

# **DARK MATTER**

by  
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Within him lay the universe's finest seed...  
But since the universe was crippled, his way was tortuous.

- Meng Chiao (751-814)

FADE IN:

EXT. JOANNA'S BACK YARD - DAWN

JOANNA, 50, in a designer track suit, practices Tai Chi in front of her pool. The sun is just peaking over the mountains.

INTERCUT:

INT. SEMINAR ROOM - DAY

Fragmentary images of a shooting, but we don't see the gunman.

EXT. THE COSMOS

Pinpoints of light fade into a dark background.

TITLE: DARK MATTER

[NOTE: Italicized dialogue is spoken in Chinese.]

EXT. COLLEGE CAMPUS - DAWN

Tilt down from early morning sky to a long shot of LIU XING (20's) walks alone across the campus. He's full of energy, exploring every nook and cranny of his new world.

Title Insert: Valley State University, 1991.

*LIU XING (V.O.)  
Mom, Dad, How are you? The stars  
are shining down on your son!*

FLASHBACK: BEIJING AIRPORT - DAY

MAMA and BABA wave goodbye at the foot of an escalator.

*BABA  
Be safe!*

*MAMA  
Send a letter when you arrive!*

## THE CAMPUS

LIU XING pauses in front of a statue of Edwin Hubble, father of modern astronomy. He touches Hubble's foot for good luck, then walks to the entrance of the Hubble Building.

## LIU XING

*As an undergraduate at Beijing U.,  
I studied the famous Reiser Model.  
Now I have the honor to work for  
the great man himself. Under his  
supervision, I will make important  
discoveries, and bring honor to our  
family.*

## INT. HALL NEAR REISER'S OFFICE - DAY

LIU XING arrives way too early and sits in a corner on the floor and waits.

CHAPTER HEADING (Chinese character): EARTH.

A couple of STUDENTS walk by.

## HILDY (O. S.)

Liu Xing.

He jumps up and walks toward Reiser's office.

## INT. REISER'S OFFICE - DAY

LIU XING looks expectantly at HILDY (50's), assistant to Jacob Reiser, and copy editor of his *Cosmology Quarterly*.

## HILDY

Go ahead, he won't bite.

Liu Xing reverentially approaches the inner office.

Professor JACOB REISER, a former golden boy now in his forties, reclines in a green leather chair, fighting sleepiness. A pen rests on a blank yellow pad in front of him.

The wall behind him is covered with medals, plaques, diplomas, and a framed photo of Reiser shaking hands with president George H.W. Bush at the White House, signed "reach for the stars" by the president.

## REISER

Come in, come in, come in. Liu Xing -- am I saying it right?

(MORE)

REISER (cont'd)  
This is the highest score we've  
ever had on the qualifying exam.  
Do you know that?

LIU XING  
It's a great pleasure to meet you,  
Professor Reiser.

Reiser pats him on the shoulder.

REISER  
We don't really go in for all that  
formality here, just call me Jake.  
Sit down. Sit down.

Liu Xing nods and sits at attention on the edge of a chair.

REISER (CONT'D)  
Have you read my cosmic string  
theory?

LIU XING  
I read about it in Beijing. Very  
good.

REISER  
Good. Sit down, sit, sit, sit,  
sit. What we're doing here is  
we're creating a computer model of  
the early universe using my theory.  
Have you done work with computer  
models in Beijing?

LIU XING  
Yes, but -- very basic, because  
computer there is very slow.

REISER  
Well, ours here are very fast.  
State of the art as a matter of  
fact -- until next week.

LIU XING  
(didn't get it)  
I think so.

Liu Xing laughs with him, unsure.

REISER  
So how would you like to join our  
team?

Liu Xing springs to his feet.

LIU XING  
It will be my great honor.

Reiser takes a stack of computer disks from a drawer, and hands them to Liu Xing.

REISER  
OK, all right. My assistant Hildy will get you set up with all the redshift data, and the computer. Welcome to the team. My door is always open.

LIU XING  
Thank you, Professor Reiser.

REISER  
Just call me Jake.

LIU XING  
Thank you, Professor Jake.

REISER  
Could you close the door on your way out?

Liu Xing walks out of Reiser's office.

HILDY  
Ah, good meeting? Redshift data?  
Reiser Model? Yes?

LIU XING  
Okay. Thank you.

HILDY  
(pointing to the disks)  
Codes. You know where the lab is?

LIU XING  
Yes, thank you.

HILDY  
Down the hall, to the left.  
Goodbye.

INT. CORRIDOR - DAY

LIU XING walks alone down a long corridor.

INT. LAB - DAY

LIU XING arrives at a dark, airless space, with high ceilings and dark blue walls. Liu Xing stares wide-eyed at the gleaming mainframes.

A corps of young GRADUATE STUDENTS, including ZHANG MING, WANG YING (all 20's), work at chaotically arranged desks with computers.

Liu Xing finds an empty desk, puts it in, and starts the computer. An image of cosmic strings appears on the computer. He goes to work.

Wang Ying pokes his head out from behind his computer, puts a pencil in the automatic sharpener, which makes a loud noise, once, twice, to get Liu Xing's attention.

WANG YING

*Are you new?*

LIU XING

*Yes.*

ZHANG MING

*Have you eaten?*

LIU XING

*Yes. Hello.*

Everybody stands up and gives him a little wave, brotherhood extended.

EXT. LIU XING'S HOUSE - DAY

WU (30's), the oldest of Liu Xing's roommates, makes an illegal cable connection on top of the roof.

INT. LIU XING'S HOUSE - DAY

LITTLE SQUARE (20's) plays with cards on the couch, while LIU XING reads in bed. Outside the window WU climbs down the ladder, humming tunes from the Communist Revolution. He feeds the cable through the window.

WU

*Take the cable.*

LITTLE SQUARE

*Put it back.*

WU

*Why?*

LITTLE SQUARE

*It's private property.*

LIU XING

*How can a TV signal be private property?*

LITTLE SQUARE

*You can ask the American police on your way to jail. They love to debate such questions.*

WU

*Bullshit.*

Wu connects the wires, and turns on the TV. The sound of a porno film comes up -- but no picture. Wu frantically bangs the TV set.

FEMALE VOICE (V.O.)

*I'm coming!*

LIU XING

*Picture, Wu, picture!*

FEMALE VOICE (V.O.)

*I'm coming!*

Wu frantically adjusts the rabbit ears.

LITTLE SQUARE

*Why can't we just buy a new TV?*

The snowy static gives way to suggestively wavy vertical lines -- but still no picture to speak of.

FEMALE VOICE (V.O.)

*I'm coming, I'm coming..*

LIU XING

*"I'm coming, I'm coming." Where are they going?*

WU

*You don't know? It means "rain clouds gathering, about to burst."*

The three huddle together and watch, mesmerized by the wavy lines.

EXT. CHURCH - DAY

A white clapboard church against a clear blue sky.

INT. CHURCH BASEMENT - DAY

REV. HOLLINGS, 40's, reads to a group of CHINESE STUDENTS seated in rows.

REV. HOLLINGS

Welcome to Bible study. Today, we have food provided by the auxiliary. Which I thought we would have afterwards, but...

LIU XING, LITTLE SQUARE and WU walk in and immediately go to the food table.

REV. HOLLINGS (CONT'D)

Or, we can do it this way. I see we have three new students here. Welcome. Let's do our bible study.

Liu Xing, Little Square and Wu sit back down with their food. Hollings opens his Bible.

REV. HOLLINGS

(sound under)

"Behold.. he bid them come to the marriage feast...

LITTLE SQUARE

*I hear the church does a lot to help foreign students.*

WU

*We can get a free ride to the supermarket and buy some cheap stuff.*

LITTLE SQUARE

*They also give furniture away.*

JOANNA (50's) enters, in a Chinese silk shirt. She greets the students with a bow.

JOANNA (CONT'D)

*Ni hao.*

The students stand up.

STUDENTS

*Ni hao.*

REV. HOLLINGS  
Oh, Mrs. Silver.

JOANNA  
Oh, my God, am I interrupting a prayer?

REV. HOLLINGS  
No, sorry, I'm running late. Let me introduce you. For those of you who haven't met this lovely lady, this is Joanna Silver, a great patron of Chinese culture at the university, and one of the most caring members of our community.

JOANNA  
Well, that's a very elaborate introduction for somebody who's just a driver. I'm here for the field trip. Does anybody want to go?

REV. HOLLINGS  
Yes, the field trip.

The students rush out the door.

