

Uncertainty

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BEGIN FLASHBACK

INT. COPENHAGEN HOTEL - BALLROOM - NIGHT

1941:

In a filled Gala Ballroom, a party is well underway. Most of the guests are gathered in circles in the center of the room, away from the doors, which are guarded by a few formally-dressed Nazi Officers.

Crowd is filled with conversations in many European languages and accents. Men and women orbit each other, circling the most beautiful, rich, or powerful guests. One of the most popular is WERNER HEISENBERG, a middle aged man whose blocky haircut stands straight out of his head. He's dressed in grey suit and wears a Nobel Prize Medal. Around him are MANY EXTRAS, A GERMAN SCIENTIST and A EUROPEAN WOMAN.

GERMAN SCIENTIST

Ah! Amazing lecture today  
Heisenberg! I'm surprised someone  
as important as you had time to  
come out.

WERNER HEISENBERG

Danke, Danke. Yes, well you know,  
when Germany asks you to represent  
them in front of the world, you  
prepare your best performance.

EUROPEAN WOMAN

But you hardly need to perform,  
you're one of the smartest men in  
the world.

The Woman leans in and touches Heisenberg's Nobel Prize.

EUROPEAN WOMAN

(continued)

They don't give these to just  
anyone.

WERNER HEISENBERG

That's very kind of you. I must  
say, it's nice to hear. My wife is  
all the way back in Germany, and  
even the most compelling of  
equations isn't much of company.  
What do you say we get out of this  
stuffy place and have a night on

WERNER HEISENBERG  
 the town? If we leave now, we could  
 make our exit without too much  
 trouble.

EUROPEAN WOMAN  
 You don't waste any time, do you?

The European Woman hands Heisenberg a lipstick  
 stained glass, leans in, kisses him, then walks away,  
 practically skipping.

GERMAN SCIENTIST  
 I'd tell you that Nobel is as good  
 as gold, but I have gold, and *that*  
 is better.

WERNER HEISENBERG  
 It's as heavy as the whole world on  
 your back though.

Heisenberg walks over to one of the guarded doors, where a  
 NAZI GUARD is stationed.

NAZI GUARD  
 You can't leave this early.

Heisenberg shows the guard the lipstick stained glass, and  
 smiles.

WERNER HEISENBERG  
 It appears my companionship is  
 needed elsewhere tonight. I'm on  
 vacation, you understand?

Heisenberg opens his wallet, showing the officer a condom,  
 and takes out a few bank modest bank notes. He puts them in  
 the Officer's shirt pocket.

NAZI GUARD  
 Be outside your hotel tomorrow  
 morning as planned.

Heisenberg slinks out of the ballroom.

INT. COPENHAGEN HOTEL - HALLWAY - NIGHT

Heisenberg briskly walks down the luxurious corridor. As he  
 passes a trash can, he throws the glass away and sees a  
 young HOTEL WORKER ahead.

HEISENBERG

Excuse me, I'm looking for the kitchen. I'd like to give my compliments to the chef on a wonderful meal.

HOTEL WORKER

It's two floors beneath us, the kitchen is to the right and the loading area is to the left. The stairs just ahead.

Heisenberg hands the Hotel Worker a wad of very high bank notes and heads out the stairs.

INT. COPENHAGEN HOTEL - STAIRWELL - NIGHT

In a full out run, Heisenberg dashes down the stairs, three at a time.

HEISENBERG (V.O.)

We've got the power in our hands, Niel. Its up to us. We're the world's best scientists. We're the future.

UNKNOWN MAN (V.O.)

What we do with that power, what our discoveries will do for man kind, will change the world more than any equation.

At the last few steps, Heisenberg leaps to the bottom and then collects himself, casually opening the door.

INT. COPENHAGEN HOTEL - BOTTOM FLOOR - NIGHT

Heisenberg, out of the stairs, looks toward the right, and sees waiters coming in and out of the kitchen. He turns left, and walks out the back loading door.

EXT. STREET - NIGHT

Moments later, Heisenberg walks up the street so casually onlookers would have thought he was a resident returning home. He approaches a house with a Mezuzah by the door, it has it's blinds closed and the porch light off.

Heisenberg hesitates, looking at the closed door, breathing hard. He reaches into his suit and pulls out a large envelope that is printed with German writing, TOP SECRET, and a printed Swastika. He takes a deep breath and knocks.

The sound of footsteps approach, and Heisenberg looks around the street again.

