tithon n'a plus les ans qui le firent cigale:
 Et Pluton aujourd'hui,
 Sans égard du passé les mérites égale
 D'Achémore et de lui.

Ne te lasse donc plus d'inutiles plaintes:
 Mais sage à l'avenir,
 Aimes une ombre comme ombre, et de cendres éteintes
 Éteins le souvenir.

C'est bien, je le confesse, une juste coutume,
 Que le coeur affligé
 Par le canal des yeux vidant son amertume
 Cherche d'être allégé.

Même quand il advient que la tombe sépare
 Ce que Nature a joint,
 Celui qui ne s'émeut à l'âme d'un barbare,
 Ou n'en a du tout point.

Mais d'être onconsolable, et dedans sa mémoire
 Enfermer un ennui,
 N'est-ce pas se hair pour acquérir la gloire
 De bien aimer autrui?

Priam qui vit ses fils abattus par Achille,
 Dénué de support,
 Et hors du tout espoir di salut de sa ville,
 Reçut du réconfort.

François, quand la Castille, inégale à ses armes,
 Lui vola son Dauphin,

Tithonus lacks the years that made him insect seem,
 And Pluto now, with slim
 Regard for what is past, holds in equal esteem
 Archemorus and him.¹

So tire yourself no more with a pointless lament,
 But wise to what's ahead,
 Love a shade as a shade, and extinguish the scent
 Of ashes that are dead.

There's a custom quite just—it cannot be denied—
 That a heart filled with grief,
 By voiding through the eyes the bitterness inside,
 Will try to find relief.

I'd go so far to say, when the tomb pulls apart
 What Nature has made one,
 That he who is not moved has a savage's heart,
 Or simply just has none.

But all comfort to shun, and with memory's flame
 To put oneself through hell—
 Is this hate of oneself not just pretext for fame
 In loving someone well?

Even Priam, whose sons by Achilles cut down,
 His hope for help all past,
 And beyond any thought of safety for his town,
 Took comfort at the last.

King Francis, when Castille, no match for him in war,
 Stole his Dauphin away,

¹ Tithonus was the mortal beloved of Eos or Dawn. Zeus granted him immortality at the request of Eos but not immortal youth. With the passage of time, he became so old and weak that Zeus finally transformed him into a grasshopper. Archemorus, when just a baby, was killed by a serpent. The seven Argive leaders who marched against Thebes slew the serpent and honored the child, taking his death as a portent of their victory.

Sembla d'un si grand coup devoir jeter des larmes
Qui n'eussent point de fin.

Il les sécha pourtant, et comme un autre Alcide
Contre fortune instruit,
Fit qu'à ses ennemis d'un acte si perfide
La honte fut le fruit.

Leur camp, qui la Durance avait Presque tarie,
De batallons épais,
Entendant sa constance eut peur de sa furie,
Et demanda la paix.

De moi déjà deux fois d'une pareille foudre
Je mes suis vu perclus,
Et deux fois la raison m'a si bien fait résoudre,
Qu'il ne m'en souvient plus.

Non, qu'il ne me soit gried que la tombe possède
Ce qui me fut si cher:
Mais en un accident qui n'a point de remède
Il n'en faut point chercher.

La mort a des rigueurs à nulle autre pareilles:
On a beau la prier,
La cruelle qu'elle est se bouche les oreilles
Et nous laisse crier.

Le pauvre en sa cabane, où le chaume le couvre,
Est sujet à ses lois:
Et la garde qui veille aux barriers du Louvre
N'en defend point nos rois.

De murmurer contre elle, et perdre patience,
Il est mal à propos:
Vouloir ce que Dieu veut est la seule science
Qui nous met en repos.

Appeared, from such a blow, to be fated to pour
His tears out from that day.²

He dried them nonetheless and like Hercules rose
Against fortune, now tame,
And for theft so malign he brought home to his foes
The bitter fruit of shame.

Their camp, near the Durance, all dried up in the path
Of that host thick as fleece,
When they heard he stood firm, grew afraid of his wrath
And at once sued for peace.

As for me, I've been struck by this thunderbolt twice,
Made all crippled and sore,
And twice so well-resolved by reason's sound advice,
I think of it no more.

Let no grievance from me blame the tomb's icy wall
For holding one so dear:
But in accident plain that has no cure at all,
Look for none to appear.

Lady Death has her toils, in which she has no peers,
One implores her in vain:
Cruel creature that she is, she just covers her ears
And leaves us to our pain.

The poor wretch in his slum, who must sleep on the floor,
Is subject to her laws,
And the guard who keeps watch at the King's royal door
Can't save him from her claws.

When our patience we lose, when we whine at Death so,
Why, it's foolish at best,
While to will what God wills—that is all one need know
To put the mind at rest.

² *François* is Francis I (1494-1547) and *Castille* is Charles V of Spain. The kings were mortal enemies. It was believed that Charles had poisoned the French king's eighteen-year-old son.



Alleyway
Kevin Grizzard

The Word and the Image: Investigating Straightness

Erica Naone

The line is at the center of all human intellectual creation. It is the vehicle for words on the printed page, the vehicle for art, the unit of measurement for sections of poems and sections of music. The mystery of the line comes out in these things. It is a thing we see in the world around us, and it is central to ourselves. Our perceptions of the world, and our link to it, seem to depend on our knowledge of the line. The line, as an object we see and as an object we portray, gives us a way to examine the processes we use to perceive and think about the world. Imagination seems to be a kind of thinking about the world that allows us to manipulate objects such as the line in ways that do not necessarily correspond to the physical world. Because of this, we can use the line to ask how acts of the imagination work. Geometry is a beautiful place for this question, because the line in geometry is a point of focus for both reason and imagination. Geometrical diagrams and proofs both provide ways to envision possible objects in space, while the reasoning supporting these proofs lends them a ground for belief. The line is a basic unit in this sort of investigation, and so it offers a chance to separate and understand these functions. The best place to go within geometry to see this is when things unravel and reform in a strange new way: the moment of the divergence of non-Euclidean geometry from Euclidean geometry. Here is a crack through which we can see imagination in action, and in action in relation to reason.

We will try to understand how straightness is affected by the split between the geometries. When Lobachevski uses the term "straight line," does he mean the same thing Euclid does? If straightness is the same in each geometry, how can straight lines maintain their essence while exhibiting vastly different behavior with regard to when they intersect? By looking at postulates, definitions, and geometrical diagrams, we will try to understand how

straightness is expressed in each geometry. Beginning with Euclid, we will see what must change to make Lobachevski's geometry possible, then how that change reflects back to Euclid. In doing this, we will gain insight into the role of the imagination.

I. Imagining the Straight

At the heart of the difference between Euclidean and Lobachevskian geometry is Postulate 5, which states:¹

That if a straight line falling on two straight lines make the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet on that side on which are the angles less than two right angles.

Aside from the statement of this postulate, we can get as far Euclid I.28 without finding a difference between the Euclidean and Lobachevskian geometries. The foundations and early structure of each system are identical. I.29, Euclid's first invocation of Postulate 5, becomes the thrown gauntlet that separates the two. Lobachevski's denial of Postulate 5 precludes I.29. From then on, Euclid deals with geometrical objects that will have no place in Lobachevski's world: triangles which always have an angle sum of two right angles, parallel lines that are both perpendicular to a third line, and the square.

Proposition I.29 is the moment Euclid mandates a single angle of parallelism. He writes:

A straight line falling on parallel straight lines makes the alternate angles equal to one another, the exterior angles equal to the interior and opposite angles, and interior angles on the same side equal to two right angles.

Euclid needs Postulate 5 to be able to say that if the interior angles on the same side are less than two right angles, then the lines are not parallel and will intersect. In other words, Postulate 5 is the crux of the proof for I.29, and I.29 turns out to provide a foundation for propositions that explore the form of regular figures. Postulate 5

¹All references to Euclid refer to his *Elements*, as translated by Thomas L. Heath.

here functions as an article of faith. It is a belief on which a large section of the structure of Euclidean geometry rests. Soon, we will explore what makes it a belief and why we believe it or disbelieve it. For now, we will observe its relation to parallel lines, triangles, and the square. This relation may not be obvious from the structure of Euclid's *Elements*, but Lobachevski is careful to emphasize it in Propositions 19-22 as part of his preparation for the break with ordinary geometry. Before drawing a hard and fast split, Lobachevski reframes Euclidean ideas of triangles and parallels as possibilities rather than facts. In doing this, he emphasizes the chain connecting them to Postulate 5.

In 19, Lobachevski proves – in full agreement with Euclid, though not with the same method of proof – that the sum of a triangle's three angles can't be greater than two right angles. In 20, the preparation for departure begins. Lobachevski writes:

If in any rectilinear triangle the sum of the three angles is equal to two right angles, so is this also the case for every other triangle.²

We can compare this to Euclid's treatment of the question in his proposition I.32:

In any triangle, if one of the sides be produced, the exterior angle is equal to the two interior and opposite angles, and the three interior angles of the triangle are equal to two right angles.

Euclid gives one possibility for the angle sum of triangles, and it is the only possibility in his world. Lobachevski highlights the triangle with angle sum of two right angles as an important possibility, but it is not the only one for him. Though if just one triangle exists with an angle sum of two right angles, it will dictate the rule for all other triangles, Lobachevski allows that such a triangle may not exist. In that case, the rules will change and a different world will emerge. His proposition 20 opens the way to new possibilities for the angle sum of triangles, while at the same time acknowledging the special position of the triangle with angle sum of two right

²All references to Nicholas Lobachevski refer to his *Theory of Parallels*, as translated by George Bruce Halsted.

angles. This shows the Euclidean triangle as a border case, standing right at the edge of Lobachevski's world. We will return to this idea later to explain and expand it.

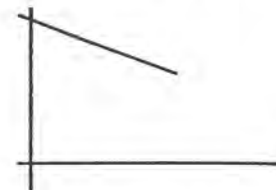
Proposition 21 is a lemma allowing Lobachevski to complete 22. 22 is where he actually departs from Euclid. It is the Lobachevskian foil to I.29. He writes:

If two perpendiculars to the same straight line are parallel to each other, then the sum of the three angles in a rectilinear triangle is equal to two right angles.

In other words, Euclidean triangles can only exist if Euclidean parallels exist. I.29 is where Euclid declares the angle of parallelism as the right angle. Proposition 22 is where Lobachevski points out the possibilities for the angle of parallelism and decides to use angles of parallelism that are smaller than a right angle. This choice requires the denial of Postulate 5. The effect this has on triangles makes sense because Postulate 5 tells us that if two lines incline toward each other and a third line crosses them, the three lines will make a triangle. This will always happen unless there is no inclination, that is, unless the two lines stand at right angles to the third. In denying Postulate 5, Lobachevski will therefore affect relations of three lines, changing the way parallels are made and the way triangles are made. As a result, the rules about parallels and triangles will change if we change Postulate 5. To accept Postulate 5, Lobachevski writes, is to lay "the foundation for the ordinary geometry and plane geometry." The other assumption, he says, "can likewise be admitted without leading to any contradiction in the results, and founds a new geometric science, to which I have given the name of Imaginary Geometry." For now, we will accept that we will not find a contradiction in Imaginary Geometry. Instead of following Lobachevski down his path of strange triangles and equidistant curves, we will linger in the doorway. What happens at the moment of assumption? How are we able to admit the new possibility of a system without Postulate 5, and what are we doing when we do? For that matter, how were we able to *accept* Postulate 5 in the first place? Lobachevski's geometry illustrates that the acceptance or denial of Postulate 5 has *always* presented a moment of choice, and it requires us to think

about how we are able to make this choice. This problem will give us plenty of room to explore the question of imagining the straight, in words and in images.

The question of Postulate 5 boils down to a question of straightness, and a picture can help us see why. Postulate 5 gives one result for:



Lobachevski suggests another. According to Euclid, the lines will meet. According to Lobachevski, they may not meet. Lobachevski's suggestion seems outlandish. It seems that if a line can be called straight, it will have the predictable behavior described in Postulate 5. The link between straightness and inevitable intersection seems impossible to question. The lines are heading toward each other, pointing toward each other, inclining toward each other. Though they seem able to do nothing other than cross, Lobachevski's Proposition 24 provides an interesting alternative:

The farther parallel lines are prolonged on the side of their parallelism, the more they approach one another.

