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AND *THE STORY OF B*



MY ISHMAEL

A Sequel

THE PHENOMENON CONTINUES

School Daze

"I do realize, Julie, that I have to show you how to explore this new continent that I've led you to."

"I'm glad to hear that," I told him.

"Perhaps you'd like to hear how I first began to explore it myself."

"I'd like that very much."

"Last Sunday I mentioned the name Rachel Sokolow as the person who made it possible for me to maintain this establishment. You don't need to know how this came about, but I knew Rachel from infancy — was in communication with her as you and I are in communication. I'd had no experience of your educational system when Rachel started school. Not having any reason to, I'd never given it even a passing thought. Like most five-year-olds, she was thrilled to be going off to school at last, and I was thrilled for her, imagining (as she did) that some truly wonderful experience must be awaiting her. It was only after several months that I began to notice that her excitement was fading — and continued to fade month after month and year after year, until, by the time she was in the third grade she was thoroughly bored and glad for any opportunity to miss a day of school. Does this all come as strange news to you?"

"Yeah," I said with a bitter laugh. "Only about eighty million kids went to bed last night praying for six feet of snow to fall so the schools would have to close."

"Through Rachel, I became a student of your educational system. In effect, I went to school with her. Most of the adults in your society seem to have forgotten what went on when they were in school as small children. If, as adults, they were forced to see it all again through the eyes of their children, I think they'd be astounded and horrified."

"Yeah, I think so too."

"What one sees first is how far short real schooling falls from the ideal of 'young minds being awakened.' Teachers for the most part would be delighted to awaken young minds, but the system within which they must work fundamentally frustrates that desire by insisting that all minds must be opened in the same order, using the same tools, and at the same pace, on a certain schedule. The teacher is charged with getting the class as a whole to a certain predetermined point in the curriculum by a certain predetermined time, and the individuals that make up the class soon learn how to help the teacher with this task. This is, in a sense, the first thing they must learn. Some learn it quickly and easily and others learn it slowly and painfully, but all eventually learn it. Do you have any idea what I'm talking about?"

"I think so."

"What have you personally learned to do to help teachers with their task?"

"Don't ask questions."

"Expand on that a bit, Julie."

"If you raise your hand and say, 'Gee, Ms. Smith, I haven't understood a single word you've said all day,' Ms. Smith is going to hate you. If you raise your hand and say, 'Gee, Ms. Smith, I haven't understood a single word you've said all week,' Ms. Smith is going to hate you five times as much. And if you raise your hand and say, 'Gee, Ms. Smith, I haven't understood a single word you've said all year,' Ms. Smith is going to pull out a gun and shoot you."

"So the idea is to give the impression that you understand everything, whether you do or not."

"That's right. The last thing the teacher wants to hear is that you haven't understood something."

"But you began by giving me the rule against asking questions. You haven't really addressed that."

"Don't ask questions means . . . don't bring up things just because you wonder about them. I mean, like, suppose you're studying tidal forces. You don't raise your hand to ask if it's true that crazy people tend to be crazier during the full moon. I can imagine doing something like that in kindergarten, but by the time you're my age, that would be taboo. On the other hand, some teachers like to be distracted by certain kinds of questions. If they've got a hobbyhorse, they'll always accept an invitation to ride it, and kids pick up on that right away."

"Why would you want to have the teacher riding a hobbyhorse?"

"Because it's better than listening to him explain how a bill passes Congress."

"How else do you help teachers with their task?"

"Never disagree. Never point out inconsistencies. Never ask questions that go beyond what's being taught. Never let on that you're lost. Always try to look like you're getting every word. It all comes to pretty much the same thing."

"I understand," Ishmael said. "Again, I stress that this is a defect of the system itself and not of the teachers, whose overriding obligation is to 'get through the material.' You understand that, in spite of all this, yours is the most advanced educational system in the world. It works very badly, but it's still the most advanced there is."

"Yeah, that's what I understand. I wish you'd smirk or something to show when you're being ironical."

"I'm not sure I could even manage such an expression, Julie. . . . To return to my story, I watched Rachel being marched through the grades (and I should add that she went to a very expensive private school — the most advanced of the advanced). As I did so I began to put what I was seeing together with what I already knew of the workings of your culture and what I already knew of the working of those cultures that you are so far in advance of. At this point, I had developed none of the theories you've heard here so far. In societies you consider primitive, youngsters 'graduate' from childhood at age thirteen or fourteen, and by this age have basically learned all they need in order to function as adults in their community. They've learned so much, in fact, that if the rest of the community were simply to vanish overnight, they'd be able to survive without the least difficulty. They'd know how to make the tools needed for hunting and fishing. They'd know how to shelter and clothe themselves. At age thirteen or fourteen, their survival value is one hundred percent. I assume you know what I mean by that."

