

Chaos

a Science Fiction Opera

Music by Michael Gordon Libretto by Matthew Maguire

c. 1999

Chaos

Clouds are not spheres. (Benoit Mandelbrot)

Can any understand the spreadings of the clouds,
the noise of His tabernacle? (William Blake)

- A. A violent order is disorder; and
- B. A great disorder is an order. These

Two things are one. (from *Connoisseur of Chaos* by Wallace Stevens)

There was a crooked man, and he walked a crooked mile,
He found a crooked sixpence against a crooked stile;
He bought a crooked cat, which caught a crooked mouse,
And they all lived together in a little crooked house. (Mother Goose)

The Characters:

Dr. Anna Lenehan is a rogue physicist driven to research Chaos.

Dr. Lorenz Boleslaw is her partner whose own obsession with their experiment is nearly as great as their love for one another.

Dr. Marie Curie; discovered radium with Pierre Curie. Brilliant and humble, she avoids personal gain. In the Poland of her youth she worked underground against the Czar and has remained intensely political. Still deeply in love with Pierre, she's now an inhabitant of the Zone of Chaos. Dressed in an old acid-stained lab coat, she emanates a blue radioactive glow. In Chaos, she is thirty-six, the age at which she was awarded her first Nobel Prize.

Dr. Pierre Curie; the co-discoverer of radium. A brilliant but awkward man who lives in bliss with Marie in Chaos where he is eternally forty-four years old. Though less political than Marie, he was a Dreyfus supporter. Pierre feels that Marie is a superhuman being who has escaped human laws. He's dressed in nineteenth century, lab-worn, formal attire that also glows radioactively.

Dr. R. George Aguabone; Director of the National Institute of Science, one of the leading scientists to emerge from Los Alamos, a Nobel laureate in quantum physics.

Scene in Anna and Lorenz's lab. He takes her in his arms and they embrace. Breaking away, she strides to her computer.

ANNA

It's time.

LORENZ

With the wrong setup
no research can work.
That's why last time
everything went berserk--working off the cuff.

ANNA

Three years is long enough.

LORENZ

Another hour won't matter.

ANNA

I can't wait.

LORENZ

We're breaking through to chaos.
One wrong move--our sanity could shatter.

ANNA

Look out the window.

LORENZ

Yes, all right.

Lorenz takes his post. Anna records everything Lorenz reports. Their purpose is to compare it with the change in data they will collect when in Chaos.

ANNA

What do you see?

LORENZ

I see buildings and buildings.

ANNA

Look out the window.

LORENZ

Yes, all right.

ANNA

What do you see?

LORENZ

I see rooftops, water towers.

ANNA

Look out the window.

LORENZ

Oh yes, all right.

ANNA

What do you see?

LORENZ

I see clog and smog.

ANNA

Look out the window.

LORENZ

Yes, all right.

ANNA

What do you see?

LORENZ

I see hustles and bustles--hustles, bustles, hustles.

ANNA

Look out the window.

LORENZ

Yes, all right.

ANNA

What do you see?

LORENZ

I see windows--windows looking back.

ANNA

Look out the ...

LORENZ

... Windows looking back.

ANNA

... Do you see?

LORENZ

Money clanking with Big Banking outflanking.

ANNA

Look out the window.

LORENZ

Yes, all right.

ANNA

What do you see?

LORENZ

It's still normal, I am sure, I am so sure.

ANNA

Look out the window.

LORENZ

Yes, all right.

ANNA

What do you see?

ANNA

Do
you
see
Chaos?

LORENZ

Flocks of pigeons--fast grey blur.
I see swarms of flies--small green points.
I see miles of wire--thin black lines.
Airplanes flying in circles--all stacked up.

ANNA

Look out the window.

LORENZ

Yes, all right.

ANNA

What do you see?

LORENZ

Oh, I see clouds--large white spheres.

ANNA

Clouds are not spheres, not spheres, are not spheres--

LORENZ

Wait, Anna! You know the anti-geometry code
will form the chaos storm, and I'm not ready.

ANNA

We're probing chaos, yes?

LORENZ

Oh yes, but wait.

ANNA

And we cracked the code--

LORENZ

Oh yes, but wait.

ANNA

Deny geometry; open chaos--

LORENZ

Oh yes, but wait.