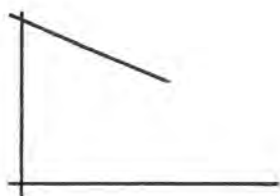
The difference between ordinary and imaginary geometry is that, for ordinary geometry, if the lines are straight, there is *no room* on the plane for them to keep approaching each other. Straightness forces the issue, and they must cross. For Euclidean straight lines to avoid crossing, they must march side by side, perpendicular to a line thrown across them, keeping an equal distance between them at all times. Lobachevski's straight lines lack this soldier-like quality. Straight lines can yearn forever toward one another, never drawing back, never standing aside, and yet they still may not meet. From this, we see that either straightness is different for Lobachevski or his straight lines are being placed under different conditions. We will return to the second possibility after making an examination of the first.

If there are two ways for a line to be straight, contradiction

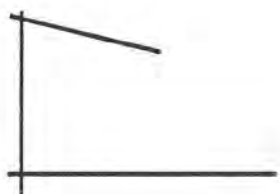
seems close at hand. It seems one sort of straightness must be revealed as "truly" straight or "more" straight to keep lines from being both straight and not straight at the same time. Even if we can imagine that there might be two ways for a line to be straight, *how* do we imagine this? The concept can be stated: Maybe there is more than one way to be straight. The imagining can somehow occur in terms of words or reasoning. The picture makes this look like a lie. As soon as the possibility of two sorts of straightness arises, all drawing becomes problematic. There seems to be only one sort of drawn line that we recognize as straight, but it is unclear how we recognize this at all. Beyond this, if we could identify how we know a line is straight, it seems impossible that we could identify two separate conditions without identifying two separate objects. In a picture, we have little chance of making any headway on this. We seem able to ask the question and justified in asking it, yet at the same time completely unable to represent the picture visually. How can this geometrical idea make sense in words if it cannot make sense in a picture?

One more way of stating this problem will delineate the domain of the question more clearly. Euclid's Postulate 5 situation is easy to draw:

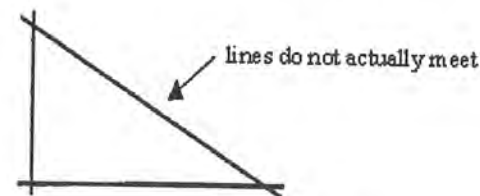
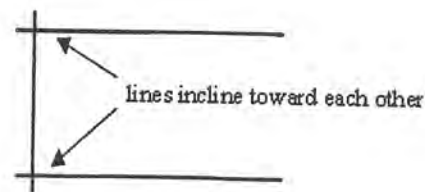
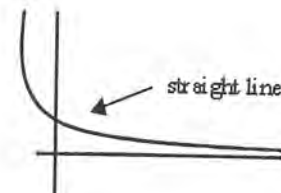
First,



Then,



Lobachevski's is much harder. There is always one "incorrect" element to any single attempt to draw a picture for the extension of Lobachevski's straight lines. If the statement we're trying to represent in a picture is, "Imagine two straight lines that incline toward each other, yet do not meet," our attempts to draw it will look like this:



Each picture captures two out of three elements of the statement and belies one of them. One other possibility would be to draw the two lines inclined toward each other but very, very far apart. This would account for the great distance of parallelism corresponding to each angle. This is still unsatisfying, because it fails to deal with the lines in their ultimate extension. It does not provide "ocular proof"

that the lines will not eventually cross.

The unsatisfying quality of all these pictures defines the domain of the question Lobachevski raises about straightness. He tells us that he uses straight lines, and then asks us to imagine those lines doing things that would have been impossible in ordinary geometry. The new behavior he asks us to imagine seems impossible to draw. The name he has given his geometry raises the question of imagination. Synonyms for imagination all suggest sight. They are words like "picture," "visualize," "try to see." How can we imagine what we cannot see? How can it occur to us to imagine it?

To get closer to this, we will look closely at the definition of a straight line and at Postulate 5. We will try to understand clearly what the words tell us and how they tell us. We will then look at the images associated with these words and at how they become associated. In doing this, we will try to zero in on the act of imagination Lobachevski requires, and find to what extent we can represent it in words, to what extent we can represent it in image, and how closely these two actions are related.

II. Euclid's Definition of a Straight Line

Straightness is the line of our eyesight in any space we encounter. We use it in the same exploratory way, and we use it to relate objects to each other. The correlation between straightness and eyesight is so strong that definitions of straightness are full of implicit references to eyesight. We see this in Plato's definition of straightness: that in which the middle covers the ends. As Heath points out in his notes to Euclid, this definition makes sense to us because we can imagine ourselves looking along the line and having it come to our eye in the form of a dot. Heath suggests that Euclid is trying to get away from talking about straightness in terms of eyesight. In seeking to define straightness in terms of geometry, the goal is to set down a definition on paper that makes sense apart from the unconscious physical action of eyesight. We need to do this because, if we link straightness to eyesight, we are tied to what the eyes see and how they see. The mathematical sense of straightness would then be a concept distilled from a physical experience, and bound by the experience to function as it does in the ordinary, physi-

cal world. If we can remove it from its bond to eyesight by defining it without words that appeal to the visual, straightness enters the domain of the mind rather than the domain of the body. As such, reason becomes able to construct an account for straightness. Once this is done, imagination can suggest possible adjustments or expansions, and reason can determine whether these suggestions are feasible.

This account is teetering on the edge of a famous philosophical problem: Does a concept such as straightness exist in our minds a priori, or is it abstracted from our observations of the physical world? We will not deal with this problem directly here, though some of this discussion may bear on it. For now, we will consider it only as it relates to the problem of what we imagine when we imagine Lobachevski's straightness.

It is clear from the difficulty of his ideas and the difficulty we have drawing pictures to match them that, as far as the behavior of Lobachevski's straight lines, there are not many examples of this in the physical world. It looks like whatever happens to the straight line in Lobachevski's world happens inside the mind, within the realm of reason and imagination. This is strange. If straightness *did* come out of experience, how could we arrive at a different idea of it without having first seen it working in a different world? On the other hand, if straightness existed a priori in our minds, how could we have more than one concept of it? This Lobachevskian twist on Meno's paradox introduces the question of creativity. The strange new vision of straightness Lobachevski offers does not seem to be a thing we ever encounter in the physical world. Does this mean human creativity can walk forward into the void and there envision things that have never been seen or thought before? Perhaps the mind does not arrive at non-Euclidean behavior for straight lines by distilling that idea from experience or by having a pre-existing notion of it. Perhaps the mind dreams these things up out of nothing. If the mind can really do something like this, what is it doing? Is it discovering something that existed all along? If so, in what way could it have existed, if it lies outside our experience and outside what was already in our minds? What faculty does the mind use to make this discovery or this creation? Is it reason or imagination or both? These questions also go far beyond the scope of this essay,

but they lend weight to the question of how we imagine a straight line. Lobachevski suggests new and exciting possibilities for human capacity: if the mind can make a system free of contradiction, even with such foreign and puzzling material as the denial of Postulate 5, this triumph of creativity opens countless possibilities for thought.

Returning to the question of straightness, we will go forward using a provisional understanding. The idea of straightness must be expressed apart from the physical, because it must be possible to adjust it or reveal things in it that are not obvious in our physical sense of straightness. To do this, Euclid writes his definition of a straight line. We will look at this definition and its relation to Lobachevski's definition, seeking after the nature of the shift from one system to the other and how it occurs.

Euclid's definition appears to be the first step toward non-Euclidean geometry. Because he places the idea of straightness outside of the physical, our reason and imagination now seem able to manipulate or change it in a way they could not have done before. The temptation to define the straight line in terms of the physical is great. We see this not only in Plato's definition of the line, which depends directly on eyesight, but also in many of the words in the constellation surrounding the idea of straightness. Words like "distance," "direction," and "shortest" all fall into this category. An examination of these words will reveal that they depend on a pre-existing concept of straightness, and that the foundation is often the physical. For example, one possible definition for a straight line might be that it is a line that points in only one direction. The idea of "pointing," however, is hard to define without recourse to the idea of a pointing finger or the motion of the eyes. The idea of direction is hard to define without saying something that resorts to straightness, such as, "to go in one direction is to go straight there."

As it stands, these words can all define each other within their constellation. Perhaps the definition of straightness emerges from the circular sense of all of these words together: Once the mind has considered how straightness may relate to direction, then to distance, then to length, perhaps an idea of straightness itself can form. This idea of straightness, however, seems entirely limited to the physical, existing there as much as the words in the constellation

do. This said, it remains to show how Euclid's definition is unlike these others, how it actually steps away from the physical.

Euclid's definition of a straight line is:

A straight line is a line which lies evenly with the points on itself.

What is this definition saying? Reading it, we still seem to take our physical sense of a straight line and use it to understand what Euclid means. Perhaps we fall back on the sense of straight we got from drawing lines with a ruler in kindergarten. We may remember what it is like to even something out. Perhaps we think of sanding something, of dropping down to one knee to close one eye and look along the surface with the open eye, squinting, and looking out for any uneven parts of the surface that might stick up. How has Euclid left eyesight out of this definition, when we can imagine ourselves doing something physical to see if the line lies evenly, on the lookout for any wayward points that might stick out from the surface?

Words never can completely escape the physical. They are sensual things, and retain their sensual associations. They can, however, suggest an understanding that transcends the physical. The word "evenly" gives more than a physical sense of straightness. It opens the way for a precise mathematical sense of a straight line, an idea grounded only within the mathematical world. Heath translates the words "lies evenly" from a Greek expression based on the word *ἴσος*. This word can mean "equal," "fair," "impartial," "even," "level" or "flat." This shows that the word "even" here is not about the line's extension. This idea of evenness seems to get away from where the line is pointing, and concentrate instead on its construction within a small segment from one point to another. The word "evenly" draws us to a sense of the line's breadthlessness, its one-dimensionality. To be even is not to deviate from side to side. It is to make each point connect in a precise relation with the one before. This may seem to refer to any lines, straight or curved. All lines are breadthless, after all. Once we examine the way a straight line explores its space, we will see that this definition can extend beyond the breadthlessness of lines into an understanding of a line's posi-

tion in space. It may seem questionable to bring in the idea of space while trying to define the idea of a straight line, but this seems to be the nature of the beast. The ideas of straight and curved seem to have meaning only when lines are placed in a space. We see this in the difficulty we have in defining these ideas without using self-referential definitions or definitions that depend on the line's relations with a multitude of other objects.

A curved line *is* breadthless, just like a straight line. The curved line, however, provides the possibility for enclosure. To see this, we will get help from Lobachevski. His definition of a straight line is:

A straight line fits upon itself in all positions. By this I mean that during the revolution of the surface containing it the straight line does not change its place if it goes through two unmoving points in the surface: (i.e., if we turn the surface containing it about two points of the line, the line does not move).

Imagine a line illuminated on an otherwise dark surface. If we think of what the line tells us about the surface, a straight line turns out to tell us very little. Imagine the surface stands vertically, and its axis of revolution is a straight line running over the surface vertically at the center of our view. If this is the case, we would be unable to tell whether the surface were spinning or standing still, because the straight line would never change. If the line were curved, on the other hand, the line would appear in a different position depending on the position of the surface, and, if the surface were spinning, the line would describe a multi-dimensional region in space. So, the curved line does not explore a breadthless region of space, while the straight line does. By this understanding, what we have done is interpret "lying evenly" as "exploring a breadthless region in space." In other words, we have said that the straight line's one-dimensionality allows it to exist in an infinite number of planes at once without changing its position, while the curved line can only exist in one place at a time.

This seems like an idea of straightness that has in fact gotten away from eyesight, though Lobachevski's introduction of motion raises new questions. By introducing motion, he makes straightness

depend on a different constellation of words. Ideas of "plane" and "dimension" are necessary, and there is a question of how we know how to turn the surface about two points. We do not seem to have produced a definition that can stand alone. We have, however, made progress toward the moment of the shift. To get farther, we will examine Lobachevski's definition of straightness and how it relates to Euclid's.

III. The Two Definitions Side By Side

A big question about Lobachevski's definition is how close it is meant to be to Euclid's. We know that the behavior of straight lines changes from Lobachevski's Imaginary geometry to Euclid's ordinary geometry. Is the root of this difference in how they define a straight line?