"Of course."

"In your vastly more advanced system, youngsters graduate from your school system at age eighteen, and their survival value is virtually zero. If the rest of the community were to vanish overnight and they were left entirely to their own resources, they'd have to be very lucky to survive at all. Without tools — and without even tools for *making* tools, they wouldn't be able to hunt or fish very effectively (if at all). And most wouldn't have any idea what wild-growing plants are edible. They wouldn't know how to clothe themselves or build a shelter."

"That's right."

"When the youngsters of your culture graduate from school (unless their families continue to take care of them), they must immediately find someone to give them money to buy the things they need in order to survive. In other words, they have to find jobs. You should be able to explain why this is so."

I nodded. "Because the food is under lock and key."

"Precisely. I want you to see the connection between these two things. *Because* they have no survival value on their own, they *must* get jobs. This isn't something that's optional for them, unless they're independently wealthy. It's either get a job or go hungry."

"Yeah, I see that."

"I'm sure you realize that adults in your society are forever saying that your schools are doing a terrible job. They're the most advanced in the history of the world, but they're still doing a terrible job. How do your schools fall short of what people expect of them, Julie?"

"God, I don't know. This isn't something that interests me very much. I just tune out when people start talking about stuff like that."

"Come on, Julie. You don't have to listen very hard to know this."

I groaned. "Test scores are lousy. The schools don't prepare people for jobs. The schools don't prepare people to have a good life. I suppose some people would say that the schools *should* give us some survival value. We *should* be able to be successful when we graduate."

"That's what your schools are there for, isn't it? They're there to prepare children to have a successful life in your society."

"That's right."

Ishmael nodded. "This is what Mother Culture teaches, Julie. It's truly one of her most elegant deceptions. Because of course this isn't at all what your schools are there for."

"What are they there for, then?"

"It took me several years to work it out. At that stage I wasn't used to uncovering these

deceptions. This was my first attempt, and I was a little slow at it. The schools are there, Julie, to regulate the flow of young competitors into the job market."

"Wow," I said. "I see that."

"A hundred and fifty years ago, when the United States was still a largely agrarian society, there was no reason to keep young people off the job market past the age of eight or ten, and it was not uncommon for children to leave school at that age. Only a small minority went on to college to study for the professions. With increasing urbanization and industrialization, however, this began to change. By the end of the nineteenth century, eight years of schooling were becoming the rule rather than the exception. As urbanization and industrialization continued to accelerate through the 1920s and 1930s, twelve years of schooling became the rule. After World War Two, dropping out of school before the end of twelve years began to be strongly discouraged, and it was put about that an additional four years of college should no longer be considered something only for the elite. Everyone should go to college, at least for a couple of years. Yes?"

I was waving my hand in the air. "I have a question. It seems to me like urbanization and industrialization would have the opposite effect. Instead of keeping young people off the job market, the system would have been trying to put them on the job market."

Ishmael nodded. "Yes, on the surface that sounds plausible. But imagine what would happen here today if your educators suddenly decided that a high-school education was no longer needed."

I gave that a few seconds of consideration and said, "Yeah, I see what you mean. There would suddenly be twenty million kids out there competing for jobs that don't exist. The jobless rate would go through the roof."

"It would literally be catastrophic, Julie. You see, it's not only essential to keep these fourteen-to-eighteen-year-olds off the job market, it's also essential to keep them at home as non-wage-earning consumers."

"What does *that* mean?"

"This age group pulls an enormous amount of money — two hundred *billion* dollars a year, it's estimated — out of their parents' pockets to be spent on books, clothes, games, novelties, compact discs, and similar things that are designed *specifically* for them and no one else. Many enormous industries depend on teenage consumers. You must be aware of that."

"Yeah, I guess so. I just never thought of it in these terms."

"If these teenagers were suddenly expected to be wage earners and no longer at liberty to pull billions of dollars from their parents' pockets, these youth-oriented industries would vanish overnight, pitching more millions out onto the job market."

"I see what you mean. If fourteen-year-olds had to support themselves, they wouldn't be spending their money on Nike shoes, arcade games, and CDs."

"Fifty years ago, Julie, teenagers went to movies made for adults and wore clothing designed for adults. The music they listened to was not music written and performed for them, it was music written and performed for adults — *by* adults like Cole Porter, Glenn Miller, and Benny Goodman. To be in on the first big postwar clothing fad, teenage girls scavenged their fathers' white business shirts. Such a thing would never happen today."