ANNA

So simply we just say--

LORENZ

Oh yes, but wait.

ANNA

"Nature's not geometry"
and Chaos opens right away.

Lorenz grasps the generator's lever.

LORENZ

Not without a jolt of mega-volt.

ANNA

Clouds aren't geometrical.

LORENZ

The problem's barometrical.
You'll start the storm and
my meters aren't symmetrical.

ANNA

There's no geometry in life.

LORENZ

But my meters are not ready for deep chaotic strife.

ANNA

The world is rough not rounded.

LORENZ

Prove it we won't, if test it we don't.

ANNA

Euclid made geometry
A dream of the ideal.
There's no ideal in science.
Our world is not a pure place.
Our world is torn and twisted.
Tangled and jangled,
Mangled and angled.
Geometry's made up of dreams
of perfect shapes and themes.
Our world is fractured
and found in fractions.
Our world is not ideal for that's unreal.
Our world is fully fractal, we will reveal.
Fractal, fractal, our world is fractal.
Fractal, fractal, our world is fractal.

LORENZ

Meters are in crisis--
on the brink--not balanced.

ANNA

Fractal, fractal, our world is--

LORENZ

--Not balanced--

ANNA

Fractal, fractal, our world is fractal.
Fractal, fractal, our world is--

LORENZ

--Dissonance visible.

ANNA

And I know in my bones--

LORENZ

Meters emitting strange tones.

ANNA

--Mountains are not cones.

LORENZ

Distortion rips and rends.

ANNA

Let's go, Lorenz.

LORENZ

Let me focus this lens.

ANNA

Can't wait for you.

LORENZ

Brace for breakthrough.

ANNA

(repeating feverishly)

Clouds are not spheres.

LORENZ

Winds rage and crack.

Lorenz hits the power. The sound of a tornado fills the room. They hurtle deep into the Zone of Chaos. The window is filled with swirling fractal patterns. Lorenz manages to take a polaroid photo. It falls from his hand as he and Anna are filled with wonder.

LORENZ

Look at the window.

ANNA

What a glass!

LORENZ

A strange new class of gas.

ANNA

A dynamic class of looking gas.

LORENZ

Look at the window.

ANNA

What do you see?

The abrupt arrival of chaos is aphrodisiacal.

LORENZ

Oh, my my my ...

ANNA

Oh my glass, my my, what do you see?

LORENZ

A sublimely geometrical ass, my my my my ...

ANNA

Oh this gas sweet clouding your head.

LORENZ

Oh my sweet gas,
your spheres float like clouds.

ANNA

No, my window man, can't you see?
Breasts are not spheres.
That--to--be
would--not--be
would--no--normal.

Anna and Lorenz become frightened.

ANNA AND LORENZ

This is no normal window.
This is no normal window.
A normal window is a normal window.
and a normal window is a very normal window.
This is no normal window. This is no normal window ...

A loud crash. Marie and Pierre Curie enter on their bicycles. They park them upside down and spin the wheels which turn throughout the scene radiating a bluish phosphorescent light. Anna and Lorenz gape at the room. They see Marie and Pierre but are too awe-struck to respond. Marie and Pierre don't formally greet them, but instead pose an enigmatic question.

PIERRE

Imagine a team of very white men
holding blowtorches to the base of this wall.

MARIE

Is the wall stable or is it about to explode?

Anna and Lorenz look at them in amazement.

LORENZ AND ANNA

Two people then four.
The possibility of more.
A wild region to explore.
A new world opens through this door.
A bifurcating metaphor.
Two people then four.

PIERRE

Imagine a team of very white men
holding blowtorches to the base of this wall.

MARIE

Is the wall stable or is it about to explode?

ANNA

A new window in this wall.

Lorenz begins to panic because of his extreme disorientation.

LORENZ

A window swirling in free fall.

MARIE AND PIERRE

Listen deeply and breathe deep.

ANNA

I can hear the trumpet calls.

LORENZ

Blasting alphabetic fireballs.

MARIE AND PIERRE

Look at the silhouettes of sound
streaming in rivulets of borders
that chaos orders and upsets.

ANNA

I hear seven walls in tumbling shouts.

LORENZ

I'm stumbling through a wall of doubts.

MARIE

Is the wall stable?

PIERRE

Release the inside to the outside.