EXT. CHURCH - DAY

JOANNA, LIU XING, LITTLE SQUARE, WU and the other CHINESE STUDENTS skip down the stairs of the church, passing a pile of furniture and a "Help Yourself" sign. Joanna looks around.

JOANNA  
Come on.

HAL (50's), Joanna's husband, pulls up in another car with his DRIVER.

JOANNA (CONT'D)  
(to Hal)  
My god, I thought you'd forgotten us.

HAL  
No, no, my meeting went late, I'm sorry.

JOANNA  
Some of you can get into Hal's car, and some in mine. Three in my car.

Liu Xing, Little Square and Wu walk toward Joanna's car.

HAL

Where are we going?

JOANNA

Pioneer Village. Oh, you'll love it. Thank you for doing this.

Joanna joins the boys, who are busy inspecting her car.

WU

What's the name of the car?

JOANNA

It's a Jaguar.

LIU XING

How many miles per gallon?

JOANNA

Miles per gallon. I have no idea. Sorry.

Joanna pushes the seat forward so Wu and Little Square can get in back.

JOANNA (CONT'D)

Pile in fellas.

She gets in and starts the car. A Bach cello concerto begins to play on the stereo.

LITTLE SQUARE

Cool sound system! What's the music?

JOANNA

It's Bach. Do you like it?

LIU XING

Yes. Bach is very mathematical.

JOANNA

Yes, but at times very moving too.

LIU XING

To me, mathematics can be very moving.

WU

*Especially square roots. I find them so moving.*

LIU XING  
I am scientist.

JOANNA  
You certainly are. All right, seat  
belts everyone.

They drive off.

EXT. PIONEER VILLAGE - DAY

LIU XING  
Did the cowboys live here?

JOANNA  
Actually no, they didn't. This is  
all a reproduction. It's a fake.

LIU XING  
Ah, there should be cowboys.

JOANNA  
Yes, it would be more fun if there

JOANNA is accompanying LIU XING, LITTLE SQUARE, WU, ZHANG MING, and WANG YING on a walk through a reconstructed pioneer village. There are freshly painted signs, and chairs on the porches, but no people. There were cowboys, but you see, the first people who settled here were homesteaders. They were farmers, and they had sheep and cattle and, no, they didn't have cattle. They had crops and, I don't know what else.

Hal points another group of students toward the General Store.

HAL  
They have cowboy things, like guns  
and things.

He escapes to make a call on his cell phone.

Wu and Little Square emerge with cowboy hats and cap guns. Wu fires his cap gun at Little Square's feet.

Now Liu Xing emerges with a white hat, and the stoic look of John Wayne about to confront the lawless cowboys. He walks out and stands opposite his room-mates in classic face-off position.

Tight shots of eyes and twitching trigger fingers, as in a Spaghetti Western.

The boys fire their cap guns, and all fall down dead. Joanna emerges from the store, with water in hand.

JOANNA

Well, I wonder who was the fastest gun in the East. I guess we'll never know.

The boys are still lying there, playing dead.

INT. LAB - DAY

LIU XING works intently at the computer, running a simulation of the early universe.

Reiser passes by on his way out, eating jellybeans. He stops behind Liu Xing and looks at the screen.

REISER

Whoa!

LIU XING

Professor Reiser.

REISER

Call me Jake. Now we're cooking with gas! Listen, do you think you could get to the next stage by tomorrow? Because I've got a journal deadline.

LIU XING

No problem.

REISER

No problem?

LIU XING

No problem.

REISER

Great. Do you want some?

Reiser holds out the jellybeans.

LIU XING

No, thanks.

REISER

No? How do you say I love Beijing  
in Chinese?

LIU XING

Wo ai bei jing.

REISER

Wo ai bei jing students!

Reiser pats Liu Xing on the shoulder and leaves.

LIU XING

Thank you.

Liu Xing puts another floppy disk in the computer.

ZHANG MING and WANG YING watch Reiser disappear. They nod to  
each other, then get up.

ZHANG MING

*Let's get out of here. I'm going  
to be late for my night job.*

TIME LAPSE:

Liu Xing does some calculations on the blackboard, while the  
printer spews out data paper.

Now Liu Xing sits on the floor against the wall, his head  
buried in his arms. A JANITOR comes in, empties the trash,  
and leaves.

INT. LAB - DAY

LIU XING sleeps on a little couch. ZHANG MING and WANG YING  
notice him as they walk in.

ZHANG MING

*Why's he sleeping here?*

WANG YING

*Let's wake him up.*

He does a parody of a Maoist wake-up broadcast.

WANG YING

*Good morning, comrades! We must  
strengthen our body to protect our  
country. The People's exercise  
starts now.*

Wang Ying sings an upbeat revolutionary tune, as the two of them perform an aerobic dance routine.

Liu Xing smiles, then goes back to sleep.

WANG YING (CONT'D)  
Get up, the rooster has crowed.

LIU XING  
What time is it?

ZHANG MING  
It's past eight o'clock.

LIU XING  
Shit.

INT. HALL NEAR REISER'S OFFICE - DAY

LIU XING rushes down the hall, and into Reiser's office.

INT. REISER'S OFFICE - DAY

HILDY looks up from her desk at LIU XING's hair, which is defying gravity. Liu Xing tries to smooth it down, but it springs back up. He holds up the manila folder.

HILDY  
Liu Xing! Good morning.

LIU XING  
Morning.

HILDY  
You look exhausted.

LIU XING  
I have this most urgently for Professor Reiser.

HILDY  
You should be home in bed.

LIU XING  
He need it for article deadline.

HILDY  
Oh, that doesn't need to be in until Thursday afternoon.

LIU XING  
Are you sure?

HILDY  
Yeah, I'm positive. You have time.

LIU XING  
Okay.

HILDY  
Do you want to wait for him anyway?

LIU XING  
Yes.

HILDY  
Okay, he should be here very soon,  
all right?

LIU XING  
Okay, okay.

Liu Xing sits, and dozes.

INT. HUBBLE BUILDING, STAIRS - DAY

Through the blinds Liu Xing sees REISER walking up the stairs. He dashes out.

LIU XING  
Professor Reiser, I have finished.

REISER  
You're done?

LIU XING  
Yes.

REISER  
So early.

LIU XING  
Yes, you see, in second run I  
adjust the parameter of omega for  
better result.

Reiser looks over his calculations.

REISER  
This is excellent work, Liu Xing.

LIU XING  
Thank you.

REISER

Listen, I'm giving a talk at the  
Early Universe Symposium later this  
summer, would you like to join me?

LIU XING

Thank you so much!

REISER

Great food, free booze, and  
beautiful high-strung women.

LIU XING

Strong women!

REISER

Strung, strung -- hot chicks. O.K?

LIU XING

Hot chicks. I think so. Thank  
you, Professor Reiser.

REISER

Okay, call me Jake.

INT. BEIJING APARTMENT - DAY

MAMA cooks an egg, while BABA reads a newspaper.

LIU XING (V.O.)

*Baba, Mama, How are you. I've been  
very lucky recently. I am the  
number one assistant to Professor  
Reiser. Also, I met a nice lady  
named Joanna who loves Chinese  
culture. There's plenty of food  
here, please don't send me any  
more.*

They begin assembling a care package of food for their son.

BABA

*I read in the papers that kids in  
America watch over thirty hours of  
TV every week. And at thirteen  
they're already doing it.*

MAMA

*Where do they find time?*

BABA

*Those Americans are efficient.  
Maybe they do homework while  
watching TV, and doing it too.*

MAMA

*Our Liu Xing knows nothing but  
studying.*

INT. REISER'S OFFICE - DAY

REISER enters his office sipping coffee. HILDY looks up from her work.

HILDY

That boy's been pulling a lot of all-nighters!

REISER

Oh, come on, these kids are grateful for whatever work I give them. They come from a place where astrology is considered a science, and toilets a luxury.

HILDY

They've got two thousand years of culture on us. I imagine they think we're the barbarians. Anyway, what do you know about it? You've never even been to China.

REISER

I'm a theorist. I don't have to actually go there. Although I do like Chinese food.

CHAPTER HEADING (Chinese character): METAL

EXT. LIU XING'S BACK YARD - DAY

LIU XING, WU and LITTLE SQUARE lie on three lounge chairs, drinking beer in their shorts, with music playing on a boom box.

INT. JOANNA'S HOUSE - LATE AFTERNOON

A modern Western kitchen with Chinese tea sets and lacquer trays. JOANNA and HAL sit at the table with opened pizza boxes.