"That's for sure."

Ishmael fell silent for a few minutes. Then he said, "A while ago you mentioned listening to a teacher explain how a bill passes Congress. I assume you have in fact studied this in school."

"That's right. In civics."

"Do you actually know how a bill passes Congress?"

"I haven't a clue, Ishmael."

"Were you tested on it?"

"I'm sure I was."

"Did you pass?"

"Of course. I never fail tests."

"So you supposedly 'learned' how a bill passes Congress, passed a test on the subject, and promptly forgot all about it."

"That's right."

"Can you divide one fractional number by another?"

"I think so, yeah."

"Give me an example."

"Well, let's see. You've got half a pie and you want to divide it into thirds. Each piece will be a sixth."

"That's an example of multiplication, Julie. One-half times one-third equals one-sixth."

"Yeah, you're right."

"You studied division of fractional numbers in the fourth grade, probably."

"I remember it vaguely."

"Try again to see if you can think of an example in which you would divide one fractional number by another."

I gave it a shot and had to admit it was beyond me.

"If you divide half a pie by three, you get a sixth of a pie. That's clear enough. If you divide half a pie by two, you get a fourth of a pie. If you divide half a pie by one, what do you get?"

I stared at him blankly.

"If you divide half a pie by one, you get half a pie, of course. Any number divided by one is that number."

"Right."

"So what do you get if you divide half a pie by a half?"

"Oh wow. One whole pie?"

"Of course. And what do you get if you divide half a pie by a third?"

"Three halves. I think. One and a half pies."

"That's right. In the fourth grade, you spent weeks trying to master this concept, but of course it's far too abstract for fourth graders. But presumably you passed the test."

"I'm sure I did."

"So you learned as much as you needed to pass the test, then promptly forgot all about it. Do you know why you forgot about it?"

"I forgot about it because, who cares?"

"Exactly. You forgot about it for the same reason that you forgot how a bill passes Congress, because you had no use for it in your life. In actual fact, people seldom remember things they have no use for."

"That's true."

"How much do you remember from what you learned in school last year?"

"Almost nothing, I'd say."

"Do you think you're different from your classmates in this regard?"

"Not at all."

"So most of you remember almost nothing from what you learn in school from one year to the next."

"That's right. Obviously we all know how to read and write and do simple arithmetic — or most of us do."

"Which pretty well proves the point, doesn't it. Reading, writing, and arithmetic are things you actually have use for in your lives."

"Yes, that's certainly true."

"Here's an interesting question for you, Julie. Do your teachers expect you to remember everything you learned last year?"

"No, I don't think so. They expect you to remember having *heard* about it. If the teacher says 'tidal forces,' she expects everyone to nod and say, 'Yeah, we studied those last year.' "

"Do you understand the operation of tidal forces, Julie?"

"Well, I know what they are. Why the oceans bulge out on both sides of the earth at the same time makes utterly no sense to me."

"But you didn't mention this to your teacher."

"Of course not. I think I got a 97 on the quiz. I remember the grade better than the subject."

"But now you're in a position to understand why you spend literally years of your life in school

learning things you instantly forget once you've passed the test."

"I am?"

"You are. Give it a shot."

I gave it a shot. "They have to give us *something* to do during the years we're being kept off the job market. And they've got to make it look good. It's got to look like something r-e-e-a-l-l-y useful. They can't just let us smoke dope and rock 'n' roll for twelve years."

"Why not, Julie?"

"Because it wouldn't look right. The jig would be up. The secret would be out. Everyone would know we were just there to kill time."

"When you were listing things that people find wrong with your schools, you noted that they do a poor job of preparing people to get jobs. Why do you think they do such a poor job at this?"

"Why? I don't know. I'm not sure I even understand the question."

"I'm inviting you to think about this the way I would."

"Oh," I said. That was as far as I got for about three minutes. Then I admitted I didn't have any idea how to go about thinking about this the way he would.

"What do people think about this failure of the schools, Julie? This will give you a clue as to what Mother Culture teaches."

"People think the schools are incompetent. That's what I'd guess people think."

"Try to give me something you feel more confident in than a guess."

I worked on it for a while and said, "Kids are lazy, and the schools are incompetent and underfunded."

"Good. This is indeed what Mother Culture teaches. What would the schools do if they had more money?"

"If the schools had more money, they could get better teachers or pay teachers more, and I guess the theory is that the extra money would inspire teachers to do a better job."

"And what about the lazy kids?"

"Some of the more money would be spent buying new gadgets and better books and prettier wallpaper, and the kids would not be as lazy as before. Something like that."