MARIE

Your smallest impulse will set you aglide.

Anna enters a reverie. Marie and Pierre attempt to guide Lorenz out of crisis.

ANNA

One, two, three, four, once I caught a fish alive.
 Two, three, five, eight, now I'll help chaos to thrive.
 Six, seven, eight, nine, then I let it go again.
 One, two, three, five, chaos is like oxygen.

MARIE

Breathe deep, that's it, breathe deep ...

PIERRE

Imagine ...

MARIE

Dream of windows in these walls.

LORENZ

I see no window.

Imagine ...

There is no window.

PIERRE

MARIE

Breathe deep, that's it, breathe deep ...

LORENZ

I see no window.

Imagine ...

The walls are tumbling down.

The walls are tumbling down.

The walls are tumbling down.

Pierre stands behind Lorenz and places his fingers on Lorenz' temples.

PIERRE

Imagine a wall of very white light ...

Lorenz stops resisting , grateful for the release. For an instant he glimpses the beauty of Chaos.

LORENZ

I see.

PIERRE

The wind is dying down, we must go.

ANNA

Wait, where are we? Where are you?

MARIE

To break the chains of order
 one must blaspheme.

LORENZ

What are you?

PIERRE

For science, my love and I
made a sacrifice supreme.

ANNA

Who are you?

MARIE

Marie Curie, (gesturing) my husband, Pierre.

ANNA AND LORENZ

But you're dead.

PIERRE

We still live here in the microscales.

MARIE

Floating in the heat bath
of maximum entropy
doing our thermodynamic dance
to the chaos symphony.

ANNA AND LORENZ

Oh no! Dead, she said.

MARIE

Don't worry, you're not dead.

PIERRE

The wind is dying down. We must go, we must go.

ANNA

Please stay, don't go.

LORENZ

Don't go, please stay.

PIERRE

The wind is dying down--

ANNA AND LORENZ

Please stay--

MARIE

Maybe ...

PIERRE

--so we must go.

MARIE

I do not wish to disappear.

PIERRE

Don't worry, we'll stay in the atmosphere.

A tornado in reverse. Marie and Pierre are sucked out of the room. They echo in the invisible distance.

LORENZ

Thank God it's passed.

ANNA

That was severe, lovely chaos, yes.
We have to notify the institute at once.
That was severe, lovely chaos, yes.
We broke through to chaos, the lab must know that.

MARIE AND PIERRE

That was severe, lovely chaos, yes.

LORENZ

No, they'll only bury the information.
They don't want to believe,
They don't want to believe in a radical new science.

Anna sees the photo on the floor and snatches it up.

ANNA

Lorenz, they'll have to believe
when we show them our data.

Lorenz grabs the photo from her.

LORENZ

No, no, no, no, they may have us arrested.

ANNA

Chaos is so horrible, so beautiful.
So sorrowful, ever graceful.
Even a teaspoonful is so powerful.

MARIE AND PIERRE

That was severe, lovely chaos, yes.

LORENZ

No, no, no, no, they may have us arrested.

Scene in Aguabone's abandoned atomic lab. Aguabone is alone, struggling with himself.

AGUABONE

Now I'm entombed,
consumed, in a bureaucratic cesspool,
government hacks feeding like lice,
I can't take this sacrifice.

I was bloated with pride
When the President said to me,
"Aguabone, you must run the Institute of Science.
No one can lead Science the way you will."
Why did I abandon my lab that day?

He walks slowly through the lab, longingly touching the old reactor.

My old atom smasher still gleams.
I can smell the adrenalin
from diving in the abyss of the nucleus.
We split the atom's skin
living on coffee and dreams.

This old reactor will sing again.
I'll go to the President and resign.
He'll see my light like halogen
for I am one of the electron men.

Scene in the Zone of Chaos. Marie and Pierre are working in their lab, a faithful copy of their Parisian shed complete with its leaking roof and pot-bellied stove. Marie stirs a vat of ore and reads her compass.

PIERRE

What are you doing?

MARIE

Reading my compass.

PIERRE

A compass in chaos?

MARIE

I do not wish to disappear.

PIERRE

We engineered our hemisphere
so the atoms of our two lives
will always cohere.

Marie walks to the window.