JOANNA

We should probably go get dressed right away. We have to leave in fifteen minutes. You're taking tickets with Sarah.

HAL

Aw, Jo, do you really think you need more than one ticket-taker?

JOANNA

Hal.

HAL

I'll be glad to pay for more ticket-takers.

JOANNA

It's not about writing a check. It's very important that you be there. You're a patron of the arts. Everybody's expecting you.

HAL

I just don't want to spend my Saturday night taking tickets and being a big patron of the arts.

JOANNA

I have the Monkey King coming all the way from Salt Lake City.

HAL

I've seen Monkey Kings in Beijing and Shanghai--

JOANNA

I just want to make a connection with these new Chinese students.

HAL

I don't understand this need you have to connect all the time. I'm kinda tired of connecting. I'm connected out.

INT. AUDITORIUM - LATE AFTERNOON

Decked out in a bright silk costume and monkey mask, CHEN JIAN (40) performs "the Monkey King Wreaks Havoc in Heaven," a famous scene from Chinese opera. He is accompanied by DEMONS, GODS and LESSER MONKEYS.

Off to one side of the stage, a group of MUSICIANS plays along on authentic Chinese instruments.

JOANNA watches excitedly from backstage.

In the audience are small clusters of students, including LIU XING, LITTLE SQUARE, and WU; a few AMERICAN PROFESSORS; a group of JOANNA'S LADY FRIENDS. The Americans are wowed by the spectacle, but the Chinese kids look bored.

INT. AUDITORIUM LOBBY - NIGHT

AUDIENCE MEMBERS and PERFORMERS mingle in an ornate lobby, eating dumplings and drinking wine. ZHANG MING, WU, LITTLE SQUARE and the other CHINESE STUDENTS are clustered together.

Joanna dings an empty champagne bottle with a chopstick until the room falls silent, then raises her glass.

JOANNA (CONT'D)

I would like to propose a toast to our wonderful performers, and to our new Chinese students who have made their own journey west. We'd like to welcome you to our country.  
*Gan bei!*

They drink. Little square nudges Liu Xing.

LITTLE SQUARE

*Liu Xing, say something, say something.*

WU

*Start with "On behalf..."*

LIU XING

On behalf of Chinese students, so lucky to come to America, Mei Guo, the Beautiful Country. May we all find our dream here.

JOANNA

Here, here!

LITTLE SQUARE

(whispers to Liu Xing)  
Therefore, therefore...

LIU XING

Therefore, we make this toast to our new American friends. *Gan bei!*  
Up the bottoms!

JOANNA  
Oops! Bottoms up!

Everyone laughs.

LIU XING  
(to Little Square)  
What's so funny?

Liu Xing shrugs. Zhang Ming pours more wine.

LITTLE SQUARE  
You have to work tonight?

ZHANG MING  
Yeah, this is my dinner.

WU  
Better stuff yourself before you  
go.

ZHANG MING  
That's exactly what I'm doing.

INT. AUDITORIUM - NIGHT

LIU XING sits alone in the empty auditorium, gazing up at the dome, which looks just like the night sky. JOANNA walks in, and finds him there.

JOANNA  
Looking at the stars?

LIU XING  
I'm looking at the dark matter.

JOANNA  
Oh. You mean, space.

LIU XING  
It isn't all space. There's stuff  
we can't see, even with the most  
powerful telescope, but we know  
it's there because of gravitational  
effect.

She studies the space between two stars.

LIU XING (CONT'D)  
Picture the universe as a mountain  
range. Only the highest peaks get  
snow.

(MORE)

LIU XING (CONT'D)

These snowy peaks are the stars and galaxies we can see through our telescope. But these are just the tiniest part of the universe -- maybe one percent. The rest of the mountain is dark matter. 99% of the universe, dark matter. But no one pays attention to it, because they can't see it. I can see it with mathematics. I can use mathematics to see the whole dark mountain.

EXT. LIU XING'S BACK YARD - DAY

LIU XING is battling LITTLE SQUARE in a game of foosball, while old WU cooks in the kitchen. They're drinking beer and smoking.

The Chinese boy's dialogue is punctuated with close shots of the faceless little foosball men spinning in unison.

*LITTLE SQUARE*

*In academics, you get \$50,000 a year, tops. Industry is twice that. Plus royalties.*

The ball flies out.

*LITTLE SQUARE*

*Put it back quick.*

*LIU XING*

*What industry?*

*LITTLE SQUARE*

*Pharmaceuticals. I'm going to find a cure for AIDS. I'll definitely be a millionaire.*

Liu Xing wins another round.

*LITTLE SQUARE (CONT'D)*

*Why are you always winning?*

Liu Xing raises his beer bottle.

*LIU XING*

*I'm going to solve the Dark Matter Problem, win the Nobel Prize, and marry a blond blue-eyed American girl.*

*LITTLE SQUARE*

*Dark matter again. You have a one-track mind.*

EXT. BEEHIVE TEA ROOM - DAY

LIU XING looks in the window of the Beehive Tea Room. He sees JACKIE (20's) working behind the counter.

INT. BEEHIVE TEA ROOM - DAY

LIU XING looks around the tea room, with its teapot clocks, framed photos, and canisters of exotic teas. He plays a game of cat and mouse with JACKIE, who is restocking the glass display case with cakes and fruit.

JACKIE

Now, what can I do for you?

LIU XING

Uh, I want a cup of tea.

JACKIE

Any particular kind?

LIU XING

Which one is the best?

JACKIE

Gosh, I don't know, I'm more of a coffee drinker myself, but we have lots to choose from.

She points to a blackboard listing scores of exotic teas, most from China, and quite expensive.

LIU XING

I would like the Togo.

JACKIE

Togo?

He points to a line that reads "Iced tea to go \$1.50." It's the cheapest thing on the menu.

JACKIE (CONT'D)

Oh, "to go"! Sure, no problem.

She pours him an iced tea. He sips it.

LIU XING

Are you a student here?

JACKIE  
Me? No. Not anymore. Are you?

LIU XING  
Yes. Cosmology.

JACKIE  
Oh yeah? Hey, maybe you could get me a free makeover.

LIU XING  
(confused)  
I think so.

INT. REISER'S HOUSE - DAY

A small party in the living room of Reiser's modern middle class home. REISER, his wife CLAIRE, Professor COLBY (50's), Professor SMALL (30's), JOANNA, ZHANG MING, WANG YING, and a sleepy LIU XING sit around a table with wine.

COLBY  
A theorist and an experimentalist  
are on death row --

REISER  
Where they belong.

COLBY  
-- and the guard asks each of them  
for their last wish. The theorist  
says "I'd like to give a seminar to  
present my latest theoretical  
breakthrough." And then the guard  
asks the experimentalist and he  
says, "I'd like to be executed  
before the seminar."

Joanna turns to Wang Ying next to her.

JOANNA  
Do you get it?

Wang Ying nods.

REISER  
All right everybody, let's toast  
Joanna and thank her for taking  
such great care of our Chinese  
students. I have heard about the  
high cultural experiences of the  
Pioneer Village, the cineplex --  
high culture.

JOANNA

Oh come on, everyone had fun, didn't you? I think it's important for these kids to get out of that lab that we gave you --

REISER

-- and for which we are very grateful to you and Hal --

JOANNA

-- once in a while.

REISER

We're incubating some truly remarkable scientists here. Liu Xing, we let you out sometimes, don't we?

LIU XING

Yes, Professor Reiser is very inspire me.

SMALL

(correcting him)

To me. Inspiring to me.

LIU XING

To me, to me.

JOANNA

And dark matter is also very inspiring to you.

REISER

What do you know about dark matter? I thought you weren't interested in science.

JOANNA

No, I mean I'm more interested in the cultural side, but Liu Xing explained it to me very eloquently the other day.

COLBY

Maybe I should hire him to do my fund raising.

Claire brings a chocolate cake to the table.

COLBY (CONT'D)

Speaking of dark matter, look at that!

LIU XING

Very interesting, dark matter.  
Motions of stars and galaxies, all  
determine by dark matter around it,  
like a dark halo.

CLAIRE

Hello?

JOANNA

Halo. Like an angel.

Reiser leaves the table, and takes Liu Xing with him.

REISER

Liu Xing!

INT. REISER'S KITCHEN - DAY

LIU XING and REISER stand by the sink, smoking cigars while each holding a glass of whisky. Reiser blows the smoke out an open window.

REISER

She's probably going to kill me for  
this. I'll survive.

LIU XING

Professor Reiser, are you afraid of  
your wife?