"So let's suppose that these new and improved schools turn out new and improved graduates. What happens then?"

"I don't know. I guess they have an easier time getting jobs."

"Why, Julie?"

"Because they've got better skills. They know how to do things employers want."

"Excellent. So Johnny Smith isn't going to have to go to work as a bagger in a grocery store, is he? He can apply for a job as an assistant manager."

"That's right."

"And that's wonderful, isn't it?"

"Yes, I'd think so."

"But you know, Johnny Smith's older brother graduated from school four years ago, before they were new and improved."

"So?"

"He too went to work for the grocery store. But of course, having no skills, he had to start as a bagger."

"Oh. Right."

"And now, after four years, he too wants to apply for that job as an assistant manager."

"Uh-oh," I said.

"And then there's Jennie Jones, another of your new and improved graduates. She doesn't have to take a job as a lowly administrative assistant at the accounting firm. She can go right in as office manager. And that's terrific, isn't it?"

"It is so far."

"But her mother went back into the workforce a few years ago, and having no skills, she had to start as a lowly administrative assistant at that accounting firm. Now she's ready to be promoted to office

manager."

"Bad."

"How do you think people are going to like your new and improved schools that prepare graduates for good jobs?"

"They're not."

"Now do you know why schools do a poor job of preparing graduates for the workplace?"

"I sure do. Grads have to start at the bottom of the ladder."

"So you see that your schools are doing just what you *actually* want them to do. People *imagine* that they'd like to see their children enter the workplace with really useful business skills, but if they actually did so, they'd immediately begin competing for jobs with their older siblings and their parents, which would be catastrophic. And if graduates came out of school with advanced skills, who would bag the groceries, Julie? Who would do the sweeping up? Who would pump the gas? Who would do the filing? Who would flip the burgers?"

"I suppose it would turn into an age thing."

"You mean you'd tell Johnny Smith and Jennie Jones that they can't have the jobs they want, not because others are more qualified but because others are older."

"That's right."

"Then what's the point of giving Johnny and Jennie skills that would enable them to do these jobs?"

"I guess if they graduate with the skills, then at least they'll have them when their time comes."

"Where did their older siblings and parents pick up these skills?"

"On the job, I guess."

"You mean while bagging the groceries, sweeping up, pumping the gas, doing the filing, and flipping the burgers."

"Yeah, I guess."

"And won't your improved graduates pick up the same skills their older siblings and parents picked up by doing these jobs?"

"Yes."

"Then what do they gain by learning them in advance, since they'll be learning them on the job anyway?"

"I guess there's no advantage any which way," I said.

"Now let's see if you can figure out why your schools turn out graduates with zero survival value."

"Okay . . . To begin with, Mother Culture says it would be pointless to turn out graduates with a high survival value."

"Why is that, Julie?"

"Because they don't need it. Primitive people need it, sure, but not civilized people. It'd be a waste of time for people to learn how to survive on their own."

Ishmael told me to continue.

"I guess if you were conducting this conversation, you'd ask what would happen if we turned out a class of new and improved students with a hundred-percent survival value."

He nodded.

I sat there for a while working it through. "The first thing I thought of is that they'd go for jobs as wilderness guides or something. But that's completely stupid. The point is, if they had a hundred-percent survival value, they wouldn't need jobs *at all*."

"Go on."

"Locking up the food wouldn't keep them in the prison. They'd be *out*. They'd be *free*!"

Ishmael nodded again. "Of course a few of them would still elect to stay behind — but that would be a matter of choice. I daresay a Donald Trump or a George Bush or a Steven Spielberg wouldn't have any inclination to leave the Taker prison behind."

"I'll bet it would be more than a few. I'll bet half would stay."

"Go on. What would happen then?"

"Even if half stayed, the door would be open. People would come pouring out. A lot would stay in, but a lot would come out."

"You mean that, for a lot of you, getting a job and working until retirement age doesn't look like heaven."

"It sure doesn't," I said.

"So now you know why your schools turn out graduates with no survival value."

"That's right, I do. Since they don't have any survival value, they're forced to enter the Taker economy. Even if they'd rather opt out of that economy, they can't."

"Once again, the essential point to note is that, for all your complaining, your schools are doing just what you actually want them to do, which is to produce workers who have no choice but to enter your economic system, presorted into various grades. High-school graduates are generally destined for blue-collar jobs. They may be as intelligent and talented as college graduates, but they haven't demonstrated this by surviving a further four years of studies — studies that, for the most part, are no more useful in life than the studies of the previous twelve. Nonetheless, a college degree wins admittance to white-collar jobs that are generally off-limits to high-school graduates.