MARIE

Pierre, my brave, awkward man ...
You are, indeed, my strange attractor.

PIERRE

What do you see?

MARIE

Twilight. (pause) Mass delusion.
Tightening, tightening, tightening.
I see two scientists struggling.
We must help them.

PIERRE

We cannot.

MARIE

They live in such a dark time.

PIERRE

There is a wall between them and us
like the wall between dreams and life,
a boundary uncrossable and dangerous.

MARIE

They are building a revolution.

PIERRE

Manya, my firebrand ...
We cannot help them.

MARIE

It pains me not to fight.

PIERRE

(gesturing to their own glowing bodies)
Radioactive, what can we do?

MARIE

Our glow can light the way.

PIERRE

But when you walked in the wood
you always chose the wild trail.
The joy of finding an elemental force
is the driving force.
You walked the wire without a net.
How can you forget?
Unlocking the unimagined.
Alone. The elemental force.
Alone. The wild trail.
Alone.

To answer him Marie puts a key in a lock. The door squeaks, as it has squeaked thousands of times, and reveals shelves holding dozens of glowing vials of radium.

MARIE

Put out the lamps.

PIERRE

Quoi?

MARIE

Put out the lamps.

In the darkness she takes his hand and they stare at their glowing radium. Together.

Scene outside Aguabone's lab.

ANNA

Doctor Aguabone's the only one we can trust.

LORENZ

But our funding was for atomic motion.
This'll make scandal and commotion.

ANNA

Doctor Aguabone will assure them their fears are unjust.

LORENZ

Then straight in to Aguabone--no delay.

Anna and Lorenz burst into Aguabone's lab.

AGUABONE

For I am one of the electron men--
(startled) How did you find me here?

ANNA

Doctor, we need a bigger lab.

AGUABONE

What!

LORENZ

We broke through to Chaos.

AGUABONE

(angry)

What are you doing?
You're assigned to atomic motion.
What are you doing?
You're facing possible charges of fraud.

ANNA

It started as an accident.
We stumbled on the butterfly effect.

AGUABONE

(skeptical)

What butterfly effect?

LORENZ

The movement of a butterfly's wing in Beijing
can magnify till it sets a Kansas cyclone spiraling.

It means everything's linked in a flow
from micro to macro.
So over time the smallest action
will cause a profound reaction.

ANNA

Chaos is harmonious, continuous, circuitous.
Chaos is industrious, meticulous, and rigorous.
Chaos is inebrious, hilarious, melodious, mysterious and and and
Chaos is heaven for us.

AGUABONE

You defy Science on every plane.
It's almost insane to approach
this politically dangerous strata.
Can you reproduce your data?

LORENZ

Yes, yes, yes ...

AGUABONE

You've found the marriage of heaven and hell.
The President must know.
Your brilliant work has no parallel.
Congratulations.

ANNA AND LORENZ

Thank you so much, thank you so much ...

Anna and Lorenz hurry back to their lab. Aguabone explodes in fury.

AGUABONE

Danger!
Malignant danger!
Isotopic rage.
Synaptic rampage.
Rank stench of war.
Teeth explode.
Nerves meltdown.
Sirens at the core.
NO NO NO!

In their lab Marie and Pierre watch unseen.

AGUABONE

There will be no chaos!
 No, no, no,
 I'll be struck down,
 drowned in scandal,
 hung with the bell of a scapegoat.

NO NO NO!
 I will strike first.
 Who else can I count on?
 Einstein's gone.
 I am the massive hound of the keep.
 I am the clockwork.
 I am the destroying angel.
 I will shatter them without warning,
 for I am the morning of salvation.

MARIE

They must be warned of this man-mausoleum.

PIERRE

More dangerous than radium.

From their lab Marie and Pierre attempt to warn Anna and Lorenz in their lab.

PIERRE

There was a crooked man.

MARIE

Aguabone.

PIERRE

And he walked a crooked mile.

MARIE

Aguabone.

PIERRE

He found a crooked order against a crooked stile.

MARIE

Aguabone, a crooked stile.

PIERRE

He bought a crooked cat.

Anna and Lorenz pick up the distorted signal.

ANNA AND LORENZ

Aguabone, a crooked cat.

PIERRE

Which caught a crooked mouse.

ANNA AND LORENZ

Aguabone, a crooked mouse.