REISER

What? Oh, no, no. Just about the  
cigars. That's all.

LIU XING

Drinking problem?

REISER

No, no.

Liu Xing notices a framed black-and-white photo of Reiser at age 24, with his former advisor, an Iranian physicist in his mid-forties. Sporting the long hair and thick-framed glasses of the era, Reiser and his teacher are posed in front of a blackboard covered with equations.

LIU XING

Who's that?

REISER

Oh, that's my advisor, Dr. Gazda.  
I was just about your age then.

(MORE)

REISER (cont'd)  
 After I graduated I published a  
 critique of his black hole  
 accretion flows theory.

LIU XING  
 I read this paper. Very good.

REISER  
 You did? Well, he didn't think so,  
 but that's how it goes.

LIU XING  
 In China this would never happen.  
 Student never challenge the  
 teacher. Have too much respect.  
 It's a big problem because -- no  
 challenge, no progress.

REISER  
 Well, feel free to challenge me all  
 you want. Just keep in mind, I'm  
 always right.

LIU XING  
 I think so.

They both laugh. Liu Xing takes a big gulp of whiskey.

REISER  
 Oh, drink that slow. It'll go  
 straight to your head. Drink it  
 slow.

LIU XING  
 Slow.

REISER  
 Slow.

EXT. HIGHWAY - TWILIGHT

LIU XING drives JOANNA's car on the open highway, JOANNA is  
 on the passenger's side. Liu Xing hums a song in Chinese.

JOANNA  
 Ah, I love that song.

They sing together.

LIU XING  
 You know this?

JOANNA

Yes. It's my favorite song. I love this song.

LIU XING

Your favorite?

JOANNA

Mm hmm.

They continue singing.

JOANNA (CONT'D)

I don't know what it means.  
Something about the blue sky...  
white clouds... sheep white as  
snow...

The car zooms by against a backdrop of snow-covered mountains.

INT. COUNTRY CONFERENCE HOUSE - DAY

REISER stands at the podium of a large lecture room, speaking to a crowd of a hundred COSMOLOGISTS on folding chairs. Behind him, LIU XING assists by placing transparencies on the overhead projector. On the screen is a transparency of Liu Xing's computer simulation, with hundreds of tiny loops radiating chaotically from the center.

REISER

Cosmic strings continue to be the most elegant explanation of how the galaxies have emerged from the beginning of time. And with my revised model, we will be able to reproduce all of the observed large-scale structure of the entire universe.

Applause. Liu Xing remains standing in the dark space next to the projector. A hand shoots up in the back row.

REISER (CONT'D)

Thank you. Obviously we are not there yet, but -- yes, my old professor, Dr. Gazda.

DR. GAZDA

Yes, I am going to invoke the privilege of an old teacher and chastise my former pupil.

REISER

Why am I not surprised?

DR. GAZDA

Some things never change, Jake. Once again, you're in denial about the data. Have you seen the latest redshift images from the CSA?

REISER

Yes, as a matter of fact, I have. Would you like to share it with everyone?

Gazda strides up to the podium and slaps his own transparency on the projector. It shows a dense band of points surrounded by mostly empty space.

DR. GAZDA

Ladies and gentlemen, this is not a model. This is reality.

Laughter from the audience, with scattered applause. Gazda circles the big empty spaces.

DR. GAZDA (CONT'D)

Now, where are these voids in your model, Jake?

He peers over his bifocals at Reiser. Reiser hops back up on the podium and points out two tiny stray loops in one of the voids circled by Gazda.

REISER

What about these?

DR. GAZDA

Insignificant.

Gazda jabs at the larger of the two voids.

DR. GAZDA (CONT'D)

That's the trouble with you theorists. You get so caught up in your computer models that you forget to open your eyes, look up and see the truth. It's staring you in the face.

REISER

You're reminding me of the old joke about the theorist and the experimentalist.

During this argument, Liu Xing pulls out a marker and sketches warm dark matter halos in the voids, on a new transparency. He whispers something in Reiser's ear, and hands him the new transparency.

REISER (CONT'D)

These two transparencies are a work in progress, but you are forcing my hand. Um, let me show you something here. You can see how even a slight temperature change in the dark matter could easily generate these voids over time.

A hush falls over the room as everyone studies Liu Xing's sketch, followed by appreciative laughter, then applause.

DR. GAZDA

It's a band-aid. But, an elegant one.

Liu Xing's face brightens.

INT. COUNTRY CONFERENCE HOUSE - NIGHT

Chairs removed, the place is decorated for a big party. COSMOLOGISTS mill around, networking with drinks in hand. REISER and LIU XING stand in a small group watching SMALL perform the "Dark Matter Rap."

SMALL

(rapping)

I said in 1933 Observe the Coma cluster / the redshifts of the galaxies / imply some big velocities. / They're moving so fast, there must be missing mass! / Dark Matter. / Do we need it? What is it? Where is it? How much? / Do we need it? Do we need it? Do we need it? Do we need it?

A WAITRESS serving martinis approaches the group.

REISER

Now Liu Xing, take a look at this woman. Now this is America. Try this drink -- put that one away. Try this, and drink it slowly.

Reiser sees someone he knows. A bit more of the Dark Matter Rap.

They walk off, leaving Liu Xing standing by himself with his martini. He takes a sip, and winces. Dr. GAZDA approaches.

DR. GAZDA

Lu Xing, I have been looking all over for you. That was you who saved Jake's derriere this morning, wasn't it? You're doing some marvelous work.

They find a table together.

DR. GAZDA

We both come from cultures that propose a universe with no beginning and no end. Yet, here we are, discussing the Big Bang. The ultimate beginning.

LIU XING

But maybe there have been many beginnings, many big bangs.

DR. GAZDA

You know, Liu Xing, I think you should focus on the Dark Matter Problem. I think you could do some serious damage.

Reiser returns, drink in hand.

REISER

Lies, lies, all lies. Please do not believe a word that this man says about me.

DR. GAZDA

We weren't talking about you, you egomaniac!

They embrace. Gazda slaps Reiser's back.

DR. GAZDA

I was just telling Liu Xing that I think he should focus on this Dark Matter Problem. He seems to have a real passion for it.

REISER

Well, he better have a real passion for it, he works for me. You work for me, don't you? Yes, he works for me.

SMALL

(rapping)

The search is getting popular as  
many realize / the detector of dark  
matter may well win the Nobel  
Prize...

INT. BEIJING COAL REFINERY - DAY

BABA takes hunks of coal from a conveyor belt and tosses them into a metal bin.

*LIU XING (V.O.)*

*Dad, Mom, how are you? Professor Reiser invited me to attend the Early Universe Symposium, where I learned that Dark Matter is the bright future of cosmology. Here in America, I am free to follow my dreams. I will definitely win the Nobel Prize.*

EXT. CAMPUS - DAY

LIU XING sits in front of a fountain, and smokes.

CHAPTER HEADING: Water

INT. JOANNA'S LIVING ROOM - DAY

Joanna walks around the living room practicing a Chinese tongue twister.

JOANNA

Chi pu tao bu tu pu tao pi. Bu chi  
pu tao dao tu pu tao pi.

[Subtitles: Eat the grape without spitting out the skin of the grape. Do not eat the grape but spit out the skin of the grape.]

Hal enters the room.

HAL

Sounds like I never left Shanghai.

JOANNA

Oh, hi!

HAL

*Ni hao!* How you been?

JOANNA

I missed you.

HAL

I missed you.

JOANNA

Did everything go good?

HAL

Went really good. We're this close to 2 million units.

JOANNA

Fantastic! What about Mommy?

Hal hands her a box.

JOANNA (CONT'D)

It's oolong. It's my favorite! I just made some oolong, you want some?

HAL

No thanks.

JOANNA

You sure?

HAL

I wanna sit. Tell me the news.

JOANNA

Ooh, lots going on. A whole new crop of Chinese students. Oh, and one of them, Laurence Feng, was Liu Xing's rival at Beijing University. He was the number two scholar. So that's a big deal. I'm taking the new students to Pioneer Village tomorrow -- you want to come?

HAL

No, thanks. You going to dazzle them with your language skills?

JOANNA

Don't make fun of me. It's actually kinda cool. It forces you to have a whole other perspective on the world, because their language is so indirect and subtle. You know they don't have any tenses?

(MORE)

JOANNA (cont'd)  
 So, they say, "Last year I am..."  
 and "Next year I am..." You know,  
 it's like "be here now"...