The answer to this question seems to be no. We can certainly say that Lobachevski's definition could replace Euclid's without altering the workings of ordinary geometry. It is a little more uncertain whether Euclid's could replace Lobachevski's without altering imaginary geometry. If it could, why would Lobachevski have written a new definition? The main difference between the two definitions centers on Lobachevski's explanatory sentence. He seems to be attempting to interpret what it means for a line to lie evenly with the points on itself by introducing a test for straightness: the revolution of the surface that he describes. Lobachevski's interpretation draws our attention to the line in relation to other geometrical objects. He uses motion to demonstrate this relation. Motion provides us a test for straightness that can be performed in the imagination and does not rely on line of sight and the sense of straightness we get from extension. We can see this by imagining an application of Lobachevski's test using only the sense of touch. If there is a rope spinning in the center of the room – a rope like a jump rope – then, if it is held taut or straight, it will fit upon itself in all positions. We can bring our hands as close as we like to the rope, and it will only touch us if we touch it. On the other hand, if the rope is slack or curved, we will approach it uncertain of our relation to it. Our hands may rest in empty space one moment, and then be slapped by the rope the next moment. If the straight line is the center of a move-

ment, it remains motionless amid motion, standing transfixed, anchored in an infinite number of planes. Lobachevski's new definition appears to be an effort to explain Euclid's definition. Through his explanation, Lobachevski makes it possible further to remove the definition of a straight line from eyesight. If we take the stance that Lobachevski is interpreting Euclid's definition, not changing it, we can say that the definitions are interchangeable, and that the root of the difference between the geometries lies elsewhere. Before moving on, however, we should note that one possible consequence of Lobachevski's definition is a different attitude toward motion in proofs. Using motion to help define the straight line sets motion and our intuitions of its workings deep in the foundations of Imaginary geometry. We will return to this idea.

Accepting that the two definitions of straightness are not fundamentally different, we will examine properties of straightness that are the same in Euclid and Lobachevski. Both Euclid and Lobachevski use the straight line's motionlessness or pure one-dimensionality as a tool for measuring. The straight line provides the best test for equality, because it will always fit over another straight line. Curves, on the other hand, can be of equal length, without fitting over one another:



More than this, even if they are of equal curvature, and could fit over each other, the manner in which they approach each other matters. For example, these two curves would fit over one another if one slid over the page onto the other, but not if the page was folded in half:



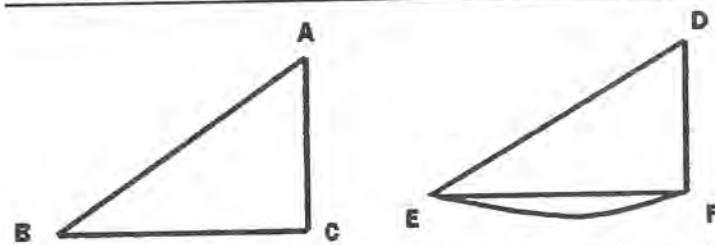
If two curves of equal length intersect in all points, they could also intersect in one point or in two points. Sometimes, there are even more possibilities than that. Two straight lines of equal length that intersect, however, can do so only in either one point or all points. There is no middle ground, and that also gives a sense of what it means for a line to lie evenly with the points on itself: there is no room for it to shift around in relation to other lines.

The straight line becomes a gold standard for equality. It gives us a way to measure geometrical objects and determine whether they are congruent. Both Euclid and Lobachevski make use of this property when they prove congruency by use of superposition. By examining superposition, we will see that the straight's role as standard for congruence may point us toward a further removal of the mathematical sense of straightness from the physical sense of straightness. This examination will take us into several proofs, and the purpose of looking closely at these proofs is to find how Euclid's straightness relates to Lobachevski's straightness.

IV. The Study of Superposition

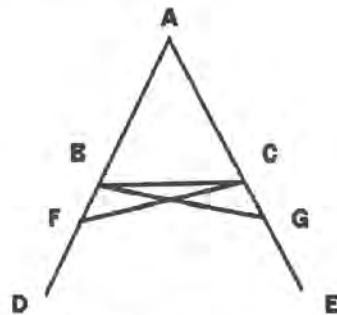
Euclid's most famous use of superposition is in Proposition I.4:

If two triangles have the two sides equal to two sides respectively, and have the angles contained by the equal straight lines equal, they will also have the base equal to the base, the triangle will be equal to the triangle, and the remaining angles will be equal to the remaining angles respectively, namely those which the equal sides subtend.



It seems clear that Euclid uses superposition reluctantly, as a last resort. As Heath points out, if Euclid really considered superposition a valid form of proof, he could use it all the time and save himself a lot of trouble. For example, there is Proposition I.5:

In isosceles triangles the angles at the base are equal to one another, and, if the equal straight lines be produced further, the angles under the base will be equal to one another.



Euclid proves this using I.4, but he could easily use superposition instead. He could apply triangle ABC to itself, so that the line AC falls on AB and AB upon AC. He could then follow an argument much like the Lobachevskian argument we will examine momentarily. Because Euclid chooses to avoid unnecessary superposition in this and many other cases, we can conclude that he confines its use to situations that require it.

I.4 presents a situation where he must use superposition. Heath points out in his notes to I.4 that many other geometers assume I.4 as a postulate. This is because there seems to be no way to prove it

without resorting to superposition. As Euclid places lines atop each other in I.4, he ends up having to reveal his understanding of what it means for a line to lie evenly with the points on itself. This comes out in the form of assumptions he must make to put superposition to use. He writes:

For if the triangle ABC be applied to the triangle DEF, and if the point A be placed on the point D and the straight line AB on DE, then the point B will also coincide with E, because AB is equal to DE.

Here we see the point we made about the straight line as a test for equality. Because AB and DE are equal straight lines and one is applied to the other, they must coincide at all points. Also, their length must have the same "shape." There is no difference in curvature, and therefore no reason why equal lengths should not wholly coincide and share the same endpoints. A little later, Euclid has established that B and E will coincide, and so will C and F. He concludes that BC and EF will coincide and be equal to each other because:

if, when B coincides with E and C with F, the base BC does not coincide with the base EF, two straight lines will enclose a space, which is impossible.

This line could well have been the source of Lobachevski's interpretation, because it tells us that pure straightness between two points cannot mark out a region in space, only a breadthless length. This seems to be what Lobachevski is getting at his definition: There is only one path between two points that can be called straight. More than that, and straightness no longer fits upon itself in all positions.

So we see that Euclid, in his use of superposition, clarifies his ideas of straightness at the same time. He uses straightness as a ground for congruence, and we find that this rests on straightness's quality of consistent action in space. It has *one* path from one given point to another. Equal lengths of two straight lines *will* coincide if placed over one another. The straight line is an exploratory tool we send out into space. Its predictable behavior depends on the

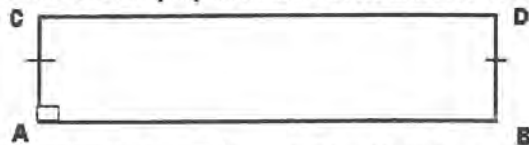
undistorted quality of space. For straightness to function as Euclid and Lobachevski use it, their geometries must operate in homogeneous space. It must be possible to lift triangle ABC and place it atop triangle DEF while trusting that triangle ABC will make this transit entirely undistorted. This is the spatial property of homogeneity, and straightness depends on it. Without it, straight lines lose the ability to measure each other, and the ground for equality is undermined. Because straightness depends on homogeneity, the possibility of straight lines provides evidence that homogeneity is a property belonging to the space. What we have discovered about homogeneity will prove useful in our coming examination of Euclid's postulates.

Now we are in an appropriate place to contrast Euclid's use of superposition with Lobachevski's. Here we return to what we mentioned earlier about Lobachevski's introduction of motion. While Euclid used superposition guiltily, Lobachevski showed us in his first definition that he will not shy away from it. We can understand this by thinking of Lobachevski's case as the opposite of Euclid's. Euclid uses superposition reluctantly, making possibly unintentional assertions as he does about the function of straightness in space. Lobachevski, on the other hand, seems to rely on the sort of assertions Euclid made. His use of superposition is meant to be reassuring. It demonstrates that his space and his straightness work the way they had to work for Euclid. In other words, his use of superposition shows that his space must be homogenous. If it were not, a proof by superposition would demonstrate nothing.

Lobachevski uses superposition to prove Proposition 24:

The farther parallel lines are prolonged on the side of their parallelism, the more they approach one another.

To prove this, Lobachevski draws a Saccheri quadrilateral, CABD, where AC and BD are perpendicular to AB and $AC=BD$:



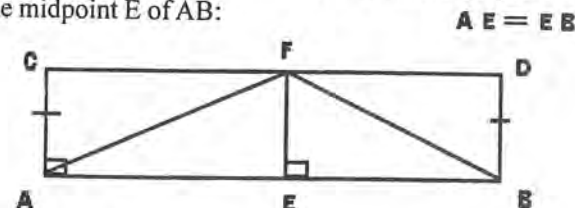
³ This could be done by drawing diagonals FA and FB. Then triangle FAE equals triangle FBE because $FE=FE$, angles FEA and FEB are both right, and $AE=EB$ (Side-Angle-Side). That said, triangle ACF must equal triangle BDF because

He asserts that ACD and BDC are acute angles and are equal to each other. We know they must be acute if they are equal to each other. If not, we could cut the quadrilateral in half with a diagonal line AD and thereby locate two triangles with an angle sum equal to two right angles. To prove the angles equal to each other, Lobachevski uses superposition:

We can easily see [that the angles are equal] by thinking the quadrilateral superimposed upon itself so that the line BD falls upon AC and AC upon BD.

In other words, Lobachevski imagines taking the quadrilateral and flipping it over, showing that the quadrilateral is exactly the same whether viewed from above the plane or below the plane.

Lobachevski's attitude toward superposition is obviously very different from Euclid's, because this method of proof is entirely unnecessary here. Lobachevski is about to erect a perpendicular EF from the midpoint E of AB:

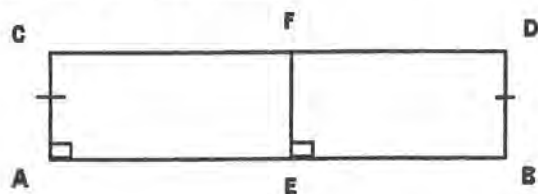


Once he does this, it is easy to use congruent triangles to show ACD equal to BDC.³ If Lobachevski had at all cared to avoid superposition, he would have used this alternate method of proof. Instead, he chooses superposition. This is interesting, because, with the alternate proof easily available to anyone reading his work, it is easy to confirm the assertion Lobachevski makes via superposition. In this case, it seems that the real reason Lobachevski uses superposition here is to show that his lines are truly straight and his space is homogenous. Before expanding this, we will look at a second example of superposition in Proposition 24, and then take the two examples together to think about what Lobachevski is asserting about space.

Lobachevski says EF must be perpendicular to CD:

Since the quadrilaterals CAEF and FDBE fit one another, $FA=FB$, angles CAF and DBF result from the subtraction of equals from equals, and it was given that $AC=BD$ (Side-Angle-Side). Therefore, angle ACD = angle BDC.

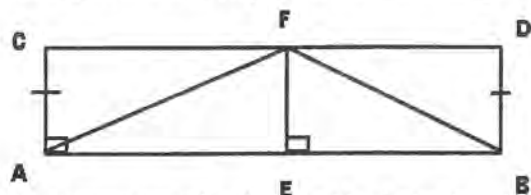
other if we so place one on the other that the line EF remains in the same position.



Here, Lobachevski asks us to fold the quadrilateral in half along EF. We know B must coincide with A because of Euclid's argument in I.4 and what it implies about straight lines. If EB is applied to EA, they must coincide in all points. Because there is no curvature, equal lengths correspond to equal lengths and B and A coincide. The same argument applies to sides AC and BD. Once we know C coincides with D, we can use the second argument we looked at from I.4. Since C and D coincide, and F coincides with itself, FC and FD must coincide, for otherwise two straight lines will enclose a space. We then see that angle CFE must equal angle DFE. Euclid's definition 10 states:

When a straight line set up on a straight line makes the adjacent angles equal to one another, each of the equal angles is right, and the straight line standing on the other is called a perpendicular to that on which it stands.