PIERRE

And he will soon betray you
in a crooked prison-house.

ANNA AND LORENZ

And he--all house--in a--betray
crooked will--prison you.

Contact is broken. Anna and Lorenz collapse. Marie and Pierre watch unseen as Aguabone puts his ear to the door.

ANNA AND LORENZ

Wait! What did they say?

LORENZ

Aguabone will be-- (pause)

ANNA

No, he will be-- (pause)

MARIE AND PIERRE

God save them, the wall is too wide!

Aguabone walks in.

AGUABONE

Doctors, it gives me great pain
To tell you the President
finds your work insane.
Unless you pledge to refrain
I cannot defend you
from the backlash you'll unchain.
I am deeply sorry
but I fought in vain.

ANNA

Never.

AGUABONE

You cannot destroy yourselves so that chaos survives.

ANNA AND LORENZ

Never, we'll never stop,
It's our whole lives.

AGUABONE

All right. (pause)
I'll press the president for one final review.

Aguabone leaves.

ANNA

Come on, we need more evidence for our defense.

Lorenz leaps to the meters. Anna is impatient.

LORENZ

This transistor's become a resistor.

ANNA

Relying on hardware's byzantine.
We gotta be free of every machine.

LORENZ

We will, my amphetamine, we will.

ANNA

I'm building one smaller than a protein.
Accelerate the fractal curve.

LORENZ

Open non-linear reserve.

ANNA

Power jacked.

LORENZ

Contact.

ANNA

Clouds are not spheres.

Marie and Pierre appear in a whooshing cloud.

ANNA AND LORENZ

Marie--and Pierre!

MARIE

Would you care
for the tour du jour?

ANNA

Exotic Chaotic.

They walk past a large glass tank.

LORENZ

A cloudbank in a tank.

Pierre releases a butterfly into the tank.

MARIE

Imagine ten days fly by.

The weather inside the tank transforms into a cyclone.

LORENZ

The Butterfly Effect!

ANNA

You've gotta help us ship this out!

MARIE

Maybe we--

PIERRE

I warn you, get ready, for here comes an eddy.

The lab is enveloped in a whirlpool of chaos.

MARIE

The king was in his laboratory
counting out his money.

ANNA

Start the tape.

PIERRE

The queen was in the radium.

LORENZ

Eating bread and honey.

ANNA

Hang on to your science!

PIERRE

The maid was in the garden,
in theory, I suppose.

ANNA

When came a little blackbird;
theories decompose.

LORENZ

Not you, too! Tape no go go no tape too ...

The eddy abates. As Anna and Lorenz recover, Marie and Pierre guide them to a wall of dripping faucets.

MARIE

The drips appear to drop in a random rhythm,
but they obey a precise law of order.
(gesturing to a full color chart of fractals)
Plotted over time the results are sublime.

ANNA

Why does this mesmerize me?

Marie has lit a Bunsen burner.

MARIE

Chaos spellbinds like a flame,
flowing in patterns always the same,
but never the same.

LORENZ

You're saying we're lost?

An eddy envelops them.

ANNA

Why does this mesmerize me?

LORENZ

You're saying we're lost? We're lost, we're lost ...

As the eddy abates, Pierre sets a pendulum in motion.

PIERRE

It looks like equilibrium.
Yet, it sweeps in calm delirium.
You think it oscillates in a single groove,
but it never moves through the same path twice.
It splits each path like a hair
then splits the splits as finely as air.

ANNA

That means a million angels dancing
each holds a tiny pin on which loom
millions of angels dancing ad infinitoom.

PIERRE

Finite space, infinite orbits.

PIERRE

(shouting a warning)

Brace for an eddy!

An eddy envelops them.

LORENZ

Thrashing and splashing in--blue bath of sound--

PIERRE

Marie Sklodowska, pass the radium, please.

LORENZ

--what I crave--but, but--

MARIE

(to Pierre)

Tut, tut, my starving blackbird,
You tut too much time with tut radium.

LORENZ

I'm surfin' down a big shock wave.

ANNA

Pass the delirium, please.

The eddy abates. Marie leads them to the window.

MARIE

The most chaotical window: the political window.

ANNA

Looks like grafters and shafters,
porkers and Borkers,
rampant mugwumpery.