INT. HALL NEAR REISER'S OFFICE - DAY

LIU XING walks by Reiser's office on his way to the lab. Hearing Reiser in conversation with another student whose voice seems familiar, he peeks inside. Through two doorways, he sees LAURENCE FENG (20's).

REISER  
 Finally someone is showing me the data! These are just the results I've been waiting for.

LIU XING  
 (to himself)  
*Feng Gang?*

Laurence is enthusiastically handing print-outs to Reiser.

LAURENCE  
 Thank you. Also, starting the string network at non-equilibrium gives us an even better result.

REISER  
 Laurence, this is very impressive work. You are welcome on my team any day.

LAURENCE  
 Thank you, Professor Reiser.

REISER  
 Call me Jake. No formalities here.

LAURENCE  
 Jake.

INT. LAB - DAY

LIU XING and LAURENCE sit at opposite desks. Liu Xing stares Laurence down as he works.

LIU XING  
*Feng Gang. What happened to you?  
 Why did you change your name to  
 Laurence? What kind of name is  
 that?*

LAURENCE

Yes, my wife thinks it's easier for Americans to say, to make them feel more comfortable.

At the next desk, WANG YING laughs quietly. Liu Xing walks over to Laurence's desk, and looks over his shoulder.

LIU XING (CONT'D)

*It doesn't work. Galaxies start forming way too late. You'll never explain quasars at redshift four.*

LAURENCE

I know. We can fix that.

LIU XING

*You get much better results with warm dark matter. And inflation instead of cosmic strings.*

LAURENCE

That's not the Reiser Model.

LIU XING

*We should have our own ideas and language.*

LAURENCE

But we're all working for Reiser here.

INT. BEEHIVE TEA ROOM - LATE AFTERNOON

LIU XING and JACKIE share a table.

JACKIE

Why did you come here?

LIU XING

To meet you.

JACKIE

No, I mean to America.

LIU XING

Ah, America. To meet you.

JACKIE

Seriously.

LIU XING  
Seriously, seriously. I have so  
much seriously all day.

Jackie is about to add cream to her coffee...

LIU XING  
Wait. I'll show you galaxy in a  
cup. Watch closely.

He takes the creamer, and holds it poised above the mug. He stirs the black coffee briskly, then pours a dot of cream in the center of the swirling liquid.

INSIDE THE CUP, the whirling white blob grows spiral arms on the dark liquid surface. It's the cosmos in a mug.

JACKIE  
I figured out that cosmology has  
nothing to do with skin care. You  
must think I am an idiot.

LIU XING  
Of course. Not.

JACKIE  
You study the Big Bang? It's  
supposed to be the beginning of the  
universe?

Liu Xing nods.

JACKIE (CONT'D)  
I don't believe it. Because  
something had to cause the Big  
Bang, you know. It didn't just  
come out of nothing.

LIU XING  
What do you think cause the Big  
Bang?

JACKIE  
God.

LIU XING  
Then what caused God? He can't  
come out of nowhere neither.

JACKIE  
He's eternal. He's always been  
there.

LIU XING

In my new theory, the universe is eternal. Big Bang is a major event, but not the beginning. Universe has no beginning, no end, just like God. So you see we are really the same. Universe and God is the same.

She's speechless.

INT. SEMINAR ROOM - DAY

LIU XING arrives late, but takes time to sharpen his pencil.

Physics and astronomy GRAD STUDENTS are pitching their dissertation proposals to REISER, COLBY and SMALL. LAURENCE, wearing something similar to Reiser, speaks in very precise English.

LAURENCE

And so, for my dissertation, I intend to develop new non-equilibrium techniques for the Reiser model, running from 10 to the minus 36 seconds to one second after the Big Bang.

Reiser smiles at Laurence.

SMALL

That's what I call a dissertation!

REISER

Impeccable, Laurence. We look forward to those results.

LAURENCE

Thank you.

REISER

Liu Xing, I believe, is next. He's been very secretive about his proposal. I'm his advisor and I don't even know what it is.

Some laughter.

REISER (CONT'D)

(to Small)

This kid is quite brilliant.

SMALL

This is your boy, eh?

Liu Xing gets up in front of the class, in his usual thrift store clothing.

LIU XING

At present, the model doesn't explain large voids seen by observer.

REISER

The model?

COLBY

The model doesn't explain it?

REISER

My model. Ha ha ha! My model.

LIU XING

What if the voids are not empty at all, but full of dark matter? I will use superstring theory to find a new dark matter particle that surpr --

SMALL

Suppresses.

LIU XING

-- supresses galaxy formation.

An awkward silence, in which all eyes are on Reiser.

REISER

Well, I think I speak for the Chair and for Professor Small in saying that we're impressed with your tremendous creativity, but there is no guarantee that superstring theory will predict such a particle. You need to change your dissertation proposal, and pick a problem that you know has a solution.

SMALL

Unless he wants to be a grad student for the rest of his life.

INT. LIU XING'S BEDROOM - NIGHT

LIU XING does a headstand on his bed, leaning against the wall. He comes down, sits, and pants.

EXT. CHURCH - DAY

LIU XING, LITTLE SQUARE and WU approach the church, smoking cigarettes. From inside, the sound of a woman singing "Amazing Grace" in Chinese.

WU

*You need to be more practical.*

LITTLE SQUARE

*Just find something that Reiser will approve, and graduate first.*

LIU XING

*That doesn't sound like the guy who wants to cure AIDS.*

LITTLE SQUARE

*My dissertation is on a molecule invented by my professor ten years ago.*

LIU XING

*Aren't you wasting your brain cells?*

INT. CHURCH - DAY

LIU XING, LITTLE SQUARE and WU are the last to arrive in a congregation full of CHINESE and AMERICAN FRIENDS, including JOANNA and HILDY. Laurence's wife CINDY finishes singing "Amazing Grace," then moves to the baptismal font, where LAURENCE stands holding their new baby, NOELLE. REV. HOLLINGS looks out at the congregation.

HOLLINGS

*Today I welcome all of you here as one more little child... (sound under)*

WU

*We have Buddha, Tao, and Confucius. Why do they need Jesus?*

HOLLINGS

Do you, Laurence and Cindy promise to raise Noelle in the Christian faith, and to be an active member of our church?

LAURENCE AND CINDY

We do.

Hollings pours water over the baby. Everyone applauds. The baby starts crying.

HOLLINGS

Then through water and through spirit, I welcome you to the Christian faith to be one of God's own children. In the name of the Father, the Son, and the Holy Spirit. Amen.

EXT. CHURCH - DAY

LIU XING, LITTLE SQUARE and WU join a group of CHINESE STUDENTS congratulating LAURENCE and CINDY.

CINDY

*Liu Xing! We're having a party tonight. Come join us.*

LIU XING

*Thank you.*

The baby starts to cry.

CINDY

*Say "Uncle Liu Xing."*

Liu Xing shakes Laurence's hand.

LIU XING

*Congratulations, Feng Gang. Ten years of school was not in vain. You're making a life in America, with your pretty Shanghainese wife.*

LAURENCE

Now I have mouths to feed.

LIU XING

*Congratulations.*

LAURENCE

Thank you.

CINDY

Goodbye.

INT. LIU XING'S HOUSE - NIGHT

LIU XING stands in the kitchen, boiling black sesame balls, lost in thought. WU is in the living room watching a Chinese costume drama. Competing with the TV is the sound of LITTLE SQUARE and his AMERICAN GIRL #1 having very noisy sex in the bedroom. We hear little squeals of pleasure from the girl.

WU

*I think she's faking it for our sake.*

LIU XING

*Sounds real to me.*

WU

*They're just trying to make us jealous. A true female orgasm builds very slowly. It starts deep in the throat, like this...*

Wu makes a gargling sound. Liu Xing smiles absentmindedly.

Remembering the sesame balls, Liu Xing looks into the pot. The pastry has dissolved, exposing the black sesame fillings, which explode into the water and turn it dark. Liu Xing's eyes widen.

LIU XING

*Got it, got it, got it. I've got it. Major breakthrough! Absolutely, major breakthrough! Old Wu, Old Wu, I have a major breakthrough. Little Square, Little Square!*

He runs over to Little Square's room, and tries to pull him out of bed.

LITTLE SQUARE

*Fuck off! I'm busy!*

Liu Xing drags Little Square out. Little Square clings to the sheets. The three of them huddle over the pot of overcooked sesame balls.