"What blue-collar and white-collar workers actually retain of their schooling doesn't much matter — in either their working lives or their private lives. Very, very few of them will ever be called upon to divide one fractional number by another, parse a sentence, dissect a frog, critique a poem, prove a theorem, discuss the economic policies of Jean-Baptiste Colbert, define the difference between Spenserian and Shakespearean sonnets, describe how a bill passes Congress, or explain why the oceans bulge on opposite sides of the world under the influence of tidal forces. Thus, if they graduate without being able to do these things, it really doesn't matter in the slightest. Postgraduate work is obviously different. Doctors, lawyers, scientists, scholars, and so on actually have to use in real life what they learn in graduate school, so for this small percentage of the population schooling actually does something besides keep them off the job market.

"Mother Culture's deception here is that schools exist to serve the needs of *people*. In fact, they exist to serve the needs of your economy. The schools turn out graduates who can't live without jobs but who have no job skills, and this suits your economic needs perfectly. What you're seeing at work in your schools isn't a system *defect*, it's a system *requirement*, and they meet that requirement with close to one hundred percent efficiency."

"Ishmael," I said, and our eyes met. "You worked this out all by yourself?"

"Yes, over several years, Julie. I'm a very slow thinker."

School Daze II

Ishmael asked if I'd watched any younger siblings grow up from infancy, and I told him no.

"Then you wouldn't know from experience that small children are the most powerful learning engines in the known universe. They effortlessly learn as many languages as are spoken in their households. No one has to sit them down in a classroom and drill them on grammar and vocabulary. They do no homework, they have no tests, no grades. Learning their native languages is no chore at all, because of course it's immensely and immediately useful and gratifying to them.

"Everything you learn during these early years is immensely and immediately useful and gratifying, even if it's only how to crawl or how to build a tower of blocks or how to bang a pot with a spoon or how to make your head buzz with a piercing screech. The learning of small children is limited only by what they're able to see, hear, smell, and get their hands on. This learning drive continues when they enter kindergarten, at least for a while. Do you remember the sort of things you learned in kindergarten?"

"No, I can't say that I do."

"These are things Rachel learned twenty years ago, but I doubt if they're any different nowadays. She learned the names of primary and secondary colors — red, blue, yellow, green, and so on. She learned the names of basic geometric shapes — square, circle, triangle. She learned how to tell time. She learned the days of the week. She learned to count. She learned the basic units of money — penny, nickel, dime, and so on. She learned the months and the seasons of the year. These are obviously things everyone would learn whether they studied them in school or not, but they're still somewhat useful and somewhat gratifying to know, so most children have no difficulty learning them in kindergarten. After reviewing all this in grade one, Rachel went on to learn addition and subtraction and to master beginning reading skills (though in fact she'd been reading since she was four years old at least). Again, children generally find these to be useful and gratifying studies. I don't intend to go through the entire curriculum in this way, however. The point I want to make is that, in grades K through three, most children master the skills that citizens need in order to get along in your culture, commonly characterized as the 'three R's' — reading, writing, and arithmetic. These are skills that, even at age seven and eight, children actually use and enjoy using. A hundred and fifty years ago this was the citizen's basic education. Grades four through twelve were added to the curriculum in order to keep youngsters off the job market, and the skills taught in these grades are the ones most students find to be neither useful in their lives nor gratifying to master. Addition, subtraction, multiplication, and division of fractional numbers exemplify these skills. No children at all (and very, very few adults) ever have occasion to use them, but they're available to be added to the curriculum, and so they have been. They take up months and months of time, and this is all to the good, since the whole point of the exercise is to take up the students' time. You've mentioned other subjects, like civics and earth sciences, which present plenty of opportunity for time-consuming activities. I remember that Rachel was required to memorize state capitals for some course or other. My favorite example of the tendency came to my notice when she was in the eighth grade. She actually learned to fill out a federal income-tax form, something she wouldn't need to do in actual life for at least five years, by which time she obviously would have forgotten the form, which would by then be substantially different anyway. And of course every child spends years studying history — national, state, and world, ancient, medieval, and modern — of which they retain about one percent."

I said, "I would have thought you would endorse the teaching of history."

"I do very much endorse it. I endorse the teaching of everything, because everything is what children want to know. What children very deeply want to know of history is *how things got to be this way* — but no one in your culture would think of teaching them that. Instead they're overwhelmed with ten million names, dates, and facts they 'should' know, but that vanish from their heads the moment they're no longer needed to pass a test. It's like handing a thousand-page medical text to a four-year-old who wants to know where babies come from."