MARIE

The gulf between
what our leaders think
and what they declare
is a silent nightmare.

Marie takes out her compass. Pierre tries to stop her.

PIERRE

Marie--

ANNA

What are you doing?

MARIE

Reading my compass.

LORENZ

A compass in chaos?

MARIE

I do not wish to disappear.

PIERRE

We are safe on the Chaos frontier.

MARIE

Many so sure are no longer here.

LORENZ

What do you fear?

Marie has a vision of Aguabone approaching.

MARIE

Dictators are language traitors
making "CHAOS" their battle cry,
spawning their verbal virus
and fortifying the big lie.

ANNA

It's urgent you help us!

PIERRE

No.

ANNA

(boiling)

Why do you guide us if you won't help us?

MARIE

It's not that we--

ANNA
(furious, to Pierre)

You emotional cadaver,
We demand your help!

MARIE

How dare you!
Come, Pierre, let the eddies have 'er.

LORENZ

Now hold on, you antique icon!

PIERRE

You mental cyclotron! J'accuse!

A melee ensues.

ANNA

Dry ice

MARIE

Blind mice

ANNA

Dog bite

LORENZ

Crash site

ANNA

Hypocrite

PIERRE

Parasite

MARIE

You snake pit

PIERRE

Fly by night

LORENZ

Misfit

ANNA

Shitpit

MARIE

Boobie Prize

PIERRE
Bald lies

LORENZ
French fries

MARIE
You maladroit

LORENZ
You old kumquat

ANNA
Eat crow

LORENZ
Freak show

MARIE
Nouveau

Aguabone returns and puts his ear to the door.

AGUABONE
No No

ANNA
Skid row

PIERRE
Tres faux

LORENZ
Low blow

AGUABONE
No No

MARIE
Heinous

PIERRE
Anus

AGUABONE
No, No, No! This is blasphemy, damn it!

Aguabone pounds like thunder on the door.

ALL
Who is it?

AGUABONE

Aguabone.

Lorenz yanks him in. Aguabone, convulsing, clamps his eyes and ears. Chaos abates. Marie and Pierre vanish. Aguabone collapses.

AGUABONE

Aahhhhhhhh--nightmare--air, give me air ...

ANNA

Did you see the window?

AGUABONE

--only the pain--

LORENZ

Will the president reinstate us?

AGUABONE

Congress will annihilate us.

ANNA

We'll be attacked?

AGUABONE

Unless we act.
Give me your files and I'll
destroy your contract.

Anna hands Aguabone their files as he staggers out.

ANNA AND LORENZ

Thank you so much.

AGUABONE

Ahhhhhhh ...

Aguabone stops to regain his breath outside the door.

AGUABONE

Did I see the Curies in that hell hole?
Do they know the Pentagon will make Chaos
the most brutal weapon on the globe?

Marie answers him as if he could hear.

MARIE

You are a deadly blight!

PIERRE

This night is so wrong.

AGUABONE

I'll secretly arrange my young traitors be jailed.

MARIE

Pierre, you're quaking!

PIERRE

This madman's shaking me.

AGUABONE

God help the innocent if my plan is derailed.

MARIE

We must help them, can't you see?

PIERRE

Yes, now I agree.

Scene Aguabone holds a press conference.

AGUABONE

My dear friends, members of the press,
with deep regret I announce the arrest of my top staff.
They're unjustly accused of a misuse of funds.
Jail is no place for great minds.
I protest this disgrace.

Scene Anna and Lorenz are alone in their jail cell.

LORENZ

It's never been darker.

ANNA

Don't give up on me.

Our lives are ruined.

That's not what I see.

It's never been darker.

There's light from the window.

Is that what you see?

There's a light in my heart

(transformed)
A light in my heart
when I see you.

when I see you.

A light in my heart

when I see you.

They embrace.

ANNA

(lightbulb popping)

Marie and Pierre's warning!

LORENZ

Yes!

ANNA

It was Aguabone--

LORENZ

--who betrayed us.

ANNA AND LORENZ

No one else knew.

Aguabone enters the cell.

AGUABONE

Congratulations,
Doctors.

LORENZ

Doctor,
What have you heard?

AGUABONE

Just sign this statement of error
and you'll return to your lab, you have my word.

They do not answer.