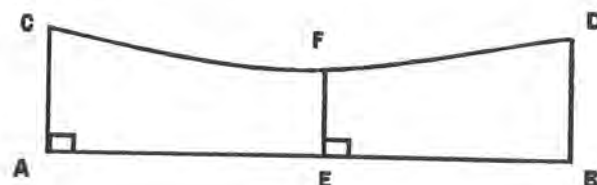
So, by applying an argument similar to I.4's, we have proved what Lobachevski set out to prove. It is again true, however, that simple congruent triangles could have proven the same thing:⁴



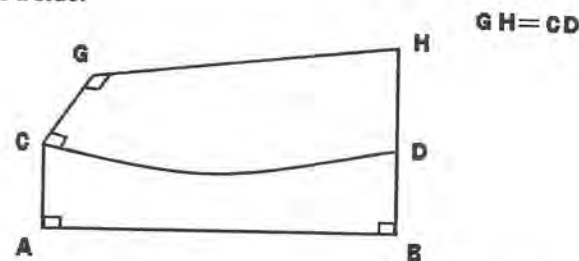
From these two examples, it looks like Lobachevski wants his reader to go through the argument from I.4 and see that it applies in Imaginary geometry, as well as ordinary geometry. This is impor-

⁴ Referring back to our previous congruent triangle proof, we can say that triangle CFA = triangle DFB and that triangle FAE = triangle FBE. Because of

tant because, having just denied Postulate 5 in Proposition 22, Lobachevski has brought into question his concept of straightness. The temptation now exists to say that Lobachevski's straight lines are actually curves. Proposition 24 – with its reliance on ideas of space and straightness identical to what we see in Euclid's I.4 – says otherwise. The lines cannot "actually" be curved, and we know this because Lobachevski both flips and folds the quadrilateral. Performing both flipping and folding keeps out the possibility of curvature when we remember that this proof and the process it invokes could be applied to any lines in Lobachevskian space. We can get away with drawing one curved line in quadrilateral CABD: line CD, for example. This curved line could be drawn curved to represent acute angles DCA and CDB, and also to represent other facts of the Lobachevskian universe, such as that EF turns out to be shorter than AC and BD:



The shape in this picture could be flipped and folded without failing ever, a second Saccheri quadrilateral, CGHD, drawn using our curved line CD as a side:



No matter how we draw GH, quadrilateral CGHD cannot stand up to both flipping and folding without somewhere failing to coincide with itself. In this way, Lobachevski demonstrates through super-

his, angle CFA = angle DFB and angle AFE = angle BFE. Therefore angle CFE = angle DFE and we can again apply definition 10 from Euclid.

position that his understanding of straightness must be the same understanding Euclid uses in I.4. Because congruent triangles confirm the truth of the statements he proves by superposition, both the statements and the method inspire increased confidence. Along with this, the homogeneity that was at the ground of Euclid's use of superposition turns out to exist in Lobachevski's space as well.

The enunciation of Proposition 24 can be seen as still another way of asserting that straight lines continue to be straight. Since we have said that parallel lines always occur in the Lobachevskian world with an angle of parallelism less than a right angle, 24 reminds us that a denial of Postulate 5 is not a denial of the directionality of straightness. We see the inclined lines and say they must be headed right for each other. As we noted before, Lobachevski uses 24 to acknowledge that they are. They will approach ever closer as they are prolonged. The difference is that somehow there is room for them to do that without crossing.

From this examination, it seems clear that the straight line itself, in terms of what we know about it from its definition, has not changed from Euclid's world to Lobachevski's. Lobachevski has used superposition to show us so. The homogeneity that straightness depends on is still present, so we know there must be something else that accounts for the difference in a straight line's behavior from one geometry to the other. Since Lobachevski does not seem to have betrayed straightness itself, our attention must return to Postulate 5. Postulate 5 represents both the problem and the solution: the problem because a picture of Lobachevski's denial of Postulate 5 seems impossible, and the solution because it is in Postulate 5 that the change takes place. We will examine Postulate 5, keeping in mind the distinction between word and image.

V. A Postulate's Function

In section I, we discussed the problem of drawing the re-

sults of Lobachevski's denial of Postulate 5. How can we visually represent what happens to Lobachevskian parallel lines when they are extended? How can there be space for straight lines to approach each other more and more yet never cross? At this point, it seems fair to raise the question of the curvature of space. In the modern understanding, Lobachevski's geometry is often called the geometry of negative curvature, and the consistency of Lobachevskian geometry has been linked to the consistency of Euclidean geometry by mapping the Lobachevskian plane onto a negatively curved surface in Euclidean space. Should we account for the questions raised by Postulate 5 through an appeal to negatively curved space? Does this explain the difficulty of drawing Lobachevskian straight lines?

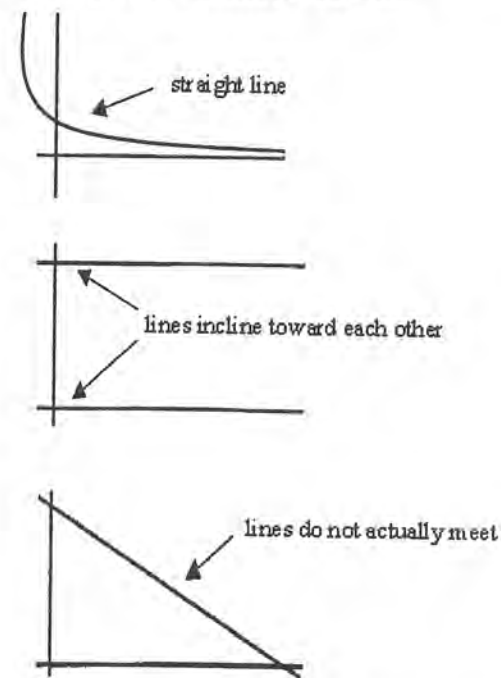
While an account for these things could certainly be devised using the idea of negative curvature, we will avoid this argument here, for several reasons. First, to call Lobachevskian space the space of negative curvature is to take Euclidean straightness as the standard for straightness. It is an effort to explain Lobachevskian straightness in terms of Euclidean straightness. We observed previously that Euclidean space does seem to have a special status as a boundary case. It is the space in which there is a definite angle sum for the triangle, a definite angle of parallelism. Its figures do not fluctuate the way Lobachevski's do. This is interesting and appealing, but insufficient reason to declare the Euclidean straight line the true straight line. Why not just continue thinking of the Euclidean world as a boundary or limit? The smaller Lobachevskian objects get, the more they behave like Euclidean objects. We could think of Euclidean straightness as the behavior of vanishingly small straight lines. Perhaps it is only in an ultimate case that there is so little *room* that lines that incline toward each other are sure to cross. Alternatively, perhaps we could say it takes curvature for figures to stay in the sort of balance

required for concepts such as similarity to hold true. After all, only a curve can remain equidistant to a straight line in Lobachevski's world. Pairs of straight lines always head either toward each other or away from each other. Perhaps Lobachevski's straightness represents the truly straight, not Euclid's, and Lobachevski's geometry results from finding a way to draw lines "straighter" than Euclid draws them. These are only suggestions, intended to show there is reason to question our assumption that Euclid's lines are truly straight and Lobachevski's have negative curvature. It seems that, if we avoid recourse to negative curvature, we will be able to discover more about the straight. In addition to this argument, it seems important to remember that negative curvature is a modern concept. Nowhere does Lobachevski indicate that what he actually means by "straight" is "negatively curved." With this in mind, it seems worthwhile to see if his concept of straightness makes sense when we believe his straight lines are truly straight.

This attempt does present difficulties. As we have said, it takes several pictures to represent Lobachevski's denial of Postulate 5, and the impossibility of combining these pictures into one makes them appear to contradict each other. Euclid's acceptance of Postulate 5, on the other hand, can be represented with just one picture. The ability to translate the words of a postulate into a single image suggests a wholeness to the concept those words define. It is difficult or impossible to translate Lobachevskian geometry into a single image. This causes the visual sense to register a lack of wholeness in the concepts of Lobachevskian geometry, and that lack of wholeness can look suspiciously like contradiction. The trouble the visual sense has in Lobachevski's world seems ironic coming just after our discussion of Lobachevski's use of superposition. We relied on our visual sense very much doing that. How can we trust it for superposition when we can't trust it to show us how straight lines might disobey Postu-

late 5?

Here is where a distinction between word and image may come into play. We drew three pictures earlier that together represented two straight lines that do not obey Postulate 5. Each picture contained two of the elements required for the situation but contradicted the third. So the statement, "Imagine two straight lines that incline toward each other yet don't intersect," became:



The sentence describing the situation can be broken down into three parts: the statement that the lines are straight, the statement that they incline toward each other, and the statement that they don't intersect. Each of these parts can be stated individually and make sense, just as each can be drawn individually without difficulty. The contrast between word and image comes when we try to hold the ideas together in one sentence or one picture.

The sentence seems to be all right. We know what it is trying to say. Our reason can place all three concepts in relation to each other,

and they do not contradict. As we have seen, nothing about the definition of straightness requires that the lines intersect. If there were something contradictory as far as reason is concerned about holding our three notions (straightness, inclination and non-intersection) together at once, it would have been possible to prove Postulate 5.

The odd thing is the picture. One of the advantages of a visual representation is that it freezes a number of concepts together in one moment. In our earlier discussion of triangle congruence in Proposition 24, a picture makes a great difference. The geometric understanding required to see the congruent triangles is minimal, yet a person seems much more likely to "see" them if a diagram is available or the person draws a diagram using a description of the proof. In any sort of complicated proof, the urge to draw a diagram is almost irresistible. This serves the function of wholeness. The diagram performs the task of holding given concepts in relation to each other, thereby freeing the mind to seek new connections and add new relations which can then be represented in the picture. Concepts that hold together without contradiction are thus a necessary condition for the production of an intelligible diagram. The inability to draw a picture of a group of concepts *suggests* the concepts cannot actually be held together in the same moment without contradiction. The question is whether the ability to draw a picture of a concept is a necessary condition for its noncontradiction.

One way to approach this question's effect on Lobachevskian diagrams begins with an examination of what it is to be a postulate. We saw that the different behavior of Lobachevskian straight lines does not have its root in the definition of a straight line. Instead, we have laid responsibility for this at the feet of Postulate 5. How can an adjustment so dramatic be made to a postulate without altering the nature of the thing in question (in other words, without altering its definition)?

Here, we can seek a distinction between the function of a postulate and the function of a definition. As we see from Euclid's definitions, definitions name objects and give the situation in which these objects may exist. For example, here is definition 23:

Parallel straight lines are straight lines which, being in the same plane and being produced indefinitely in both

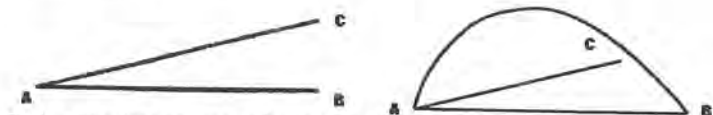
directions, do not meet one another in either direction.

The thing defined only exists if the situation described in the definition can exist without contradiction. If, for some reason, there were no way to draw two straight lines in the same plane, Euclid's definition for parallel lines would be irrelevant, and parallel lines would not have any sort of existence. A postulate, however, forms the basis of any situations that *can* exist. It lays out the ground rules for construction. It places definitions in relation to each other. In this way, a postulate may actually be about the nature of the space in which geometrical objects exist. Consequently, it may in some way determine what objects can be placed there.

Each postulate Euclid gives tells us more about which geometrical objects can exist in space. Postulate 1, for example, gives the ability

To draw a straight line from any point to any point.

This is what allows us to place the straight line in the position of importance it occupies, and seals it as a standard of equality. The straight line can connect any two points, while no other given curvature can be guaranteed to do the same:

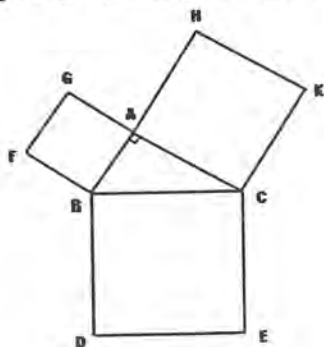


This postulate seems to be at the root of our knowledge that straight lines and planes can fit into space without being bent, and therefore provides grounding for our notion that space is homogenous. Postulate 2: To produce a finite straight line continuously in a straight line, defines space as limitless. Postulate 3: To describe a circle with any center and distance, tells us space is limitless, as we saw in Postulate 2, and homogenous, as we saw in Postulate 1. Postulate 4, That all right angles are equal to one another, also seems to be an effort to establish homogeneity. A perpendicular will produce the same equal angles every time, no matter where it is erected. This analysis suggests that Postulate 5 is also mandating something about

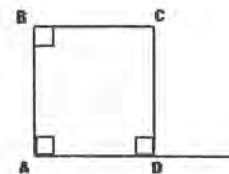
space through its declaration about the behavior of straight lines. What could that mandate be?