*LIU XING (CONT'D)*  
*Superstring theory predicts shadow  
 particles that interact with  
 ordinary matter only through  
 gravity. This is a major  
 breakthrough!*

Neither Little Square nor Wu has the slightest idea what he's talking about. Little Square's girlfriend leaves in a huff. Liu Xing points to the exploded black sesame balls in the pot.

*LIU XING (CONT'D)*  
*This could be the dark matter that  
 solves the problem of the Reiser  
 Model!*

EXT. HUBBLE BUILDING - DAY

LIU XING parks his bike and runs in.

INT. HUBBLE BUILDING, STAIRWAY - DAY

REISER is walking upstairs with HILDY.

REISER  
 Just tell him it's against the  
 journal's policy. He's a bit of a  
 bureaucrat. He'll understand that  
 kind of language.

HILDY  
 So basically you want me to do your  
 dirty work for you.

LIU XING charges up the stairs them.

LIU XING  
 Professor Reiser!

HILDY  
 Listen, there are two more things.  
 You've got the reception tonight at  
 6:00. And call your sister, it's  
 her birthday. You sent flowers.  
 Call her please.

REISER  
 I sent flowers? How nice of me.

Hildy peels off.

LIU XING  
Huge, huge breakthrough.

REISER  
Huge breakthrough?

LIU XING  
Yes, huge breakthrough.

Liu Xing digs through his backpack for his note pad, and some loose paper.

REISER  
Huge breakthrough. Yes, I heard that.

LIU XING  
Huge implication for cosmology.

Liu Xing smiles proudly. Reiser reads. He is stunned.

REISER  
You did this?

LIU XING  
Yes. Can this be my dissertation?

Reiser glares at him.

REISER  
Are you out of your mind? This is way over your head. Way past your capabilities.

LIU XING  
But I already got a good result.

REISER  
Let me explain something to you. This is a marathon. You cannot sprint all the way. All right? Pick something simpler, then build on that. You're going to have to learn that you have to pay your dues first. Okay?

LIU XING  
Pro, Profess--

REISER  
I said absolutely not. No. Okay?

Reiser brusquely hands the note pad back to Liu Xing, and walks away. Liu Xing stands there for a while, like a hurt puppy.

LIU XING (V. O.)  
Dad, Mom, how are you? Great news!

INT. BEIJING INDUSTRIAL LAUNDRY - DAY

MAMA fold laundry with a CO-WORKER.

LIU XING (V.O.)  
*I made a major breakthrough.  
Professor Reiser is very pleased.  
He says that this discovery can be  
the basis of my Ph.D. thesis. I  
will make you proud of me.*

CO-WORKER  
*I hear American children don't take  
care of their parents. They let  
them die in retirement homes.*

MAMA  
*My son will not.*

INT. REISER'S OFFICE - DAY

Reiser reads the latest *Journal of Astrophysics*. His face reddens as he sees the lead article: "Superstrings and the Dark Matter," by Liu Xing, M.S."

LIU XING (V.O.)  
*After generating much important  
research, cosmic strings -- first  
proposed by Jacob Reiser -- no  
longer explain the observed  
structure of the universe.*

REISER  
Hildy!

LIU XING (V.O.)  
*By using superstrings, I have  
discovered a new dark matter  
particle.*

INT. HUBBLE BUILDING, ELEVATOR - DAY

HILDY and REISER go down in the elevator together.

REISER

Did you know it was going to happen like this?

HILDY

How was I supposed to know? I'm not a mind reader!

REISER

How dare he! Without my permission, without even showing it to me!

HILDY

I believe he tried.

REISER

He did not. He showed me some scribbles on a yellow legal pad. Why are you siding with him?

HILDY

Liu Xing worships you. All he wanted was your blessing. You didn't give it to him. That's what happened.

REISER

He's so respectful, bowing on the outside, but on the inside he's an arrogant bastard! Maybe they all are.

Through the glass wall of the elevator, we see a group of CHINESE STUDENTS, laughing and teasing each other.

INT. DESIGNER BOUTIQUE - DAY

An elegant boutique. The manager, RENE, is helping JOANNA shop for shirts. LIU XING is tagging along.

CHAPTER HEADING: Wood

LIU XING

Joanna, Professor Reiser think I am attacking him. I am not attacking him.

JOANNA

Of course you're not.

LIU XING

This can help improve his model. I was hoping so much he will publish my breakthrough.

JOANNA

Well, if he doesn't, you can send it out to be published somewhere else.

LIU XING

I did. They did.

JOANNA

Good for you. (to Rene) Oh my good god, that's exactly what I want. See, I just wanted something strong.

She admires a striped shirt. Liu Xing accidentally knocks a dark blue shirt on the floor.

LIU XING

Sorry.

Liu Xing picks it up, about to hang it back.

JOANNA

Oh, no, no, no. Wait, wait, wait.

She holds the shirt up to Liu Xing.

JOANNA (CONT'D)

I think you should have this one.

LIU XING

Too expensive.

RENE

The lady has impeccable taste.

JOANNA

It's only money. When is your dissertation presentation?

LIU XING

Next week.

JOANNA

Next week? And you're going to wear this terrible shirt?

She points to his frayed shirt. Liu Xing nods.

JOANNA (CONT'D)

No, no, no. Wear this one! You walk in, you have confidence. You look good. You feel good. Hit it out of the park.

LIU XING

I really don't need that shirt.

JOANNA

No, you don't need it, but we're gonna get it.

RENE

Dress for success.

JOANNA

You're just worrying. You're worrying too much. You really are. You know what my mother said? Worry is interest paid on trouble that hasn't happened yet. So don't worry.

INT. LIU XING'S HOUSE, LIVING ROOM - NIGHT

WU is soaking his feet, while smoking. He picks up Liu Xing's new shirt. LIU XING snatches it back from him.

*LIU XING*

*Don't touch it while washing your feet.*

*WU*

*Typical American thinking. To climb a mountain, you need hiking shoes. To ride a bike, you need a helmet. You can't just drink regular water, it has to be mineral water. Even when sleeping, you have to wear sexy underwear.*

Wu gets up to dump the basin of water. Liu Xing tries the shirt on in front of the tiny mirror by the door. Wu stops next to him.

*WU (CONT'D)*

*I don't think that shirt is so great.*

*LIU XING*

*"Dress for success." Haven't you heard of that?*

Liu Xing looks at himself in the mirror, adjusting the collar.

INT. HUBBLE BUILDING, GLASS CORRIDOR - DAY

LIU XING reviews his notes. Through the plate glass windows, he sees CHEERLEADERS practicing a routine.

Liu Xing hovers outside the seminar room, taking one last look at his transparencies, distracted by the bouncing cheerleaders.

COLBY (O.S.)

Liu Xing?

Liu Xing gets up and goes inside.

INT. LIU XING'S HOUSE - DAY

A home-made banner saying "Congratulations Liu Xing, Ph.D.!" hangs on the door. A party is getting started in anticipation of Liu Xing's triumph.

WU stands by the door with a beer and a cigarette in hand. LITTLE SQUARE is dancing with AMERICAN GIRL #2 in the kitchen. WANG YING and ZHANG MING dance with each other.

INT. SEMINAR ROOM - DAY

LIU XING finishes his presentation before the tribunal of professors REISER, COLBY and SMALL.

LIU XING

Therefore, my new form of dark matter make a better match to observation, as you can see from final frame of simulation.

He puts up the last transparency, and stands nervously at the projector while the three judges silently write notes.

REISER

Did you use single- or double-precision computations?

LIU XING

Single.

Small raises his eyebrows at Reiser.

SMALL

But even the slightest computational error -- like a round-off error -- can significantly alter the results.

LIU XING

Result not cause by round-off error.

REISER

So you say, but you have no way to prove it. Do you?

LIU XING

Professor Reiser, simulation is accurate!

REISER

Double-precision is standard procedure.

LIU XING

But, but, but Professor Reiser, why you never tell this to me? I do one thousand runs for your model, single-precision, and you never tell this to me, never tell me do different!

COLBY

Excuse us for a moment.

The three professors go into a huddle. Liu Xing stands nervously, straining to interpret the snippets of whispered English, but unable to understand.

COLBY (CONT'D)

You have to admit, it's a highly original piece of work.

REISER

Do you really want to sign off on a thesis that may be entirely inaccurate simply because some of the ideas in it are intriguing?

COLBY

Come on, Jake, he made a very persuasive argument.

SMALL

It's pure speculation!

REISER

He took the most speculative theory in physics, and he speculated a little further. He's in way over his head.

COLBY

Maybe he's way over our head.

The three judges come out of their huddle.