The door opens to reveal NIEL BOHR, an older man with a recognizably Jewish nose and brow. His slick black hair is thinning, and although he's a strapping man, his clothes look as if he's recently lost weight.

NIEL BOHR  
 (incredulously)  
 What are you doing Werner?  
 (beat)  
 You look like an asshole wearing  
 that prize around town. I thought I  
 taught you better than that.

WERNER HEISENBERG  
 (laughing)  
 Its good to see you too.

END OF FLASHBACK

INT. SCIENCE CLASSROOM - DAY

PRESENT DAY

The high school chemistry lab was once white but had turned yellow from the decades of use. Windowless, all the black top tables are pointed toward a teacher's large desk and black board covered wall.

Scribbling on the board is KEN STERLING, mid 40s, wearing a green sweater and lanyard with school ID. 20 TEEN STUDENTS, with book bags and note books sit, watching from the tables. Many are watching a clock above Sterling inch toward 2:15.

KEN STERLING  
 It will be due at the end of the  
 quarter, which is a lot faster than  
 you'd think. Really think about  
 this, it's open ended for a reason,  
 "What scientific event, discovery,  
 or person do you think changed the  
 world? and why" You know my only  
 rule.

Sterling faces the board, and writes out "Don't make me read another shitty paper on Einstein".

SFX: Class laughs a little

STERLING

Remember, it's worth nearly double what the last paper was, so do a good job. And you know I read them without your names, so if you get a D, you really deserved that D, it's not because you're a Duke fan.

SFX: Bell Rings

Students rush to get their belongings together and start talking as they exit.

STERLING

Katie, could you stay a minute?

KATIE KALEL, a 15 year old girl wearing combat boots, doesn't look up from her group of FRIENDS talking in the back of the room, but stays as they exit.

Alone in the classroom, Sterling closes the door.

KATIE KALEL

Just because you're going to be my step dad or whatever doesn't mean we need to get our nails done together or something. Breakfast can be as awkward as it usually is.

KEN STERLING

Good to know. Actually, your mom asked if we could hang out for a few hours until dinner, she's at a meeting that's running late.

KATIE KALEL

Well, I'd be nice to hear it from her. I bet she texted me too, but I can't get any service in this room, fuckin basement.

KEN STERLING

How about as a peace offering, I let you in on a little secret? All it takes to stop 40 texting teens is forty bucks at radio shack.

Sterling takes out a black box from under his desk. He switches it on and off.

SFX: soft electric pop

KATIE KALEL

Oh my god, you would have a scrambler! That's insane. You know, Mr. Sterling, you can use science for good or evil.

KEN STERLING

That would make a good paper.

KATIE

What? Cell Phone scramblers? It's smart I guess, but changing the world? I'll just do Alexander Gram Bell. Or Edison, I don't know, the phone changed more than turning it off.

STERLING

That's not what I meant, why don't you do something on a scientific discovery that has been used for good and evil, that has more than one side to it. That's what science is all about.

KATIE

What evil did discovering penicillin do?

STERLING

Well, probably none, but it was discovered from tissue killing mold. Everything has good and bad, but scientists have to look at bad things and find the good, see the potential danger in great things. It helps to get out of yourself, think about more than just you.

Katie looks at Sterling for the first time since the conversation began with understanding. Her jaded exterior wiped away, she leans in.

STERLING (cont'd)

(continued)

Do you know how the Nobel Prize started?

Katie shakes her head.

STERLING (cont'd)

(continued)

Alfred Nobel created dynamite, something so destructive that after

STERLING

he died he asked that his fortune be spent for good, to award great discoveries in all fields and encourage positive change in the world.

KATIE

Have any Nobel Prize winners done evil things?

STERLING

(breathes deeply)

That's a complicated question. I can think of a few who have helped make things even more destructive than dynamite.

KATIE

What did they do?

STERLING

Well, the pair I'm thinking of, Werner Heisenberg and Neil Bohr, each won the Nobel Prize for science. They each changed the world individually, but as partners...

KATIE

What? What did they do? What did they work on together?

STERLING

That's the mystery. They got broken up, separated by World War II. Heisenberg was German, Bohr Jewish, but they were like father and son. Nobody knows what exactly they said to each other one night in the fall of 1941, they took the truth to their graves, but that walk through Copenhagen changed the fate of the war, changed everything on earth. Hell, it's the reason we're in a bomb shelter of a room now.

KATIE

Okay, I'm listening.