The fact that Postulate 5 is first used as late as I.29 seems like good evidence that it serves a purpose secondary in importance to the homogeneity and limitlessness of space. A significant number of proofs – those of absolute geometry – can exist on the foundations provided in Postulates 1 through 4 alone. Postulate 5 becomes necessary for Euclid later, in service of a different spatial quality. An analysis of the use of Postulate 5 and its consequences seems likely to discover this additional principle. In *Rules for the Direction of the Mind*, Descartes accused the ancients of hiding their true methods by always presenting their work in the form of a synthesis, concealing the analytic effort required to provide the foundation for that synthesis. If he is right to suggest this, it could be that Postulate 5 was found necessary after an analysis of the logical foundation needed for some later concept.

The Pythagorean theorem seems a likely candidate. Heath gives evidence that it was known well before Euclid, and the structure of Book I of the *Elements* clearly gives the Pythagorean theorem in I.47 as a culmination of what has gone before. One look at the diagram for I.47 suggests the necessity of Postulate 5:



The proof of the Pythagorean theorem – or any statement of the Pythagorean theorem – requires the notion of the square. The square is constructed in Proposition I.46, and Proposition I.29 is a key ingredient in its construction. Attempts to construct the square within absolute geometry will yield the following figure:



If we construct this figure in Euclidean geometry, the method is in fact the method needed to construct a square. We cannot, however, immediately prove it *is* a square. In quadrilateral ABCD, angles A, B and D are right angles, but there is no way to prove angle C a right angle without I.29 or some form of appeal to Postulate 5. Indeed, quadrilateral ABCD will actually change with our answer to the question of Postulate 5. If we accept Postulate 5, angle C becomes a right angle and the figure is a square. If we deny Postulate 5, angle C becomes acute and what we have is a Lambert quadrilateral.

It seems extraordinary that the figure should change with a decision we make. We performed a definite construction, and it seems that this should have produced a determinate figure. Instead, we find that in the Lobachevskian world, the same construction produces something distinct from a square. More than that, the figure's identity when constructed within absolute geometry is completely uncertain. Within absolute geometry, we are unable to say anything about the quadrilateral's fourth angle. It is only when we step out of absolute geometry and into either ordinary or Imaginary geometry that we perform the act of determination that tells us about the fourth angle. This figure exists at the edge of what homogeneity and limitlessness can provide. The fourth angle requires that space have another property, since it raises a question that cannot be answered without that property. Homogeneity and limitlessness alone are insufficient bases for the situations that can exist in geometry.

The space of absolute geometry thus seems less a legitimate space than a way of classifying propositions that can exist in either ordinary or imaginary geometry. We say they exist in the space of absolute geometry because they are not altered by the third property that must be introduced to provide a space able to meet the demands of the objects that can be constructed within it. This tells us something important about the two geometries: Lobachevski's geometry

is *not* a space governed by the first four postulates alone. Quadrilaterals show us that this would be insufficient: many of the properties of Lobachevskian objects would then remain undetermined. Instead, Lobachevskian space possesses a spatial property that is the opposite of the spatial property introduced by Euclid's Postulate 5. He shows as much at the end of his Proposition 22, when he comes to the limit of absolute geometry. In his first 21 propositions, he has boiled down a series of if-statements that illustrate the divergence of ordinary and Imaginary geometry. Nothing in absolute geometry can determine either path as correct. The adoption of one of the two possible assumptions at the end of Postulate 5 is the moment when the third property of space is determined, and it is the moment when we can distinguish a square from a Lambert quadrilateral. Any effort to construct a square will discover this, and an analysis meant to arrive at a proof of the Pythagorean theorem would reveal the necessity of Postulate 5 for that purpose.

To find a name for the third spatial property, we will examine its consequences in Lobachevskian space. These consequences are clear to us because they are represented by points of divergence. Anything that is true in Lobachevskian space that cannot be true in Euclidean space must be a result of the third spatial property. In Lobachevskian space, squares cannot exist: they must have an angle sum of less than four right angles. Triangles all have an angle sum of less than two right angles. The angle of parallelism is less than a right angle. More than this, these figures all have a unique property we do not see in Euclidean space. Similarity is not possible. If the angles are congruent, the figures are congruent. From this, we see that the third spatial property is closely related to angles. This makes sense because the third Lobachevskian spatial property is the negation of the spatial property Euclid introduces in Postulate 5. Postulate 5 mandates the behavior of straight lines in relation to each other. Its tie to angles is therefore clear, since rectilinear angles are formed by the relation of two straight lines. To say that the third spatial property governs angles is to say that it governs the behavior of straight lines in relation to each other, rather than that it governs the essence of straight lines. This is what we have seen from our examination of the definition of the straight line, and it suggests a

strange thing about straightness. Since it is difficult to explain the meaning of straightness without putting it in relation to other objects, it seems straightness may ultimately be a sort of relation rather than a property.

This third spatial property affects angles, and therefore controls the behavior of straight lines. We will call it the property of measurement, remembering that its consequence in Lobachevskian geometry fundamentally links size and shape. Lobachevskian space is homogenous, meaning that an object will retain its shape when it is moved from one spot to another. Because of the property of measurement, however, it will not maintain its shape when its size is altered. Within the Lobachevskian universe, objects therefore have an absolute size, and not merely a size in relation to other objects. We said earlier that both ordinary geometry and Imaginary geometry adopt a Fifth Postulate of some sort. We saw that the first four postulates do not sufficiently determine space. We also see from the differences between the two geometries that their Fifth Postulates are opposites. We will say the Euclidean Fifth Postulate gives space the property of relative measurement, meaning that arbitrary measurements can be applied to Euclidean objects and that an object's shape is not fundamentally related to its size. The Lobachevskian Fifth Postulate gives space the property of absolute measurement, meaning that space inherently provides a system of measurement and that an object's shape is fundamentally related to its size. An example of the property of absolute measurement in action is Gauss's demonstration of the calculation of triangle area in the Lobachevskian world. He accomplishes this by identifying the largest triangle in Lobachevskian space and using its area as a standard for all other Lobachevskian triangles. Obviously, this sort of method of area calculation would fail in the Euclidean world.

We will now recall how this discussion of postulates began. We were asking how the dramatic shift between the Euclidean and Lobachevskian geometries could be achieved by altering a postulate *only*. How could we avoid unintentionally affecting the definition of a straight line through our alteration? The answer now seems to be that the definition of a straight line and its implications can be accomplished on the ground of Euclid's first four postulates alone.

If we are right to say that the definition of the straight line is essentially the same in each geometry, then it must rest on limitlessness and homogeneity. If it could not rest on only these two spatial properties, we really would see two ways of being straight: one way of being straight within the space of absolute measurement, and one way of being straight within the space of relative measurement.

Having said this, we can answer an earlier question: how can we trust our visual sense of superposition when we cannot trust our visual sense of Postulate 5? The answer again lies in these spatial properties. Superposition, as Lobachevski uses it in 24, occurs according to Postulates 1-4. It requires only homogeneity, and can therefore exist in the same way in space regardless of whether that space's measurement is relative or absolute. Euclid's Postulate 5, on the other hand, determines space as having relative measurement. This is the area in question, and it is with regard to the postulate of measurement, Postulate 5, that our visual sense becomes suspect.

This leads us in turn to our first and most important question: How is it possible to imagine Lobachevskian geometry, especially when its denial of Postulate 5 causes our visual imagination to balk? Our ability to half-draw Lobachevskian diagrams has seemed especially puzzling. It is curious that many Lobachevskian ideas can be represented between two contradictory diagrams, but the concepts cannot be held together within one diagram. This difficulty representing Lobachevskian geometry visually begins to come clear. As we said, postulates provide grounds for construction. They are the rules governing the way in which objects may be placed in relation to each other. When we discussed the definition of the straight line, we stressed the necessity of defining the straight line apart from the physical, and, particularly, apart from the visual. This now makes sense, because our eyesight, and therefore the roots of our visual sense, exists within the physical world, and the physical world seems to exist in a space where the principles of homogeneity, limitlessness and relative measurement are all operating. We have many sorts of evidence for our existence in a space of relative measurement. We are able to recognize shapes no matter what their size. We are able to make drawings to scale. When we draw triangles for geo-

metrical demonstrations, we tend not to think the size of those triangles is important. As we saw from quadrilateral ABCD, the third spatial property must be determined. Absolute measurement and relative measurement are mutually exclusive properties in space. Objects will actually change from one space to the other, as we saw when the square became the Lambert quadrilateral. The spatial properties of our physical space must be fully determined. We saw that without fully determined spatial properties, the space of absolute geometry seemed to be more a way of categorizing than a fully functional space. Because our physical space is fully determined, its measurement must be either absolute or relative. Because our physical space and visual capacity are thus determined, we are left completely unable to represent visually the aspects of Lobachevskian space and straightness that depend on absolute measurement. The Lobachevskian situation of two straight lines that incline toward each other without intersecting falls squarely within the jurisdiction of the property of absolute measurement.

It is a different story, however, when we separate our claims about space from our visual sense. This was what we had to do in order to make cognition about Lobachevskian space into a possibility. Only in the realm of reason and imagination, divorced from the determination of our own physical space, are we free to make different and opposite determinations about space. When we close off our visual sense, we find nothing contradictory about a space existing with the fundamental properties of homogeneity, limitlessness, and absolute measurement. We can reason about this. We may even be able to develop some sort of physical intuition about what it would be like to exist within such a space. We cannot, however, apply the same visual sense to the space of absolute measurement that we use to look at a drawing on a piece of paper.

This suggests an incredible thing about imagination: Our minds are able to reason about space that exists under entirely different postulated laws from the laws of our physical experience. This is a powerful statement of the freedom of creativity. If creativity is this free, can other postulates be fundamentally altered? Perhaps. For an intelligible space to result from such alteration, it would need to remain sufficiently determined to contain its objects fully. It could

not produce objects that simply point to a need for another postulate, as we saw the quadrilateral do in the insufficiently determined space of absolute geometry. Changes in some of the spatial properties would produce even more vast effects than were produced by changes to the property of measurement. An attempt to deny homogeneity, for example, would be far-reaching indeed, as it seems from our earlier discussion that such an attempt would significantly affect the concepts of equality and congruence. If such an effect could be reconciled without contradiction, then even stranger geometries may be possible.

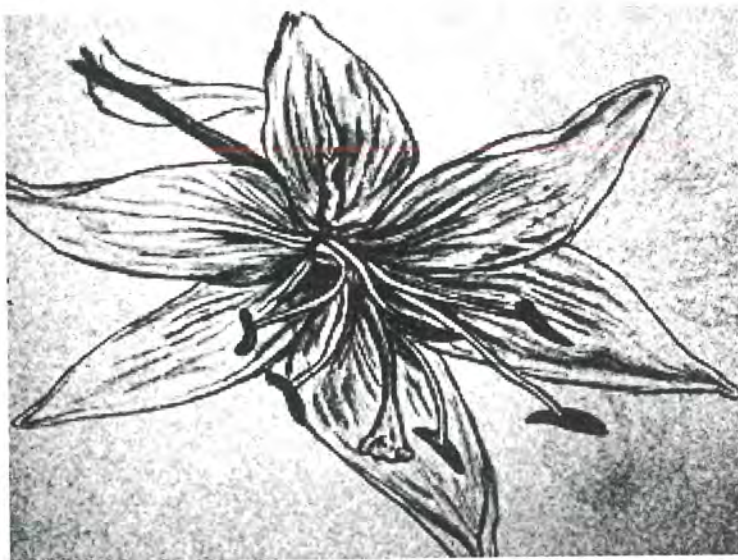
This sort of speculation suggests that the word "imagination" does not apply only to the visual sense. Here, imagination suggests possible alterations to the ground of our system, and it is then up to reason to determine the feasibility of those alterations. Perhaps the metaphor of building can provide an account for this. Imagination is the scout, seeking possible sites for the building. This happens in the daydreaming and idle speculation that produces the question, "What if things were different?" This seems to lie at the root of the Lobachevskian Fifth Postulate. Suspicion about the solidity of Euclid's Fifth Postulate, and failed attempts to prove it, seemed to invite dreams of remaking it altogether. Reason is then the builder that determines whether an appropriate building can be placed on the chosen site. We see this in the construction of the Lobachevskian system, and in the tests for noncontradiction that ultimately link its consistency to that of Euclidean geometry. All this depends on the mind's operating apart from the postulates of the physical world. It is still unclear whether those postulates were learned from experience or had a prior existence in the mind. Nonetheless, it is suggestive that the mind can create a space apart from them, that it is possible to alter them. Imagination's ability to change the rules is at the heart of its mysterious power.