"Yeah, that's absolutely true."

"You, here in these rooms, are learning the history that *matters* to you. Isn't that so?"

"Yes."

"Will you ever forget it?"

"No. Not possibly."

"Children will learn anything they *want* to learn. They'll fail at learning how to figure percentages in the classroom but will effortlessly learn how to figure batting averages (which are of course just percentages). They'll fail at learning science in the classroom but, working at their personal computers, will effortlessly defeat the most sophisticated computer security systems."

"True, true, true."

"If you monitor the right magazines, newspapers, or television programs, you'll see a report at least once a week of some new scheme or other designed to 'fix' your schools. What people mean by fixing the schools is making them work for people instead of just detaining them for twelve years, then releasing them unskilled onto the job market. In order to create something that works for people, the people of your culture think they have to invent something from scratch. It never occurs to them that they may be trying to reinvent the wheel. In case this expression is new to you, 'reinventing the wheel' means struggling very hard to duplicate a breakthrough that was actually made long ago.

"Among tribal peoples, the educational system works so well that it requires no effort on anyone's part, inflicts no hardship on learners, and produces graduates who are flawlessly educated to take their place in their particular society. To speak of it as a system will be misleading, however, if you expect to see huge buildings staffed by warders and their supervisors, under the direction of local and regional school boards. No such things exist. The system is completely invisible and immaterial, and if you were to ask a tribal people to explain it, they wouldn't even know what you were referring to. Education occurs among them constantly and effortlessly, which means they're no more aware of its functioning than they are of the functioning of gravity.

"Education occurs among them as constantly and effortlessly as education occurs in a household where there's a three-year-old. Unless you confine it to a crib or a playpen, there's simply no way to stop a three-year-old from learning. A three-year-old is a questing beast with a thousand arms probing everywhere. It must touch everything, smell everything, taste everything, turn everything upside down, see how it looks sailing through the air, see how it feels when swallowed or pressed into an ear. The four-year-old is no less thirsty for knowledge, but it no longer has to repeat the experiments of the three-year-old. It has already touched, smelled, tasted, turned upside down, flung, and swallowed everything it needs to. It's ready to move onward and outward — as is the five-year-old, the six-year-old, the seven-year-old, the eight-year-old, the nine-year-old, the ten-year-old, and so on. But it's not allowed to do this in your culture. This would be too messy. Starting with age five, the child must be restrained, confined, and compelled to learn not what it wants to learn but what your state legislators and curriculum writers agree it 'should' learn, in lockstep with all other children its age.

"Not so in tribal societies. In tribal societies, the three-year-old is free to explore the world around it as far as it likes, which is not as far as it will go when it's four, five, six, seven, or eight. There simply are no walls shutting the child in or out at any age, no doors closed against it. There is no age when it 'should' learn a given thing. Nor would anyone ever dream of giving thought to such a thing. Ultimately, all the things grown-ups do are fascinating to a child, and it eventually and inevitably wants to do them itself — not necessarily on the same day as every other child, nor in the same week or the same year. This process, Julie, isn't cultural, it's genetic. I mean that children don't *learn* to imitate their parents. How could such a thing be taught? It's *hardwired* into children to imitate their parents. They're *born* wanting to imitate them, in exactly the same way that ducks are born wanting to follow the first thing they see moving, which is usually their mother. And this hardwiring continues to operate within the child . . . until when, Julie?"

"What?"

"The child craves to learn how to do every single thing its parents do, but this craving eventually disappears. When?"

"Lord, how could I know that?"

"You know it perfectly well, Julie. This craving disappears with the onset of puberty."

"Wow," I said. "It sure does."

"The onset of puberty signals the end of the child's apprenticeship to its parents. It signals the end of childhood itself. Again, this isn't cultural, it's genetic. In tribal societies, the pubertal youth is understood to be ready for initiation into adulthood — and *must* be initiated into adulthood. You can no longer expect this person to want to imitate adults. That craving has vanished and that phase of life is over. In tribal societies, they make a ceremonial acknowledgment of this, so everyone is clear about it. 'Yesterday these people were children. Today they're adults. That's it.'

"The fact that this transformation is genetic is demonstrated by your own failure to abolish it through cultural means — legislation and education. In effect, you've passed a law extending childhood for an indefinite period and have redefined adulthood as a moral privilege that ultimately can only be self-awarded, on grounds that are far from clear. In tribal cultures, people are *made* adults just the way your presidents are made presidents, and they no more doubt that they're adults than George Bush doubts that he's the president. Most adults in your culture, however, are never absolutely sure when they've managed to cross the line — or even if they've *ever* managed to cross it."