STERLING

The story begins twenty years before, in 1922. But before I



STERLING  
 basically write your paper for you,  
 imagine this: You're one of the  
 most brilliant people in the world,  
 you meet your kindred spirit and  
 then Hitler and tragedy strikes.  
 The world is faced with all out  
 war. Do you know the math to make  
 an atomic bomb?

INT. NOBEL PEACE PRIZE CEREMONY - BACKSTAGE - NIGHT

FLASHBACK 1922

Backstage is dark and murmurs from the audience are only slightly muffled by the velvet red curtains. A BACKSTAGE HAND rushes in from a wing.

BACKSTAGE TECH  
 Where is he? Where is Neils Bohr?  
 Has anyone seen his wife?

EXT. THEATRE - NIGHT - MOMENTS LATER

Leaning against the side of the stone building, NIEL BOHR, wearing a navy blue suit, stares out into the distance. He's in his mid thirties, dark hair and brow. He's wearing a wedding band, and holding a crumpled sheet of paper.

SFX: classical music plays

Bohr looks down at his hands, the paper, and takes a deep breath.

MARGRETHE BOHR, a blonde woman in a red dress, exits the theatre door.

MARGRETHE  
 It's time love, they're all waiting  
 for you.

Neil walks over to Margrethe, and grabs her by the hand. They both enter the theatre.

INT. NOBEL PRIZE CEREMONY - NIGHT - MOMENTS LATER

On a brightly lit stage, Neil Bohr stands in front of a podium which is embossed with a crest reading "NOBEL PRIZE for Scientific achievement 1922". Wearing the Nobel Metal, Bohr looks out into the crowd, at his wife and sons, HANS, ERNEST, and CHRISTIAN.

Christian, the youngest of the three, waves to his father from the crowd.

NIEL BOHR

I'd like to of course thank the Copenhagen Institute and all the other physicists who worked with me on this paper. The Bohr Model may have, as you all say, revolutionized how we think of the atom, but I assure you it was just a way for me to get my name and the word "Model" in the same sentence. Which leads me to my beautiful wife, Margrethe, and our sons, Hans, Ernest and Christian. They are the light of my life, their waves of love wrap around me, and as I try to understand how the universe is formed, I see it's beauty reflected in each particle of their skin. Though there have been countless late night hours in the lab in my work in relative physics, It's only through talking to those who understand not only your ideas but the soul from which they are formed that I've ever understood why my math matters. Matter isn't easy to understand, it's ability to change at any time, but can you imagine anything more exciting? In the past ten years we've made more break throughs in our field than previous centuries. It's clear, thanks to Einstein, we're in a renaissance. We are the Aristoteles and DaVincis of our time and lucky enough for us, right now, science is sexy. As we usher in this golden age, all I can say is, I'm happy I'm here, I can't wait to see what we'll discover next.

Bohr raises a glass.

BOHR (CONT'D)

To chasing the discovery!

INT. HOTEL - BALLROOM - NIGHT - MOMENTS LATER

In a filled gala room, men and women move about different conversations and tables, circling the different guests. Niel and Margrethe are surrounded by many different people, all wearing formal attire and speaking in different European, American, and far off accents.

MARGRETHE

I just can't believe he was arrested. Neil, don't you think the british have done enough for their royal crown?

NEIL

Better the british than-

MARGRETHE

Than what Neil? India isn't as far away as you think, if this man, this Gandhi, can just be sentenced to six years in prison for peaceful, peaceful, protest, what do you think they are going to do next?

An older man and young woman approach the Bohr's circle. The man, KAISER WILHEM, only a few years older than Neil, had broad shoulders and blonde hair. His companion, a mid twenties dark haired woman, LISE MEITNER, follows.

KAISER WILHEM

(in thick German accent)

Neil! TO OUR DISCOVERIES!

Wilhem raises his glass and drains the rest of his drink.

NIEL BOHR

Wilhem, I'm so glad you came! You have to tell me what you're working on next. Something with Fowlr, I bet. Or No, maybe a number series?

Bohr looks at Lise and nods.

NIEL BOHR (CONT'D)

Ah! this must be the student you were telling me about. It's lovely to meet you Hesienberg.

Bohr reaches out to shake Lise's hand.

LISE MEITNER

The pleasure is all mine, but I'm afraid Mr. Hesienberg is in the restroom, probably calculating how many cigarettes he can bum from Kaiser before the end of the night.

KAISER WILHEM

Lise!

(pronounced with his accent to sound like "lies")

You know I'm a cigar man.

Lise reaches out her hand to Bohr, shaking it

LISE MEINTER

Lise Meinter, I'm Kaiser's new assistant. I just moved to work with him in Germany, I believe to find a way to break the atom open.