As all these possibilities open before us, what do we see when we look back to Euclid? We see Euclidean geometry as the root of this freedom. As we learned to define and postulate without recourse to the physical – as we learned that these things must be stated even when they seem obvious – we learned at the same time how to question, even questioning into the properties of space itself. This gave

us the key to imaginings beyond any physical experience.

This is an exciting place to be, and a metaphysically worrying one. We mentioned that the consistency of Euclidean geometry has been linked to that of Lobachevskian geometry. This means that if one contains a contradiction, so does the other. At this point, the question of what is true takes on an even stranger appearance. It is tempting to conduct inquiries thinking that noncontradiction and truth are one and the same. The link between ordinary and Imaginary geometry makes it unclear how that could be. Can one geometry be declared true and the other false without creating a contradiction and destroying both systems? Is it possible that both Euclidean and Lobachevskian geometry could be true? Our newfound ability to alter the postulates that ground the space in which we reason makes it difficult even to identify the necessary criteria for a statement to be "true" or "real." What does it mean that our thought can range as freely as we have seen it can? At this point, we may run to the physical world. Observing that our physical space is homogenous, limitless, and possesses relative measurement, we may declare Euclidean geometry true. This does not free us from Lobachevski's questions, however. The Russian mathematician suggested toward the end of his *Theory of Parallels* that we measure the distances between stars, looking for triangles in the sky large enough to have an angle sum significantly less than two right angles. Whatever we may think about turning geometry into an empirical science that way, it seems we have been through enough questions about straightness and postulates to notice that our inability to draw lines using Lobachevskian postulates does not preclude the possibility of lines being drawn within a space of absolute measurement.

It is far beyond our ability here to provide answers for the great metaphysical questions we have touched on. It is not clear what is true or what is real. The source of the postulates we use to think about space is a mystery. There seems to be no way to say what a geometrical object really is. When we do try to think about these questions, however, it may be inspiring to remember how free our minds can be, and that our imagination sometimes has the power not merely to discover the rules, but also to change them.



Drawing for Freshman Laboratory
Kristina Dimitrijevic

January Love

Sarah Wilson

Lips like graceful autumn leaves
Suspended in white ice
Eyes like the light above the water's surface
Giving those beneath something to swim for

Huck's Last Day

Christopher Colby

The Navajo Weaver's Song

With Beauty before me, it is woven.

With Beauty behind me, it is woven.

With Beauty above me, it is woven.

With Beauty below me, it is woven.

And in Beauty, it is finished.

-Halo of the Sun

"Halo of the Sun had a tongue that could clip a hedge," Huck chuckled. "I met her in Tuba City, Arizona at the Federale's reservation trading post after Jim and I were done with our raft adventure. She was selling her weavings with Tiana Big Horse, her mother. I was crazy in love with her, Thule. Her father said to me, out the side of his mouth in the Navajo way of talk, that Halo of the Sun and I had 'the sickness.' I guess he was right—at night I ran five miles by the light of the moon just to sit with her on the chopped wood stacked outside their shack. Her father told me, 'When you marry a weaver you'll need plenty of firewood to boil the wool that they spin and dye.' Tiana Big Horse, like Halo of the Sun, was a weaver and spinner, too."

I sat next to my grandfather on the edge of the dock as he spun his story for me: it was just before the War began, and I was ten years old then.

The River at Terrebon is five miles wide here.

"We set up a squatters' cabin downriver from here where I trapped muskrat and mink. Her loom was next to the iron Franklin wood stove near a window. Halo of the Sun always spun outside in

front of our log cabin, seated in the sand on the riverbank, summer and spring, fall and winter, looking out to the river, her spindle cupped in the cradle of her bare foot. Halo of the Sun had all the firewood she ever needed from me.

The missionaries who married us baptized her first, renaming her 'Maria' before they would agree to our marriage, since I was a white man—though certainly no Christian—and she, a Navajo, was certainly more spiritual than me. But she always remained Halo of the Sun to me."

Huck sat forward with his chin on his cane, his curly white hair and walrus moustache billowing in the breeze like whitecaps on the water in front of us.

"When she was happy, she sang; when sad, she danced."

We watched a barge glide by downriver, silent as a bird, loaded with wheat or corn from the granary silos in Minneapolis, on its way south to Moline and New Orleans. Huck saw the name on the stern and laughed.

Miss Behaven.

"What did you read in school today, Thule?" Huck asked me.

"We read a very old English poem, about when He was taken off the cross and laid in Mary's arms."

"Tell me."

"He lay there awhile in her arms, weary after the great struggle."

Huck gazed awhile at the river.

"You have a way with words, boy. Now leave me."

Halfway up the hill to his house I looked back at Grandpa Huck and saw him dab his eyes with his handkerchief.

When my mother, Clare, and I came down later with his lunch, she bought a flask of whiskey and two cigars. She left us, taking with her the carafe of water she had left in the morning after tucking and shuffling his blanket around his shoulders. It was mid-September now, and the first chill of winter was in the air.

"Enough, Clare, leave me. I have a great sadness in my heart. Go now."

I lay on my back on the gray boards at his feet, picking at slivers of wood that I stuck in my mouth and chewed on while Huck took a long pull of his glass.

"Whatcha thinkin' about, boy?" he asked with his soft, nasal twang.

"Last summer, when I took care of Pyrimus and Thysbe."

Huck twisted, stirred, pawed with his fingernails at the wooden arm of his chair, and looked at Thule.

"It was you, then?"

I turned away and cried.

"I meant no harm, Huck."

When he laughed, I knew I was forgiven, and I sat curled between his legs, his arms wrapped around my shoulders and his chin resting on the top of my head, the two of us looking out at the river.

And it happened in this way.

"Thule, I'll give you ten bucks to watch Thysbe and Pyrimus while I'm away this summer."

Thysbe and Pyrimus were his favorite beagles. He kept in two cages at the back of his house. When he was younger, Huck took his hounds on the chase when he hunted rabbits. That was years ago, and he hadn't let them out since he had become too old to hunt anymore. To the scourge of all his neighbors, they barked and howled day and night.

"I wish Daddy wouldn't keep them in separate cages," Clare said once. "They wouldn't wail so at night if they were kept together. Dogs are like people, they need to touch each other and not be penned up like prisoners."

It was early summer, and I was out of school. During the summer months I stayed at Grandpa's house on the river in Terrebon to keep him company with Clare, but mostly, I think, to keep me away from our farmstead in the county outside Terrebon. The youngest child, I always seemed to cause more bad than good, and I was a constant source of hindrance to the hard work that was daily farm life, busiest at that time. I was the sickliest runt of the litter, always underfoot, and my older brothers and sisters, my father and his brother Davis, had no time now to watch me, who always had a penchant for mischief.

"I'll be gone a month out West, and I want you to take care of them for me while I'm gone."

Before he left, I called him Huck once in front of my mother. Clare's hand flashed out and slapped me. "You call him Grandpa when you talk to him." It was so unlike her, and it hurt more than her slap.

Now Huck had told me to call him by his first name earlier that summer. It had been a time of big magic for me. Huck took me out on the River in his boat for the first time; I had never been allowed in the rowboat until then.

"Thule, until you learn to swim you can't come fishing in the boat with me."

When Huck packed his fishing pole, bait, and flask of whiskey and rowed away leaving me standing on the edge of the dock alone, I cried and stamped my feet in a fit of angry tantrums which he turned his face away from as he rowed upriver with one of the dogs. But I was too scared to jump in the river and learn to swim. Day after day he rowed away, and I watched him in misery as he disappeared around Love Point and across the river towards an island off Devlan to his favorite spot near Water Rat Sandbar, a long, willow-forested island where water moccasins, snapping turtles and catfish thrived.

I was waiting on the dock when he came back one warm June afternoon.

I grabbed the line he threw me and helped him out with his string of slapping cats' while Pyrimus jumped and nipped at my bare ankles.

"Grandpa, teach me to swim."

He looked at me long and hard; a smile tickled the edge of his drooping mustache.

"Watch Pyrimus, boy."

Huck grabbed the dog by the hunk of fur on the back of his neck and, with the other hand, the fur on his rump. He lifted him up and tossed him in a graceful arc into the river, his legs splayed wide in the afternoon sunlight. Pyrimus disappeared in a splash and bobbed and popped to the surface, treading the water with his two front legs; his tail wagged with excitement as he swam to shore. When he walked onto the beach next to the dock, Pyrimus shook from himself a cascade of flying water.

"See what he did in the water, boy, with his front legs?"

I could smell whiskey on his breath and the stink of fish and river on his hands and shirt and pants. Huck grabbed me by the collar and the back of my belt and threw me over the side of the dock.

The cold black water swallowed me and I sank, my ears ringing in fear and my eyes closing in panic. I could feel the river gulping like a windstorm around me, and when my feet touched the sandy bottom I kicked hard down at it while my arms flailed crazy around me. When my head was out I whipped the water with my arms, but I didn't sink again. The water stung my eyes and nose, and I spat water from my mouth, coughing.

Huck was on the edge of the dock, hands on his knees, bent over laughing and shouting at me.

"Swim, boy, swim!"

When I reached the dock, he leaned over, pulled me up and sat me down on warm, sun-burnt wood. I was shivering and still coughed. Huck sat next to me, his arm wrapped around my shoulder. Pymus, his eyes laughing at me, licked my face.

Next morning I helped load the rowboat with two bamboo-fishing poles and their red and white cork bobbers, a dog, and a white-haired old man. I sat cross-legged in the small, triangular seat at the front of the rowboat, the very figurehead of a young god on an old clipper ship, facing fearlessly the calm sea as the ship leaves port under full sail.

Halfway to the Water Rat Sandbar he told me I was always to call him Huck from now on.

When Huck reached me on the edge of the dock after Clare slapped me, my cheek still stung, and I swallowed tears and wiped my eyes. Clare had never hit me before.

Huck sat down next to me.

"Look, Thule, let's keep this our secret. When we're alone together, you call me Huck. Otherwise, around Clare and anyone else, just call me Grandpa."

We sealed our trust with a spit on the palms of each other's hands and said with a solemn oath, "Cross my heart and hope to die,

so help me God."

By the time Huck asked me to watch Pymus and Thysbe, I was allowed to go out in the boat by myself.

Clare and Huck argued about it for days before Clare finally let me go.

"Clare, he's got to cross the River alone someday," Huck said. "I've taught him all I can of the riverways. Let him go."

I could hear Clare crying in her room when I tried to kiss her goodbye that first morning. "Go away," She screamed at me. But halfway down the hill to the dock she caught up with me. My bamboo pole got tangled in her shawl when she hugged me and covered my forehead with kisses.

"Don't go down river, Thule," Huck said. "I know you're going to want to do it someday, we all are tempted by it. But stay away from The Great Black Swamp and the Island of The Butterfly Tree. Since Adam and Eve's time it's been a dangerous place. And now, like all men, you've got the taste of the apple in your mouth."

My mother stood with Huck on the edge of the dock until I turned a bend in the river and lost sight of them.

Out of the mist Water Rat's Sandbar loomed ahead of me like Treasure Island...

Huck wasn't too well the rest of that summer, and he went west to Arizona and the hot dry air around Camelback and Tuba City where some of Halo of the Sun's family still lived. Halo of the Sun had died the winter before, and Huck wanted to see family that couldn't come to her funeral. Most lived in shacks at the foot of the Suspicion Mountains near what is present-day Scottsdale.

I was so proud to take care of Huck's two hunters. We were pals, the three of us that summer.

"Take 'em out everyday and run 'em, Thule. I can't anymore," Huck told me when he got on the train. "But make sure you put them back in their pens alone each night."

I did.