REISER

Liu Xing, I'm afraid we can't accept your dissertation until you re-do the computations.

Liu Xing stands, shattered, in front of the projection screen.

FLASHBACK to him getting shot down at Pioneer Village.

INT./EXT. GLASS CORRIDOR - NIGHT

Pacing under the fluorescent lights, LIU XING tears off his new shirt, and throws it on the floor. The light bulbs begins blow up, one by one, sending shards of glass flying into the corridor -- and leaving Liu Xing in the dark.

EXT. LIU XING'S HOUSE, ALLEY - NIGHT

The house is empty, LITTLE SQUARE, WU, ZHANG MING and WANG YING are half asleep, surrounded by empty beer bottles

LITTLE SQUARE

What time is it?

WU

Two o'clock.

EXT. LIU XING'S HOUSE - DAY

LITTLE SQUARE pulls up in his recently acquired Dodge Charger.

INT. LIU XING'S HOUSE - DAY

A dishevelled LIU XING sits in front of the TV, with a noisy martial arts movie on.

Little Square knocks on the window.

*LITTLE SQUARE**Liu Xing!*

Liu Xing doesn't budge. Little Square enters the apartment.

He looks at his morose friend, and gets two beers from the fridge. They open the beers and drink in silence.

*LITTLE SQUARE (CONT'D)**Come on, let's get you a haircut.*

Liu Xing chugs the rest of his beer.

*LITTLE SQUARE (CONT'D)**Enough, put this down, let's go.*

He pulls Liu Xing away.

Through the kitchen and the open bathroom door, we see Little Square cutting Liu Xing's hair. All that can be heard is the snipping of the scissors.

Little Square puts down the scissors and applies some gel, massaging Liu Xing's scalp. Liu's facial muscles begin to relax, and tears flow down his cheeks.

INT. LIU XING'S HOUSE - DAY

LIU XING takes a shower.

INT. LIU XING'S HOUSE - DAY

LIU XING sits on his bed, writing in his notebook. WU and LITTLE SQUARE are packing their suitcases. Wu offers Liu Xing a cigarette.

*LITTLE SQUARE**Fuck dark matter!**WU**Come back to China with me. I'll get a job for you at the China Science Academy. With your talent, you qualify for a nice apartment in central Beijing. Then you find a wife who cooks, so you can focus on your research. Wouldn't that be great?*

## LITTLE SQUARE

*Get a corporate job here like me,  
so you can research dark matter in  
your spare time. Even Einstein had  
a day job.*

## EXT. RESIDENTIAL STREET - DAY

LIU XING rides a bike around town, carrying a sample case with the words "Skin Sheen."

## INT. BEEHIVE TEA ROOM - DAY

LIU XING sits at a table, as JACKIE approaches with a cup of coffee.

LIU XING

Thank you.

JACKIE

Yeah.

LIU XING

How are you?

JACKIE

Good! How are you?

LIU XING

Fine. Thank you.

Liu Xing places a face cream on the table.

LIU XING (CONT'D)

Happy Birthday!

JACKIE

(startled)

Liu Xing, who told you it was my birthday?

LIU XING

Ah, you forgot I am a scientist. I just know.

JACKIE

I see you're a cosmetologist after all.

LIU XING

Please come to my house after work. I will prepare your birthday feast.

JACKIE

Oh, that's so sweet, but I already have plans.

LIU XING

No problem. Tomorrow.

JACKIE

I don't think so.

Liu Xing looks at her, trying to understand her sudden coldness.

JACKIE (CONT'D)

I like you Liu Xing. You're a really nice guy, but I don't think it's going to work out between us. I'm sorry.

LIU XING

No problem.

He squeezes out a smile, which awkwardly freezes on his face.

JACKIE

Want some more coffee?

LIU XING

Mmm hmm.

Liu Xing sips his coffee.

LIU XING (V.O.)

*Baba, Mama, how are you?*

EXT. BEIJING WATERFRONT - DAY

BABA and MAMA are taking an exercise walk.

LIU XING (V.O.)

*I am proud to report that I graduated with the highest honors. Soon you'll be coming to America to live with me. Then you'll be the proud parents of Dr. Liu Xing. Now all the universities are fighting over me. I'm trying to decide which job offer to accept. I miss you both very much.*

EXT. REISER'S BACK YARD - DAY

A graduation barbecue. REISER serves up grilled hamburgers to CHINESE STUDENTS and faculty. JOANNA chats with a group of students.

REISER

Beer, wine, salad - everything is there. Sorry the burgers are a little overdone.

LIU XING is off in a corner of the yard, a ghost-like presence.

REISER

No. You're far better. Everybody, Professor Richard Colby has the floor! Please.

COLBY

Thank you, professor. I want to share some good news with you all. For the third year running, the Gelman Prize for the best science dissertation has been awarded to one of our own -- Laurence Feng. Larry, take a bow.

Laurence takes a bow, while CINDY claps Noelle's little hands together.

COLBY

And now I believe we have some entertainment.

Cindy begins singing the final aria from *Madame Butterfly*, in Chinese.

Around the side of the house, Liu Xing sits with Joanna.

JOANNA

I brought you a present.

LIU XING

Joanna, I didn't even graduate.

JOANNA

I never said it was a graduation present.

Liu Xing takes the box and slowly opens it. Inside is an antique brass telescope.

JOANNA  
It's very old.

He extends it to its full length, and looks out, very excited.

JOANNA  
Liu Xing, my husband Hal has a company that does a lot of business in China. Not in your field -- it's import/export. I know some of the people. I thought I might contact them.

LIU XING  
I'm okay. I'm Okay. No problem. I can find a job myself.

JOANNA  
Of course.

LIU XING  
Thank you.

INT. REISER'S KITCHEN - DAY

Cindy's dramatic aria continues in the background, as JOANNA approaches REISER.

JOANNA  
So, I am not clear on the protocol here now. Liu Xing hasn't passed his dissertation.

REISER  
I am sure he'll get his doctorate, some day, somewhere. I mean, he is a brilliant guy.

JOANNA  
Yeah.

REISER  
But, unfortunately, he's not a team player.

JOANNA  
Well, you wouldn't put that in a letter of recommendation?

REISER  
No, I wrote him a very fine recommendation.

JOANNA

You did?

REISER

Believe me.

JOANNA

Great. Because I remember when he first came here you said he was the most brilliant student you'd ever seen.

REISER

Yes, yes. And I have no doubt, he'll make a lasting contribution to cosmology. Someday. Somewhere.

JOANNA

I wish there was something you could do, because he looks up to you so much.

Reiser laughs and shakes his head.

REISER

I don't think he still wants to work for me, Joanna.

EXT. REISER'S BACKYARD - DAY

CINDY is at the end of her aria.

CINDY

*(sings)*

*Though you must not know it,/ for  
you alone,/ for your lovely blue  
eyes/ dies Butterfly...*

She hands the microphone to WANG YING, and takes a badminton racket to use as a sword. She slits her throat with the racket, and falls down. Flower petals are tossed on her. Laurence, holding the baby, kneels next to her.

LAURENCE

*(sings)*

*Butterfly... butterfly...*

INT. BEIJING APARTMENT - NIGHT

MAMA does her family laundry. A NEIGHBORHOOD GIRL, hair wet from a shower, stops by.

NEIGHBORHOOD GIRL  
*Will he return home or stay in  
 America?*

MAMA  
*It's up to him.*

NEIGHBORHOOD GIRL  
*Does he have a girlfriend in  
 America?*

MAMA  
*He's too busy. Maybe later.*

BABA shows up with some hangers.

BABA  
*Here you go. All he knows is  
 studying, like a fool. Who's going  
 to date him?*

EXT. RESIDENTIAL STREET - DAY

LIU XING rings a doorbell, carrying his bag of Skin Sheen products. No one answers.

On his way back to the sidewalk, he runs into SELIM, a Middle-Eastern grad student.

SELIM  
*Hey! Liu Xing, right? I read your  
 article on dark matter -- it's  
 really good!*

Liu Xing hops on his bike and takes off.

EXT. JOANNA'S HOUSE - DAY

LIU XING walks toward Joanna's house, carrying the Skin Sheen sample case.

INT. JOANNA'S HOUSE - DAY

JOANNA is relaxing on the couch, reading a book and listening to a Bach cantata on her stereo. The doorbell rings. She goes to the door, peeks through the little window, sees it's Liu Xing, and opens the door.

JOANNA  
*Liu Xing, what a nice surprise!  
 Come in!*

LIU XING

Joanna.

She leads LIU XING to the living room couch.