Neil nods.

NEIL BOHR

I suppose that is the next step, now that we know everything breaks down into atoms, I suppose it's human nature to break open every mystery.

Kaiser Wilhem, at that exact moment, pops the top off another bottle of champagne.

MARGRETHE BOHR

It won't be you though, dear.

A waiter comes around offering shrimp cocktail.

LISE MEINTER

No Thank you, It's not kosher.

NEIL BOHR

I didn't realize you were a chosen one, Lise. I hope Kaiser isn't keeping you late on friday nights like he did when we were working on that Ramsey Theory.

KAISER WILHEM

Neil, you didn't keep Kosher then. I bet you've spent less time in a synagogue than I have in that horrid art museum Margrethe raves about.

MARGETHE BOHR

Wilhem, you'll regret not buying that painting, I'm telling you, in a hundred years, people will like Picasso.

Wilhem rolls his eyes but smiles at Margrethe warmly.

NEIL BOHR

Listen to the woman, Kaiser, she's got an eye for that kind of thing. And you may be right, I'm more dutch than really religious and probably more chalk stains than human at this point, but look at this nose, I'm jewish whether I like it or not.

WILHEM KAISER

I think at this point, you can be whatever you like, you're the man of the hour. Maybe the most important thinker in all the universe.

MARGRETHE BOHR

Don't you think that's a tad hyperbolic? I've got to keep his ego small enough to fit through the door you know.

Margrethe smiles at Niel, and he wraps his arm around her.

As he does, a blocky haired 20 something walks over to the group. Young WERNER HESIENBERG is dressed in black and holding a crumpled cigarette pack in tobacco stained fingers.

LISE MERNTER

What did I tell you, Werner, are your ears burning?

WIHELM KAISER

Niel, this is Werner Heisenberg. He's a rising star in Germany, I dragged him all the way here to meet you.

Neil and Hesineberg shake hands and begin speaking, though the dialogue is inaudible, as classical music plays.

Time lapses, and as the room circles and parties, Bohr and Hesienberg stand in the same place, deep in conversation. Margrethe, Lise and Wilhelm have all moved on socializing with the rest of the party.

Waiters come by and offer drinks, men and women attempt to pull them into discussion but the two are inseparable, locked together, talking.

By the time the room empties out, only Bohr and Hesienberg are left, laughing and talking.

Magrethe enters from outside, holding her heeled shoes.

MARGRETHE BOHR

Darling, it's nearly three, I have to be awake for the boys tomorrow, let's go.

NIEL BOHR

Yes. My God, where did the time go?

WERNER HESIENBERG

I'm sorry to have kept you.

WERNER HESIENBERG (cont'd)

(to Margrethe)

I'm so sorry, really.

NEIL BOHR

It's no trouble. Werner, we must keep talking, I think you've got the velocity aspect right, it must be fast. What are you doing tomorrow?

Before waiting for an answer, Neil writes down an address on a napkin and hands it to Werner.

NEIL BOHR (CONT'D)

Here's my address in Copenhagen. We'll be back tomorrow night, come. I'll show you the Institute, we'll look at some of this in the lab.

WERNER HESIENBERG

Tomorrow? I don't know...okay, I'll be there. I'll leave tonight to find somewhere to stay.

NEIL BOHR

Nonsense, You'll stay with us. I'll see you tomorrow!

Neil and Margrethe walk away from Werner, who is holding the napkin like it's a golden ticket.

MARGRETHE BOHR  
You've got that look, Niel.

NEIL BOHR  
What look?

MAGRETHE BOHR  
Like you're going to be spending a lot of time in the lab.

EXT. BOHR'S STREET DAY 1920S-DAY-THE NEXT DAY

Heisenberg walks up a suburban drive of Copenhagen. It's a modest neighborhood, but Hesienberg wears a formal suit.

He walks up to a house with a Mezuzah by the door carrying a large suitcase and knocks.

CHRISTIAN BOHR, a boy with dark messy hair answers wearing the same color as Hesienberg.

CHRISTIAN BOHR  
Hey.

WERNER HESIENBERG  
Hi.

They both stare at each other for a moment.

NIEL BOHR  
(O.S.)  
Christian, is it Werner?

CHRISTIAN  
(To Heisenberg)  
Are you Werner?

WERNER HESIENBERG  
Uh, yes. I'm um, I'm a friend of your father, We're going to discuss if electrons--

CHRISTIAN  
(interrupting)  
Just come inside, he's in his study.