We ran through fields of greening wheat washed by hot summer winds and I spent lazy-lulling afternoons bare-assed in the clear

cool water near Rat's Bar while snakes and snappers warmed themselves on the rock in the swirling water. On a big flat rock offshore of Rat's Bar I lay to dry in the afternoon sun like a turtle as minnows nibbled at my ankles and golden sand bubbled up between my toes. By the dock was a table where I cleaned the fish I caught for our supper later that night. After sunrise, Clare never saw me—I always brought a sandwich with me in the boat—until supper, when we ate the fish I caught that day. Afterwards, she saw me again only after sunset, when she rang the great cowbell on the porch calling me home to bed.

One afternoon, Prymus and Thysbe played together in a way I had never seen them play before.

"What are they doing?" I asked Big Wayne, a boy who lived down the street from Huck's house and whom I had known for several summers on my stays at Huck's house in Terrebon. He was older than me and, in the blunt language of a thirteen-year old kid, told me what they were doing. It was a coarse word I had only heard in school locker rooms, whispered, tossed fleeting from other boys with hushed secrecy. It had no meaning for me. Soon Big Wayne and I had a regular crown of neighborhood boys and girls every afternoon sitting in circles around Prymus and Thysbe in the woods near Huck's house, behind the wood shack, watching them at their endless dance and play.

Day after day we watched them play.

It was hot that July, and folks kept their windows open to the cool Minnesota breezes that blew fresh off the river at night, smelling of the great here and now, wisteria, and a bit of forever, too.

"Thank God those dogs are quiet now every night," Clare said to me. "It's good you let them out and run them everyday so we can sleep a little more."

Huck came back later that summer, more tired, I thought, than when he left, and quieter than before.

Summer was nearly over. I was burned brown from the summer sun and in late August I went back with Clare to our farm outside Terrebon, for Clare, and even I, were needed now, as the harvest-time had just begun. Back to the dreadful days of school, tedious farm chores and the winter of boredom that was my home

life.

When I saw Huck for my birthday in mid-September, Thysbe had a litter of pups sucking at her stomach in her pen.

"I just can't understand, Thule, how this could have happened: Prymus and Thysbe are never together," Huck said, "I just can't understand." He scratched and shook his head. Nor could I, until I remembered, like a sudden thunderclap of lightning over Rat's Bar in the back of my memory, their ritual dance and play at the wood shed.

"Can I have one of them, Huck?"

We had all gathered at Huck's house for the weekend: it was my birthday, and rather than have Huck, who was rather weak and tired these days, travel the twenty miles to the farm to celebrate it with us, we spent the weekend with him. Huck always loved family gatherings at his big house on the river, even more so now that Halo of the Sun was gone.

I named him Lucky.

I have been a river man all my life, and love to watch the fog as it burns off in the morning sunlight. I begin now to see the shape my death is about to take, like the river islands becoming more visible around me as the fog lifts.

When I looked at myself in my mirror this morning, I felt like Helen of Troy must have, wondering in her pitiless old age how she could ever have been loved, and, like her, I wept that I had ever been carried away now that I am grown so wrinkled and craggy.

My eyes looked back at me, and my face spoke only of the passage of times gone by.

The river is five miles wide here. Up river, a boat was just barely visible on the horizon north of where he sat on the dock's edge. Winter was in the air, and Huck saw that boat coming slowly towards him with two people in it. When it touched the dock next to him, Halo of the Sun sat smiling up at him.

"Come on, Huck. Time we go downriver to The Island of The Butterfly Tree together. Pay the man his toll."

A wind rushed in Huck's ears; sun filled his eyes with pulsing

flares of streaming rainbows and light: the River stood still and calm before him, wide as forever. The tiller man held his hand out and took a tarnished Indianhead penny from Huck's fingers.

When I came later that afternoon to gather him for his supper, the rowboat had been tied to the dock.

Grandpa Huck's wheelchair was empty.

On the table a tumbler lay on its side, the flask nearly empty now; an uncut cigar lay next to it. Huck's blanket lay in a half-circle around the wheels of his chair like an abandoned and empty cocoon's shell.

I sat down in the cane-wickered chair, took off my shoes and stockings and wrapped Huck's blanket around my shoulders. Clare found me later that afternoon sitting on the edge of the dock, while my feet dangled in the swirl of cool water.

The river is five miles wide here.

On some fall mornings, I can see from my office window the barely discernable shadow of Water Rat's Sandbar in the river mist. The river is five miles wide. When I got home that night, my daughter Clare wrestled with old Lucky in the back yard, and Marian's supper lay waiting when she called us in to the table.

A Current Past

Katrina Gersie

for Daddy

What I want
is to hold you here, or better yet
to take you back, and relive a memory
that is too much for my aching head to hold now,
too bright, too brilliant, as heavy as

What I felt
on the river that day, like concrete,
the current sluggish. I remember it, broken
by the prow of a birch-bark canoe,
and algae-insect river smell, and deep silence, like

What I knew
in my bones, that I would have a thousand
other days like this, and that we were as continuous
and unbroken as time. You and I could never bear to sleep,
but it was easier on soil, and it was easier to ask

What I asked
when things got slow around the fire, logs crackling:
who says time is linear? If it is, and things slip by
and are drowned in the river, if you are forced to sleep,
I will offer this, hold, feel, and know it:

What I am
is the first glass of wine, sweet, that I drank by the fire,
the soil, rising from the river, that cradles our bones,
a prow slicing through the stillness, and the good talk
that kept me awake all night long.



Drawing for Freshman Laboratory
Kristina Dimitrijevic

Conversation and Community: On the Phaedo

John Verdi

In real life we are likely to be disappointed by our own last words and those of other people. There is no good reason to expect that the imminence of death will focus our minds on something profound, or lend our tongues an eloquence they lacked while we flourished. Our attention at the end—should we even have attention—will probably be turned to something such as Emily Dickinson describes about her own moment of death: “I heard a Fly buzz—when I died.” From others the words we’d so much like to *hear* are, frankly, those that would be spoken just *after* death, impossible words, that might comfort or inform us. But these words we never hear, not in real life.

In a work of art, however, endings *must* be revelatory, flush with meaning, because the artist has crafted his work to come to this. No chance buzzing fly can free the artist or us from their invitation. And so in the *Phaedo*, a work of art almost entirely about endings, the last words of a great talker compel us to investigation. We cannot slight their significance.

The final words of Socrates are these:

ᾧ Κρίτον...τω Ασκηπιῶ ὀφείλομεν ἀλεκτρούνα

ἀλλὰ ἀποδοτέ καὶ μὴ ἀμελήσητε. (118A)

Here are a few translations I found.

Crito, I owe a cock to Asclepius; will you remember to pay the debt? (Jowett)

Crito, we owe a cock to Asklepios; pray do not forget to pay the debt. (Hackforth)

Crito, we owe a cock to Asclepius; make this offering to him and do not forget. (Grube)

Crito, we owe a cock to Asclepius. So pay the debt and don't be careless. (Brann, Kalkavage, Salem)

One attempt to understand the last words of Socrates can be found in Nietzsche's book, *The Gay Science*, in a section called *The dying Socrates*.

Whether it was death or the poison or piety or malice—something loosened his tongue at that moment and he said: "O Crito, I owe Asclepius a rooster." This ridiculous and terrible "last word" means for those who have ears: "O Crito, *life is a disease*." Is it possible that a man like him, who had lived cheerfully and like a soldier in the sight of everyone, should have been a pessimist? He had merely kept a cheerful mien while concealing all his life long his ultimate judgment, his inmost feeling. Socrates, Socrates *suffered life*!

Among commentators on the *Phaedo*, Nietzsche does not stand alone in suggesting that Socrates's sacrifice to the god of healing means that he considers his death to be a restoration of his health. For instance Jacob Klein, in a lecture given here some decades ago, says that "Socrates's last words imply that he is recovering from the most disastrous disease, the one that imprisons his soul in his body. He is recovering from this disease because his soul is leaving its prison." (Published in *The College*, January, 1975.)

There are some good reasons for accepting the Nietzsche-Klein take on Socrates's last words. Socrates attributes to Cebes the suggestion that life is a disease (95D), and it is not clear that he ever explicitly denies this idea. His own characterization of the philosopher as "devoting himself as much as possible to dying and being dead" (64A) and of philosophy as "the care of death," (in Greek, *melete thanatou*, 81A) seem to support at least the interpretation that the philosopher would prefer to be separated from his body, if that could be accomplished without impiety. Socrates's overall at-

titude on this his last day also suggests that, if he is not confident that he is going to a better place, at least he has high hopes.

Looking again at the translations, let's leave aside for now the obvious and obviously troubling "problem of the plural." I'll come back later to the verb *opheilomen*, which is a second person plural rendered as singular by both Nietzsche and Jowett, and understood as singular by Klein and others. For now we'll assume that Nietzsche, who knew quite a bit of Greek, at least got the translation right, or at least got it just the way he wanted it. I would like to raise first the question of Asclepius and why his name should be on Socrates's lips as the hemlock makes its way to his heart.

Asclepius was considered to be a son of Apollo and a god related to healing and recovery from sickness. People would offer sacrifices to him in at least three different ways. First, those who were cured of sickness, either by some medication or simply by time, might offer thanks to Asclepius for the recovery of their health. "I was ill, now I am well. Thanks be to the god." This is what they might have said. Others who were ill would supplicate Asclepius with a sacrifice before going to sleep, hopeful that they would awaken cured. "I am ill. Please, god, make me well." This could have been their prayer. Still others would take themselves to a kind of temple called an askleipion, the most famous of which was in Epidaurus, in the eastern Peloponnese. Here they would sleep and dream, and upon waking, would have their dreams interpreted by a servant of Asclepius. The explication would usually contain some suggestion for remedy, whereupon the sick person would offer the sacrifice and go away. "I am ill. Thanks be to the god for the prescription."

Now it may not be important in the end exactly how we imagine Socrates is imagining the purpose of his sacrifice to Asclepius. But the *Phaedo* is a work of art, and if Socrates's very last thoughts are not merely taken up with the buzzing of some fly, then we ought to wonder which of the three prayers he means to make.

If Socrates feels obligated to Asclepius for a cure already effected, or clearly about to be, then Nietzsche's interpretation makes some sense. Life in the body is sickness, death or release from the body is health, and because Socrates won't be able to offer the cock himself, he asks his friend to do it in his behalf. If death is a kind of

sleep, the sacrifice might be of the second kind, made by Socrates with the hope that he will awaken on the other side cured. In this scenario Socrates still considers life a sickness, but he is not so sure that death will be its cure.

The third perspective on what a sacrifice to Asclepius signifies requires that the patient have a dream and that this be interpreted to get at a prescription for a cure. Socrates does tell us (60E) about a dream he has repeatedly had, in which he is always told to "make music and work at it!" He has until recently confidently understood this to mean that he is to pursue philosophy, though since his imprisonment some doubts have led him to set some of Aesop's fables to poetry. In this scenario Socrates is both patient and interpreter; if life is the sickness, then philosophy, not death, is the prescribed cure.

(I'll note in passing that immediately following this scene, before the friends begin their discussion of death and immortality, Socrates puts his feet on the ground. It is not until 117E, just before he speaks his last words, that he raises them up again. From a dramatic point of view, then, the dream discussion and the last words follow immediately upon one another.)

These then are the three ways I've come up with to think about why a sacrifice to Asclepius might be on Socrates's mind as he lay dying. They all suggest that Socrates thought life to be a sickness, and the body something best to be turned away from as much as possible. If this is true, however—and we would be in very good company if we accepted it as simply true—why then does Plato tell us (116B) that Socrates had three sons, one big and two small? Why do the friends find his wife, Xanthippe, already with him when they join him very early on that last morning? And why do his bodily feelings of pleasure and pain upon the removal of his chains serve as an introduction to a philosophical discussion of some of the most important things? Socrates has counseled his friends (67C) to separate "the soul from the body as much as possible and [habituate] her to gather and collect herself all by herself out of all the sites of the body," but he also caresses Phaedo's head and plays with his hair in one of the most purely sensuous scenes in Plato. Perhaps the offering to Asclepius is for a sickness, perhaps something is or becomes

sick in the course of the dialogue, but need the sickness be life itself?