"That seems to be true," I said. "I think all this has got to have something to do with gangs."

"Of course it does. You can work that out, I'm sure."

"I'd say that kids in gangs are rebelling against the law that extends childhood into an indefinite future."

"They are, but not consciously, of course. They simply find it intolerable to live under this law, intolerable to be asked to deny the genetic hardwiring that tells them they're adults. Of course, gangs flourish only in relatively disadvantaged groups. Other groups are well enough rewarded that they're willing to forgo adult privileges for a few more years. It's kids who are getting absolutely no reward for it — or at least no reward that they care about — who end up in gangs."

"Yeah, that's true."

"I've led us slightly off track here. I wanted to show you a model of education that works *for people*. It works very simply, without cost, without effort, without administration of any kind. Children simply go wherever they want and spend time with whomever they want in order to learn the things they want to learn when they actually want to learn them. Not every child's education is identical. Why on earth should it be? The idea is not that every child should receive the entire heritage but rather that every *generation* should receive it. And it is received, without fail; this is proved by the fact that the society continues to function, generation after generation, which it couldn't do if its heritage were not being transmitted faithfully and totally, generation after generation.

"Obviously many details are left behind from one generation to the next. Gossip isn't heritage. Events five hundred years old aren't remembered the way events fifty years old are remembered. Events fifty years old aren't remembered the way events last year are remembered. But everyone understands that anything not transmitted to the younger generation is simply lost, completely and irrevocably. But always the essential is transmitted, precisely because it is essential. For example, toolmaking skills that are needed on a daily basis can't possibly be lost — precisely because they're used on a daily basis, and children learn them as routinely as children of your culture learn to use telephones and remote controls. Present-day chimpanzees learn to prepare and use twigs to 'fish' for ants inside an anthill. Where the practice is found, it's transmitted unflinching, generation after generation. The behavior isn't genetic, but the ability to *learn* it is genetic."

I told Ishmael that he seemed to be struggling very hard to say something that wasn't quite getting through to me. To my great surprise, he suddenly reached out for a stalk of celery that he bit into with a sound like a pistol shot. He munched for a moment before going on.

"Once upon a time a distinguished elder blue-winged teal by the name of Titi called a great conference of other distinguished elders to be held on the Isle of Wight in the English Channel. When they were at last gathered and settled down, one slightly less distinguished blue-winged teal by the name of Ooli stepped forward to make some introductory remarks.

" 'I'm sure you all know who Titi is,' he began, 'but in case you don't, I'll tell you. He is, without doubt, the greatest scientist of our age, and the world's foremost authority on avian migration, which he has studied longer and deeper than any other teal in history, blue-winged or otherwise. I don't know why he's called us together here at this time, but I don't doubt that his reasons are excellent.' And with that,

Ooli turned the meeting over to Titi.

"Titi ruffled his feathers a bit to gather everyone's attention, then said, 'I've come here today to urge upon you a vitally important innovation in the rearing of our young.' Well, Titi certainly got everyone's attention with this announcement, and he was deluged with questions from teals who demanded to know what was supposed to be wrong with chick-rearing practices that had worked for blue-winged teals for more generations than any of them could count.

" 'I recognize and acknowledge your indignation,' Titi replied when he finally had them quieted down. 'But in order for you to understand my point, you'll have to recognize and acknowledge that I'm very different from you. As my old friend Ooli mentioned, I am the world's foremost authority on avian migration. This means I have a deep theoretical understanding of a process that you merely experience in an unthinking and routine manner. Very simply speaking, in the spring and fall of every year you experience a certain restlessness that is ultimately relieved by taking flight in one direction or the other over the English Channel. Isn't this so?'

"All his listeners had to agree that this was so, and Titi went on. 'I don't dispute the fact that your vague feelings of restlessness serve the essential purpose of getting you moving, but wouldn't you like to be able to see your children's lives guided by something more reliable than vague feelings of restlessness?'

"When he was asked to explain what he meant, he said, 'If you were making the sort of detailed observations that are made by scientists like me, you would know how amazingly often you dither about for a week or ten days, making one halfhearted start after another, flying this way and that, setting out as if you really meant to migrate, then turning back after five or ten or even twenty miles. You would know how many of you actually set out and make what amounts to the whole trip — flying in the wrong direction!'

"The teals in his audience wagged their wings in a nervous way and ruffled their feathers to hide their embarrassment. They knew that what Titi was saying was absolutely true (and indeed it *is* actually true — not only of teals but of migratory birds in general), but they were mortified to learn that this sloppy behavior had actually been *noticed* by someone. They asked what could be done to improve their performance.