Before this (pause) incident (pause) I was confident
that when I was done you were the ones to run
the nation's greatest lab.

ANNA AND LORENZ

We can't turn back.

AGUABONE

I don't perform magic.
The government wants to destroy you.
Recant or your lives will be tragic.

ANNA

Give us a moment alone.

Aguabone withdraws.

LORENZ

We have to compromise or the work dies.

ANNA

We cannot recant physical laws.

LORENZ

It's not about laws, it's about our life.

ANNA

It's not right.

LORENZ

Why are you so rigid, so black and white?

ANNA

There's more at stake than our theory this time.
The freedom of any idea is on the line.

LORENZ

After Galileo recanted,
He stomped on the earth and said,
"Still it moves."

ANNA

Gandhi walked straight into their guns
and beat them with his gaze.

LORENZ

We pretend to yield
and we work underground.

ANNA

That sounds like living death.

LORENZ

No!

ANNA

You go your way.

LORENZ

It's never been darker.

They turn away from one another. This may be their end. Suddenly Anna turns back.

ANNA

Remember the angels dancing on the head of a pin?
I implanted a microchip under my skin.

LORENZ

It's more dangerous than ever before.
But there's more than one way to open a door.

ANNA

Clouds are not spheres!

A howling tempest is heard. Anna and Lorenz whirl into Chaos.

LORENZ

MARIE and PIERRE

(terrified)
I'm riding a Leviathan!

Tempesto Tempesto!
Leviathan Leviathan!

LORENZ
Tidal waves! We'll be lost in the flood!
I'm drowning!

Tempesto Tempesto!
Leviathan Leviathan!

ANNA
No, hold on!

MARIE
Flow the way your mind pulls.

Tempesto Tempesto!

LORENZ
It's tearing my mind like a demon
Mind torn out by its roots
A writhing tangle
Deadly birth snarl jagged ooze
Help me! Help me! My mind!

ANNA, MARIE, AND PIERRE
Hang on to the music of chaos.
Hang on to the music of chaos. (repeat)

ANNA
Look! A butterfly!
Tossed and driven, but buoyant and calm,
knowing she transforms the storm
with the beating of her wings.

PIERRE
Imagine a wall of very white light.

Marie and Anna place their fingers on Lorenz' temples.

LORENZ
I see.

The tempest ends. Anna and Lorenz embrace. Outside the cell, Aguabone is torn.

ANNA
We're free!

AGUABONE

Now, at last we'll all be safe.

LORENZ
You saved my sanity!

Marie offers Anna and Lorenz cups of tea, full of turbulence.

MARIE

A cup of tea to warm you?

But I lament locking them up.

LORENZ

Just a cup of plain speech.

MARIE

Plain?

LORENZ

Plain, please!

Lord, I'm no one!
Science has a tradition:
Self-purification by
boundless debate.

ANNA AND LORENZ

How can we save what we learn in Chaos from crashing as we cross the border?

AGUABONE
They will renounce their theory. I will see to that.

PIERRE
Gleaning memory from Chaos
is harder than waking up
inside a dream.

Aguabone enters their cell and finds it empty.

AGUABONE

Aguabone rushes out.

ANNA

MARIE

ANNA
Fine, let's go.
We need an open window--

--to a strange attractor

MARIE PIERRE LORENZ

Yes.

Yes.

Yes.

Yes, dilate the threshold.

MARIE AND PIERRE

Simplicity breeds complexity.
Simplicity breeds complexity. (repeat)

LORENZ

Place in your mind a wall full of windows.

ANNA

Telescoping windows within windows within windows.

LORENZ

A flash

ANNA
of light.

LORENZ
We go black

ANNA
then white,

LORENZ
then black,

ANNA
then white,

LORENZ
like photo negatives,

ANNA
faster,

LORENZ
faster,

ANNA
till we're

LORENZ
straddling

ANNA
the splitting

LORENZ
image

ANNA
of both

LORENZ
worlds.

ANNA
Chaos imprints to white on the wall.

LORENZ
White binds with black.

ANNA
Then we focus

LORENZ

the image back
as smoothly as Escher's birds.

MARIE AND PIERRE

And, voila!

ANNA AND LORENZ

Words from an open window on a new world!

Anna picks up a phone and calls Aguabone.

AGUABONE

Yes.