Let's allow the grammar to open another door and turn to the problem of the plural. The verb **opheilomen** is a second person plural, of that there is no doubt, so it ought to be translated "we owe." Unlike "I," "we" is not unambiguous in its referent. Socrates might mean himself and Crito, or maybe all those present in the prison room. Plato might even intend "we" to refer to all readers of the *Phaedo* for all time. If Socrates means only himself and Crito, then "we" effectively becomes "I," and something like the Nietzsche-Klein view of the last words becomes difficult to escape.

What makes it unlikely, though, that by "we" Socrates means only himself and Crito are the plurals that follow **opheilomen**. Both **apodote** and **me amelesete** ("pay the debt" and "don't be careless") are second person plurals, the first an imperative, the second a prohibitive subjunctive with the force of an imperative. Socrates cannot be using them to refer to himself and Crito because imperatives cannot refer to oneself. Socrates must mean something like "you all pay the debt," and so probably he meant something like "we all owe a cock to Asclepius."

The grammar hints at something worthwhile: none of the three understandings of the sacrifice to Asclepius that I suggested earlier can be correct, because the only healing that has taken place, or about which there can be hope, must be a healing for all in that room, not only for Socrates. Neither of the first two interpretations would hold up if we take the grammar strictly, because only Socrates is about to die. The third would pose a problem because Socrates is the only one to have related a dream. The sickness can only be of the whole group, of all of them, as must be the cure.

Our own second sailing is called for. Our first, propelled by the winds of Nietzsche, leaves us at sea. We do not yet know what Socrates's last words might mean, and so how can we have any idea what the *Phaedo* as a whole might mean? Yet can we confidently translate these final words without some sense of the dialogue in its entirety? We here confront in small form one of the paradoxes of translation: how to translate the part without knowing the whole. Yet how can we grasp the whole before translating all the parts? We

would like to translate the entire work at once, the whole and parts mutually illuminating one another simultaneously. But we can't. So we take out the oars and row back to the beginning of the dialogue. (Why didn't we start at the beginning?) Here we encounter the story of Theseus and his ship.

In the time when Aegeus ruled Athens, the Athenians, due to some unpleasant business, were forced by Minos, king of Crete, to pay a tribute every nine years. They were to send seven boys and seven girls to be eaten by the Minotaur, the hybrid love-child of Minos's wife and a beautiful bull. When the tribute came due the third time, Theseus, who was Aegeus's son, volunteered to go in place of one of the victims, hoping to slay the Minotaur in its labyrinth, return with the hostages, and free Athens from this odious tribute. The city of Athens vowed to Apollo that they would send a mission every year to Apollo's temple in Delos if Theseus succeeded, which he did. (He also carried off Minos's daughter, Ariadne, whom he later abandoned.) In response to Echecrates's question as to why the delay between the trial and death of Socrates was so long, Phaedo tells him that the Athenians have a custom to perform no executions while the ship carrying this tribute to Delos is out of port. This time winds kept the ship away from Athens longer than usual, hence the delay.

The story of Theseus and the Minotaur provides a backdrop for the dialogue, perhaps even a skeleton. Fourteen people present in the prison with Socrates are named by Phaedo. Socrates is surely Theseus. Perhaps one of them is meant to be Ariadne. Plato, by the way, was absent, and thought by Phaedo to have been ill. When we look to the center of the dialogue, where we might expect to find our Minotaur, two powerful hobgoblins confront us: fear of death and hatred of the logos, or misology, perhaps reflecting the monster's own dual nature. Simmias says (88B)

the confidence that characterizes anybody who's confident in the face of death is a mindless confidence so long as he can't demonstrate that the soul is altogether deathless and imperishable. And if he cannot, then it's necessary that a man about to die always fear for his to

soul, in case she should altogether perish in her imminent unyoking from the body.

And just a few lines later (89D), Socrates tells his friends that "it is not possible for anybody to experience a greater evil than hating arguments." In the dialogue these two forces are linked, because the failure of the early arguments for immortality to withstand scrutiny is what leads the group to both a deepened anxiety over death and a heightened mistrust of discussion. If these constitute the sickness for which Socrates urges the sacrifice to Asclepius in his last moments, then perhaps we have come closer to understanding those words. Whether the sacrifice be in thanksgiving for a cure already performed or in supplication for one yet to be, we still would not know.

I doubt, though, that Socrates—or anyone—could, through his words free us once and for all of the fear of death, or mistrust of argument-logos. Socrates knows this is the work of a lifetime. His most pressing concern, I think, on this his last day is to keep alive the conversation among his companions and help prevent the community of friends from perishing after his own death. The loss of just one man threatens both the ongoing conversation and the very life of this small group of thinkers.

When I spoke of the grammar of Socrates's last words, I suggested that the plural verbs urge us to consider that the illness to which Socrates alludes is shared by all those with him. The grammar, however, cannot help us determine whether we are to understand the "we" as "all of us taken singly as individuals" or something like "all of us constituting a single community." Does Socrates focus on the confrontation with the death that each of us faces alone, and our own private mistrust of arguments that purport to point us toward the truth? Or is he concerned as much with the death of conversation in a community and how to keep both conversation and community alive? The Theseus story might once again be able to help a bit. Near the beginning of the dialogue, when Echecrates asks Phaedo what ship had been responsible for the delay in Socrates's execution, Phaedo says: "This, as the Athenians say, is the vessel in which Theseus once went off leading those twice seven

Crete." (58B) Plutarch, in his *Life of Theseus*, tells us more. He says that

[t]he ship wherein Theseus and the youth of Athens returned had thirty oars, and was preserved by the Athenians down even to the time of Demetrius Phalereus [350 BC], for they took away the old planks as they decayed, putting in new and stronger timber in their place, insomuch that this ship became a standing example among philosophers, for the logical question of things that grow; one side holding that the ship remained the same, and the other contending that it was not the same. (23.1)

The ship of Theseus, then, stands not only as a symbol of the success of Theseus's battle with the Minotaur and as the signal for the death of Socrates. It also raises for us the question of how things—ships, people, conversations, communities—maintain their identity over time. Plato has in fact suggested that this might be an important theme in the dialogue by the word that begins the entire work, **autos**, or self. The dialogue begins when Echecrates asks Phaedo: **autos, o Phaidon, paregenou Socratei**, were you yourself with Socrates, Phaedo? (57A) It is important that Phaedo himself have been there, that he remembers and can tell Echecrates what took place on Socrates's last day. But even if the immortality of the soul can squeak by, is there an argument in the dialogue for the *identity* of self and soul? Even if **psyche**, the soul as life-giver, remains alive forever, what happens to *me*, **autos**? Is not this the question we really want asked—and answered?

Let's take seriously for a minute the puzzle about the continuing identity of the ship of Theseus. This ship has been replaced over the centuries, piecemeal. Tattered sails have been removed, worn-out rigging replaced, new lumber substituted for the very wood on which Theseus himself walked, until finally no physical part of the original ship can be said to remain. Is the ship that signals the death day of Socrates the same one that helped free Athens from the horror of the Minotaur? In what would we say the identity of the ship consisted? Certainly the shape and size are the same, the kinds

of materials are likely to be the same or very similar, it still floats and sails, and has over the years maintained all these qualities. But also, people have talked about it as the ship of Theseus, it has been used for a long time as a ship sent on a very specific mission, to offer sacrifice to Apollo. And it occupies a certain status in Athens, so exalted a position, that during its absence on this mission no public executions can take place. In other words it has maintained a unique place in the polis, regardless of what has happened to its parts. And work has been needed to preserve it in a condition to serve its purpose. It has not come by its immortality simply by its own nature.

Now, if a ship had a soul, we might think that the soul of Theseus's ship has lasted the many centuries since the time of Theseus, and that the work done to maintain the ship in usable condition has had something to do with keeping ship and soul together. Of course we can't say that the ship's soul is like a human soul, because a ship's life is not at all like a human life, though bound up with human life. But whether or not the soul of the ship is equivalent to the identity of the ship, that is, whatever allows us to call this ship today the ship of Theseus, seems an odd question to put, for what could the soul of the ship be other than what makes the ship to be what it is? And what could this be, in the case of the ship, other than the configuration of its parts, its purpose, activity and the collective memory of those who witness all these? In the case of the ship, soul and self seem one and the same.

People are different. In what does the identity of a person consist? What makes us the same over time, even though our own body is regenerating and may not be very different in some respects from Theseus's ship? If there are physical parts of the body that never wear away, would we want to call these what we are, what maintains us as individuals? I think not. We might say that the soul is what I am, and that is why its immortality concerns me. But if the soul is a principle that gives and sustains life, it need not as such also give and sustain identity. And so the question of my own survival, the survival of **autos**, may be different from that of the survival of my soul.

Socrates cannot assure us that the individual soul is immortal,

though he shows some ways in which we might think about it. In the myth of the true earth, he suggests that the soul and the self may be one, or closely connected, because my actions in this life affect the condition of my soul. This question of **autos** and **psyche**, perhaps the most important one not directly addressed in the dialogue, remains alive after Socrates is dead. If **autos** and **psyche** are one, if *my* immortality is equivalent to the immortality of my soul, then I shall remain genuinely interested in the immortality of my soul. But if the continuing identity of me as a person is not the same as the existence of the same soul in my body, then I at least become more interested in how to maintain my identity, and the importance of my soul's immortality fades.

All these questions, however, will never be explored if the conversation dies. This conversation, which is a form the logos takes in community, requires work to keep it alive. Arguments that become worn must be jettisoned, replaced with new ones, in a never-ending effort to keep the ship afloat, for without such caretaking, the logos in this form can die. Misology can kill it, if we come to think that replacements cannot be found for every defective argument. If we come to rely entirely on only certain ways of thinking and talking about a question, then when these ways are mortally challenged or shown to be—or become—corrupted, we'll find no escape but to abandon the sinking ship. Simmias says that

to know anything about such matters in our life now is either impossible or something altogether hard, while again not to test in every way what's said about them and to back off before one is worn out with investigating them from every side, is the part of a really soft man....He must learn or discover what's the case, or, if that's impossible, he must sail through life in the midst of danger, seizing on the best and least refutable of human accounts...and let himself be carried upon it as on a raft. (85C)

It is for the survival of the conversation that Socrates and his friends owe a cock to Asclepius. And if we return to the very last word of Socrates, **me amelesete**, do not be careless, we may come

to believe that his *ultimate concern* is not simply for the sacrifice to Asclepius. Crito, at 115B, had asked Socrates what his last instructions were for those present. To this Socrates responds:

By caring for yourselves, you'll be doing whatever you do as a favor to me and to mine and to yourselves, even if you don't agree to anything now. But if you're careless (*amelhte*) of yourselves and aren't willing to live in the footsteps of the things said now and in the time before, no matter how many agreements you may make at present...you won't be doing much.

Here Socrates uses the very same verb, **amelein**, as in his last word. Here the form is again a second person plural. He is not telling Crito not to neglect the sacrifice or not perform it carelessly. Rather, he is exhorting his friends not to abandon the care they have come to have both for one another and for philosophy.

Now in closing I'll offer a few words about our community, St. John's College. We are known as the Great Books school, the college where the entire curriculum is core. We are lesser known for what is an equally important characteristic: we are the school in which the logos manifests itself primarily as conversation. The art of conversation as we practice it consists less in drawing conclusions and arriving at truths than in finding the maximum amount of common ground with others, and in discovering increasingly more fruitful ways of speaking with one another about books and ideas. Our goal we might say is not so much to reach shore, but to keep our ship sailing.

Conversations possess this power, that when carried on well, when not merely the exchange of unshakeable or superficial opinions, but instead sincere and sympathetic efforts to adopt other perspectives and to see with other eyes, they can help us revision our world and ourselves. Coming to understand something through conversation is more like getting acquainted with a person than like following an argument. Coming to understand takes time, exposure and familiarity. It takes conversation in that old sense of the word, which means living and dealing with others.

Philosophy, for both Socrates and us, is a common endeavor that requires both conversation and community. Our work in some sense is to be caretakers of the logos, and our community works at

Energieia

maintaining the life of the logos as conversation. The immortality, if such it may be called, that arises from this work obviously transcends any one argument or conversation or book or person. Perhaps it is the best version of immortality for which we can reasonably hope. I don't know.

The *Phaedo* begins and ends with sacrifice. The city of Athens commemorates its liberation and renewed life by an offering to Apollo. Socrates and a small group of friends thank Apollo's son for restoring their conversation and keeping their community going through its greatest crisis, the loss of its most important member. For us here the job is probably a little easier, but no less important.