" 'We must make our chicks aware of the elements of an ideal migrating schedule. We must prepare them to observe relevant conditions and to calculate the optimum moment to set out.'

" 'But it would seem that you, as a scientist, are already able to do that,' one of his listeners pointed out. 'Couldn't you just *tell* us when to migrate?'

" 'That would be supremely stupid,' Titi replied. 'There's no way I can be everywhere at once, making all the relevant calculations. You yourselves must make these calculations where you are, in reference to the specific conditions you individually face.'

"It's not easy to hear a teal groan in ordinary circumstances, but this flock of teals produced a mighty groan on hearing these words. But Titi went on, saying, 'Come, come, it's not as difficult as all that. You simply have to understand that migration becomes an advantage when the suitability of your present habitat is less than the suitability of the target habitat times what is known as the migration factor, which is just a measure of the extent to which the portion of your potential reproductive success that is under your active control would decrease as a result of this migration. I realize that this may sound like rather a beakful to you at the moment, but a few definitions and mathematical formulas will make it perfectly clear to you.'

"Well, these teals were mostly just ordinary birds, and they couldn't imagine opposing such a renowned and respected authority, who clearly knew a great deal more about migration than they did. They felt they had no choice but to go along with plans so obviously intended for their own good. Soon they were spending long evening hours with their chicks trying to comprehend and explain such things as track patterns, navigation mechanisms, degree of return, and degrees of dispersal and convergence. Instead of frolicking in the morning sunshine, chicks learned calculus, a mathematical tool developed in the seventeenth century by two famous blue wings named Leibniz and Newton that enables one to deal with the differentiation and integration of functions of one or more variables. Within just a few years every chick was expected to be able to calculate the migration-cost variables in both facultative and obligatory migrations. Weather conditions, wind direction and speed, even body weight and fat

percentages enter into the calculation of migration thresholds.

"The initial failures of the new education system were spectacular but not unexpected. Titi had predicted that migratory success would actually be lower than normal for the first five years of the program but would return to and then surpass the norm within another five years. By the end of twenty years, he said, more teals would be migrating more successfully than ever before. But when teals eventually began to migrate with normal success once again, it was discovered that most were faking the calculations — merely following their instincts, matching data to behavior rather than behavior to data. When stringent new rules were enacted to prevent this form of cheating, migratory success dropped steeply. It was finally accepted that ordinary parents were not in fact qualified to teach their children anything as complex as migratory science. This was something only professionals could be expected to handle. Chicks were henceforth taken from the nest at an early age and turned over to a new cadre of specialists, who organized their young charges into brutally competitive units, imposing on them high standards, uniform testing, and harsh discipline. A certain amount of adverse reaction to the new regime was expected and soon materialized, in the form of chronic truancy, hostility, depression, and suicide among the young. New cadres of truancy officers, guards, psychotherapists, and counselors struggled to keep things under control, but before long members of the flock were streaking away like residents of a burning building (for Titi and Ooli were not quite mad enough to think they could keep the flock together by force).

"After the two old friends watched the last remnants of the flock scatter into the sky, Ooli shook his head and wondered where they'd gone wrong. Titi ruffled his feathers irritably and said, 'We went wrong by failing to take into account a great truth, namely that teals are stupid and lazy, and perfectly content to stay that way.' "

"The problems involved in migration — when to start, which way to go, how far to go, when to stop — are far beyond the power of any computer to solve, but they're routinely solved not only by relatively large-brained creatures like birds, tortoises, reindeer, bears, salamanders, and salmon but by plant lice, aphids, flatworms, mosquitoes, click beetles, and slugs. They don't need to be schooled in this. Do you understand?"

"Of course I understand."

"Millions of years of natural selection have produced creatures capable of solving these problems in a rough-and-ready way that isn't perfect but that does in fact work, because — behold! — these creatures are *here*. In the very same way, millions of years of natural selection have produced human creatures who are born with a ravenous desire to learn anything and everything their parents know and who are capable of feats of learning whose boundaries are literally beyond imagination. Toddlers growing up in a household in which four languages are spoken will learn those four languages flawlessly and effortlessly in a matter of months. They don't need to be schooled in this. But in two years —"

I held up a hand. "Let me help, Ishmael. I think I've got it. Kids will learn anything they *want* to learn, anything they have a *use* for. But to make them learn things they *don't* have any use for, you have to send them to school. That's why we need schools. We need schools to force kids to learn things they have no use for."

"Which in fact they *do not* learn,"

"Which in fact, when it's all over and the last bell rings, they *have not* learned."