Werner enters the house.

INT. BOHR'S KITCHEN-EVENING-HOURS LATER

The Kitchen is filled with produce. Neil stands over the stove, while Margrethe chops vegetables.

MARGRETHE BOHR  
How long is he staying exactly?

NIEL BOHR  
As long as it takes, you know,  
you'd really like him.

MARGRETHE BOHR  
I'm sure I will. You certainly seem  
to be smitten.

NIEL BOHR  
What does that mean? Werner is very  
talented. He's a very good  
listener, I think he'll go on to  
great things.

MARGRETHE BOHR  
I'm sure he will. Neil, it's not  
that I dislike him. He is very...

Margrethe looks out the window of the kitchen. Outside, Hesienberg is playing with Christian, Hans, and Ernst. Hesienberg has Christian on his shoulders as he chases Hans and Ernst.

MARGETHE BOHR  
(continued)  
It's just that, well I haven't seen  
you like this since--

NIEL BOHR  
Since what?

MARGETHE BOHR  
Since we met.

NIEL BOHR  
Oh don't tell me you're jealous  
now, Marge.

MARGETHE BOHR  
Not jealous, I just didn't expect  
to adopt a son on our trip to  
Sweden.



EXT. SWISS ALPS- DAY- A YEAR LATER.

Montage of Swiss Alps from overhead.

Outside of a luxurious lodge, the entire BOHR FAMILY poses for a photograph in skiing gear. A photographer is set to take a photograph.

CHRISTIAN

Wait, Werner's still upstairs!

NIEL BOHR

Takes longer to get ready than your mother, no one does.

WERNER HEISENBERG enters from the lodge, also in skiing gear.

WERNER

I'm here, I'm here, I just had to write something down.

Werner joins the posed family, standing in between Christian and Neil.

NIEL BOHR

we're all set.

Flash of light.

The photographer goes inside and the group begin to walk down to the ski point.

CHRISTIAN

What were you working on?

WERNER

Quick, which way are we going, north or south? Don't slow down or change how fast you're walking though!

CHRISTIAN

What?

WERNER

We've been trying to learn more about the atom. How to break it down into a structure of electrons and a nucleus is your dad's forte, but I'm thinking of something else. Behavior.

CHRISTIAN

What does the atom have to do with me walking or which way we're going?

WERNER

I'm trying to figure out how we can isolate a single atom, something so small you'll never be able to see, but is all around us all the time.

NIEL BOHR

Werner, you've lost him.

CHRISTIAN

I know what the atom is!

WERNER

Okay, so you know about Schrödinger's cat? If you have a box and put a cat in it, without taking the box off, how do you know if it's alive in the box or dead?

CHRISTIAN

We don't have a cat.

WERNER

I know, but say you did.

CHRISTIAN

Okay, so you're saying you can't know everything about what you're trying to look at without changing it in some way?

WERNER

Exactly!

NIEL BOHR

That's not new, Werner.

WERNER

Niel, I know. But what did I just say? Try and think of what direction we are moving while we are moving at the exact same speed!

All of them look around and attempt to keep walking, but they all either slow down or stop walking.

WERNER (cont'd)

SEE!

NEIL

Of course!

CHRISTIAN

What?

WERNER

It can't be done, you can't figure out how fast and in what direction an atom is moving without changing one or the other. You'll never know both at the same exact moment because asking that question, looking for an answer effects the outcome.

NEIL

I suppose even the smallest of changes can effect the fabric of the universe.

EXT. SWISS SKIING ALPS--DAY--HOURS LATER

Near sunset, the bright colors of the sky moving from day into the golden hour.

From the top of a serene slope, Niel flies on skis down the hill, followed by Heisenberg.

Montage: Heisenberg and Bohr skiing down the hill. Many impressive skiing maneuvers and landscapes.

HESIENBERG

(yelling)

We're flying!

From the top of the mountain, the sun peaking over a cliff, a snow bank begins to crumble from the noise.

HESIENBERG

(cont'd)

Flying!

The snow tumbles down the mountain with a roar, an avalanche has begun.

Niel and Werner look back and see the wall of snow, in horror, with nothing to aid them, they exchange looks and lock eyes.

As the avalanche chases their heels, the pair race to outrun it.

Though they are at breakneck speed, the snow nearly envelopes them, before they see a beaten off path on the side of the mountain.

Bohr and Hesienberg grab hands collapse in safety as the snow rolls by.

FADE TO BLACK