ANNA

We need you.

(curtly) Yes.

The only copy of the chaos code--

Yes.

is in our lab.

Yes.

You're the only one we can trust.

Will you get it for us?

Scene in Anna and Lorenz' lab. They wait in darkness.

ANNA

The monster's coming.

Aguabone enters with a flashlight, goes to the floorboard, lifts it, and takes out the planted paper.

AGUABONE

Science is a tower built against the night.
I will not be a dead star adrift in pagan twilight.

He lights the paper.

Burn, burn, burn.
Burn, burn, burn.

Lorenz and Anna pin Aguabone with a spotlight beam.

ANNA

Aguabone!

LORENZ

Now you're exposed!

AGUABONE
Pornographers of Science!

LORENZ
The world will see your crime on TV.

AGUABONE
You'll never beat me.

LORENZ
You must face what we have found.

AGUABONE
What I see is hell unbound!

ANNA
Science will be free!

LORENZ
Chaos will be free!

AGUABONE
There will never be new science!

LORENZ
Chaos will be free!

ANNA
Science will be free!

AGUABONE
You think Truth is your private toy!

ANNA AND LORENZ
Why did you betray us?
Why did you betray us? (repeat)
Clouds are not spheres. (repeat)

The window glows with bright, full-bore chaos. Anna trains a video camera on Aguabone.

AGUABONE
Aahhhhhh ... Help me! I'm going mad!
It's the Devil's pinball!

ANNA AND LORENZ
We're co-opting CNN and ABC.
Three. Two. One. You're on TV!

AGUABONE

Atomic pinball.
 The laws of carom.
 Covert dragonfly.
 Careens wide and high.
 Ten points, twenty-five,
 Higher, higher, one hundred oh-five.
 Deep ring, cannon zing.
 Highest, high, high,
 Dead star in a nose dive.

Atomic pinball.
 The laws of carom.
 Colliding dragonfly.
 Boomerang, dang bang,
 Slam bam, swing ding,
 Proton ping and photon pong,
 Ricochet bong and bingo,
 Pop goes the weasel.
 Snap, crackle, fractal attack.

Atomic pinball.
 The laws of carom.
 Confessing dragonfly's eyes
 Refract the lies, ding bang,
 The fat lady sang
 Rusting cogs of order.
 Grand oar--roar--ree shattered.
 Fly, O Pinball!
 A great fall---out.
 A wall of very white light and then
 All the King's horses and all the King's cogs
 Couldn't put Aguabone--into--bones--again.

Aguabone lurches off. Anna and Lorenz rejoice.

ANNA	LORENZ
Vindication!	Jubilation!

In samba Marie and Pierre dressed in party clothes.

MARIE AND PIERRE	ANNA
Bravissimo!	Pierre, you look like the Wild Man of Borneo.

PIERRE	ANNA
I'm your chaotic aficionado.	Pierre, you look like the Wild Man of Borneo.

MARIE

And what's become of the scientific generalissimo?

LORENZ

He was last heard in the static of a chaotic radio.

MARIE

O, Aguabone pianissimo.

ALL

Mo, mo, mo, mo, mo, mo ...

ANNA

We're a visibly luminous group,
our laughter orbits like a Möbius loop.

LORENZ

For a luscious vertigo Chaos is the way to go!

They sing and samba in canon.

ANNA

Chaos is so horrible, so beautiful. So

LORENZ

The movement of a butterfly's wing in Beijing

ANNA

sorrowful, ever graceful.

PIERRE

What are you doing?

MARIE

Reading my compass.

PIERRE

A compass in Chaos?

ANNA

Even a teaspoonful is so powerful.

Chaos is so horrible

MARIE AND PIERRE

This is severe, lovely Chaos, yes.

ANNA

So beautiful. So sorrowful

LORENZ

Yes, yes, yes

MARIE AND PIERRE

This is severe

ANNA

ever graceful, even a teaspoonful

LORENZ

Yes, yes

ANNA

is so powerful

LORENZ

Yes, yes

MARIE

lovely

PIERRE

Imagine a wall of

LORENZ

Yes, yes

MARIE

Chaos

LORENZ

Yes

PIERRE

very white

LORENZ

Yes

PIERRE

light

ALL

YES!

Aguabone hunkers in the deepening shadows.

The End