JOANNA

How wonderful to see you. I was just thinking about you.

LIU XING

Thank you.

JOANNA

I can't even look at the sky without thinking about dark matter. Come in. Can I get you some tea?

LIU XING

Yes.

JOANNA

Oh, good.

She goes to the kitchen, and returns with the tea tray, sets it on the coffee table, and sits next to Liu Xing.

JOANNA (CONT'D)

Come in. Sit down.

LIU XING

Thank you.

JOANNA

It's so good to see you. I thought you'd disappeared completely.

LIU XING

(notices music)

Bach.

JOANNA

Yes. So, do you have some good news?

LIU XING

News?

JOANNA

I mean, have you heard from any of the other universities?

LIU XING

No. Not yet.

JOANNA

I'm sorry. Not yet, of course not.  
What's "Skin Sheen"?

LIU XING

Oh, it's a beauty product I sell.

JOANNA

Oh. You sell?

LIU XING

Just to kill time. It's pretty  
good stuff. Do you like to try  
some?

JOANNA

Oh, no thank you. I have a lot of,  
God knows, things that I --

LIU XING

Sorry.

JOANNA

No, don't be sorry. I -- maybe I  
will try it. I'm always looking  
for something new. You know, I'd  
just love to try it.

LIU XING

You sure?

JOANNA

Sure.

Liu Xing removes a cream from the bag, the lid has come off  
and cream gets all over him.

JOANNA (CONT'D)

Uh oh. Can I help?

LIU XING

No, no, no problem.

Liu Xing pulls out bottle after bottle, all cheaply packaged.

JOANNA

Oh, my! This is an extensive line  
of -- products. What do they all  
do?

Liu Xing fumbles with his bottles.

LIU XING

Sorry.

JOANNA

No, no.

He takes a small bottle of anti-aging cream out of the sample case.

Liu Xing applies the cream to the back of her hand.

LIU XING

First, you put it here. And do this.

He rubs the cream in circles.

LIU XING (CONT'D)

Yes?

JOANNA

Yes. It feels nice.

LIU XING

And then second...

Liu Xing pushes up the sleeve of Joanna's shirt.

LIU XING (CONT'D)

...you put it here. And then -- I am not good at it.

JOANNA

That's okay.

LIU XING

And then...

Liu Xing brings out a spray. He accidentally sprays in the wrong direction, onto Joanna's shirt.

JOANNA

It's okay.

LIU XING

Sorry. Sorry.

JOANNA

It really doesn't matter.

Liu Xing sprays the product on her hand and smells it.

LIU XING

Good smile.

JOANNA

Good smile.

Liu Xing puts more cream on his fingertips.

LIU XING

May I?

He moves his hands toward her face.

JOANNA

Of course.

She closes her eyes as he dabs around them, then rubs the cream into her face.

JOANNA

Lovely. Liu Xing.

Tears come to her eyes.

JOANNA (CONT'D)

I'm sorry. Sometimes I get allergic...

LIU XING

It's just a temporary job.

JOANNA

Yes. It's just for a little while. Then you'll find something -- wonderful. I know you will.

She looks warmly and openly at him.

LIU XING

Joanna, I have many, many things left to do. I'm so busy. I must go to the library.

Liu Xing hastily packs up and goes, leaving the jar of cream behind.

INT. LIU XING'S HOUSE - DAY

LIU XING writes a check to his father for \$10,000 and puts it in an envelope that's already addressed and stamped, and contains a letter.

CHAPTER HEADING: Fire.

LIU XING (V.O.)

*Baba, Mama, how are you? Here is the money I saved in America to repay you for the gentle care you gave me when I was a young boy.*

He gets up and walks to the calendar beside the mirror, hesitates, then draws a big circle on today's date, June 28.

He looks out the window and sees snow.

He puts on a big, white, down snowsuit that makes him look like an astronaut.

He takes the envelope and walks out the door.

EXT. JOANNA'S BACK YARD - DAY

JOANNA is practicing Tai Chi, as in the beginning.

EXT. VACANT LOT - DAY

LIU XING walks to the nearest mailbox and mails the letter.

EXT. BEIJING STREET - DAY

MAMA rides her bicycle to work.

EXT. BEIJING FACTORY - DAY

As she waits at the factory gate to park her bike, MAMA gazes up at a smokestack, and sees the smoke turn from pale grey to pitch black.

Suddenly seized with anxiety, she turns around and rides away from the factory, nearly colliding with another worker.

MAMA

Excuse me, excuse me.

EXT. HUBBLE BUILDING - DAY

LIU XING walks past the Hubble statue, toward the entrance.

INT. HUBBLE BUILDING, BATHROOM - DAY

LIU XING splashes water on his face and hair, in front of the large institutional mirror.

EXT. JOANNA'S BACK YARD - DAY

In the middle of a Tai Chi movement, JOANNA senses that something is wrong. She grabs her bag and rushes to her car.

LIU XING dries his face and leaves the bathroom.

MAMA races her bicycle down a crowded street -- going in the opposite direction of a steady stream of workers on bicycles.

LIU XING approaches the seminar room.

REISER (O.S.)

Marvin Gelman believed that science can flourish only where people are free to express their ideas. This year's winner of the Gelman Prize came to America from Communist China three years ago, and has flourished at this university. Ladies and Gentlemen, Doctor Laurence Feng.

EXT. HIGHWAY - DAY

JOANNA is speeding in the Jaguar, along the same mountain road they traveled before.

INT. SEMINAR ROOM - DAY

LAURENCE addresses a room full of NEW STUDENTS and faculty, including REISER, COLBY, and SMALL.

LIU XING approaches along the side of the room.

LAURENCE

By starting at 10 to the minus 36 seconds after the Big Bang, I have derived new initial conditions for the Reiser Model that generate more accurate predictions of the present-day structure of the universe. In broad terms, I'm provi--

He turns and sees Liu Xing, standing in front of him, like a ghost.

LAURENCE (CONT'D)

*What are you doing?*

BANG - Liu Xing shoots Laurence in the face.

BANG - Liu Xing shoots Reiser in the forehead.

Everyone is running, screaming, ducking for cover.

BANG - Liu Xing shoots Colby in the back.

EXT. BEIJING STREET - DAY

Biking hard, MAMA rounds the corner onto her little lane, the light at the end of the street shifting toward the blue end of the spectrum.

LIU XING'S APARTMENT

JOANNA parks her Jaguar in front of Liu Xing's apartment.

THE SEMINAR ROOM

LIU XING hunts down Small amid the pandemonium.

BEIJING STREET

MAMA parks her bike at her apartment and runs upstairs.

THE SEMINAR ROOM

Liu Xing finds Small crouching under a chair, protecting his face with his hands.

LIU XING'S APARTMENT

JOANNA runs to Liu Xing's door.

THE SEMINAR ROOM

BANG - Liu Xing shoots SMALL through his hand.

BEIJING APARTMENT

MAMA rushes into her apartment.

INT. HUBBLE BUILDING, STAIRS - DAY

On his way downstairs, LIU XING bumps into CINDY, carrying NOELLE, on their way to pick up Daddy.

*CINDY*

*Liu Xing, why you are here?*

No answer.

*CINDY (CONT'D)*  
*Is Laurence finished?*

No answer. Liu Xing is already gone. Cindy shouts into the staircase below.

*CINDY (CONT'D)*  
*Are you okay?*

INT. REISER'S OFFICE - DAY

Sweating in his down coat, LIU XING enters Reiser's office. He looks around, then sits in Reiser's green leather chair, resting his feet on the desk. He holds the gun, panting.

EXT. LIU XING'S HOUSE - DAY

Through the window, JOANNA sees a brown suitcase on the floor.

INT. REISER'S OFFICE - DAY

LIU XING puts the gun to his temple, closes his eyes...

Flashback to BABA and MAMA waving goodbye when he first left home.

Liu Xing pulls the trigger.

The phone rings. Mama rushes to answer it.

*MAMA*  
*Hello?*

*JOANNA (V. O.)*  
*Hello. My name is Joanna...*

ANIMATION

Travelling deep into the cosmos, the distances between the stars getting greater and greater, until all that's left is blackness.

*LIU XING (V.O.)*  
*I am a scientist who believes in the conservation of matter and energy. Although my flesh-and-blood body is dead, my spirit is quantum leaping to another corner of our universe.*  
*(MORE)*

LIU XING (V.O.) (cont'd)  
*So long, dear Mama and Baba, maybe  
we will meet again in another time  
and another place.*

FADE OUT.