

ifuseso



Music, Lyrics, and Book by D.Q. Pham

2

## AUTHOR'S NOTE

I feel so... (insert your fusion of emotions by the end) for you. What else could I do to truly thank the folks at Fermilab for giving me a chance to log data? How else could I keep my mentors recalling me in an electric field of serious physics careerists? I loved my best friend my whole life so when he came out of the closet, I still love him. Who else?!

Where you can find me when you have the answers are what I dream to be: In the hearts and minds of directors, actors, crews, and viewers of all walks of life. And I would sing back, "Thank you for giving this particle a chance to matter."

## **SYNOPSIS**

*Fuse* is the musical about finding your charge. A physicist fights through her education and for the opportunities that follow. Though her mind is valuable for the good of the magnetic paces that follow, dreams do not electrify. So, she may need to reconnect working circuits and disconnect from those that crossed the field lines.

Ruth enters Columbia University as a physics student dreaming of working at an accelerator. The years she had under the teachers of Boltz facilitated a concentration of magnetism. However, there was no attraction between the opposite charges, but an instance of perhaps, identical. Амалия take charge of Ruth's livelihood each time it was cut down by Boltz's power to fail students and even defund institutions. In the conclusion of this musical thesis, Ruth may have the circuits in the end to bring unharnessed electric energy to Brookhaven National Laboratory.

# CHARACTER BREAKDOWN

Character	Vocal Range	Age
RUTH	Mezzo-Soprano – Soprano	20s
	The bright and brazen technician. Despite attending college late due to life's inhibitions, she rose quickly. Despite conforming to society, she left unique. Placing faith in magnets, she will find her charge.	
АМАЛИЯ (Amalia)	Alto – Mezzo-Soprano	20s
	RUTH's doctoral advisor and close friend. She supported RUTH as a doctoral student when others rejected RUTH. She becomes the supervising engineer of Brookhaven National Laboratory.	
COIL BOLTZ	Baritone	20s
	As a child prodigy, he held tenure as the youngest professor of physics. He grows up to be the director of Brookhaven National Laboratory. He once shared a deep friendship with RUTH.	
ADAM	Bass – Baritone	20+
	An Adam that makes up for things.	

Ensemble		
- STUDENTS: 4+	- RESEARCH ASSISTANTS	- PROFESSORS: 4
- POLITICIANS	- ENGINEERS	

## NOTES ON ATTIRE & COSMETICS

Performer portraying RUTH: In the emergence era of co-op research, she would fit in with generally a blouse, a belted skirt, and close-toed heels. RUTH eventually lugs around her sentimental red helmet, attached to a lanyard around her neck.

Performer portraying АМАЛИЯ: АМАЛИЯ soils her science gear when she is working, but when she is not, she wears much more dull clothes. АМАЛИЯ wears her blue helmet at Brookhaven National Laboratory.

Performer portraying BOLTZ: BOLTZ fits in anywhere. He is suited to take on a tenure. He is beyond well-dressed for Brookhaven National Laboratory to demonstrate his reign. In that case, he hardly sleeps.

Performer portraying ADAM: ADAM dubs the Columbia University apparel.

Performers portraying engineers: The blue clothes and safety gear are for nanoscience.

<b>#</b>	<b>Title</b>	<b>Location</b>	<b>Character(s)</b> MAIN   ensemble
1.	Tour	Columbia University (Administration Bldg → Lecture Hall → Laboratory → BOLTZ's Office)	RUTH   АМАЛИЯ   BOLTZ   ADAM   students (4+)
2.	Centration	BOLTZ's Office	RUTH   BOLTZ   research assistants
3.	G	Conference Hall	RUTH   АМАЛИЯ   professors (4)
4.	Fuse	Conference Hall	RUTH
5.	Vex	Desertron	RUTH   АМАЛИЯ   BOLTZ   ADAM
6.	Gress	Debate Chamber	RUTH   BOLTZ   ADAM   politicians
7.	Form	Medical Supply Facility	RUTH   ADAM   engineers
8.	Quer	Medical Supply Facility	RUTH   АМАЛИЯ
9.	Template	Brookhaven	RUTH   АМАЛИЯ   BOLTZ   professors
10.	Grats	Brookhaven	RUTH   АМАЛИЯ   BOLTZ professors → engineers

## SCENES & SET DESIGNS

<b>Scene   Page</b>	<b>Location</b>	<b>Character(s)</b> SET   props
1. 8	Train	PASSENGER COACH
2. 9	Administration Building	COLUMBIA UNIVERSITY BANNER   DESK   schedule   notebooks   pens
3. 11	Lecture Hall	DESK with magnets (6+), box with magnet inside, field line diagram, packet, pen   CHALKBOARD WITH FIELD LINE DIAGRAM   chairs
4. 14	Laboratory	DESK with magnets (6+), box with magnet inside, field line diagram, packet, pen
5. 18	BOLTZ's Office	DESK with box with magnet inside, field line diagram, packet, pen   booklet   packets
6. 24	Conference Hall	PACKETS ON THE GROUND
7. 30	Desertron	OPERATOR'S CONTROL
8. 34	Debate Chamber	OPERATOR'S CONTROL   stack of cash
9. 38	Medical Supply Facility	WORKSTATIONS   form   pen   magnets   pacemakers   metals   wooden board + circuits + batteries = circuit workbench
10. 45	Brookhaven	BROOKHAVEN NATIONAL LABORATORY BACKGROUND   BARRIER   CHAIRS   CHALKBOARD ERASER   FOGGY TERRITORY chalkboard   RUTH's id

$$= \pi R^2$$

$$\Delta V = \frac{\Delta M_p}{\rho}$$

$$V = kR^2$$

$$P = \rho \frac{g}{2}$$

$$E = \frac{1}{2} k R^2$$

$$B = \frac{1}{2} k R^2$$

$$\Delta p, \Delta x \approx$$

$$PV = nRT$$

$$\frac{\partial}{\partial R} PV = \frac{\partial}{\partial R} nRT = \frac{\partial}{\partial R} (nR) T$$

$$\frac{\partial}{\partial R} PV = \frac{\partial}{\partial R} nRT = \frac{\partial}{\partial R} (nR) T$$

**1. TOUR**

SCENE i

*[Train]*

*[The light focuses on the train.]*

*(RUTH rides the train.)*

*[The train heads to Columbia University.]*

*(Alternatively, RUTH walks to Columbia University.)*

SCENE ii

[Administration Building]

(RUTH exits the train. RUTH increasingly quickens her pace as she prepares herself for class.)

(ADAM is staffed in the office.)

**ADAM**

(ADAM hands a schedule to RUTH.)

RUTH... CONGRATULATIONS.

(RUTH examines the schedule.)

**RUTH**

I KNOW HIM FROM SOMEWHERE. BEAMS... WHAT'S WITH MY MEMORY.

**ADAM**

COIL BOLTZ. HE'S THE BEST. A CHILD PRODIGY.

[The tambourines heavily beat.]

(RUTH rushes around. RUTH bumps into АМАЛИЯ, knocking over all АМАЛИЯ's belongings.)

**АМАЛИЯ**

NO CONTROL! YOU СУКА!

**RUTH**

AN ACCIDENT!

(RUTH picks up АМАЛИЯ's belongings, but one thing.)

**АМАЛИЯ**

I AM GOING TO BE LATE! YOU HEAR ME? RESEARCH GROUP. LIFE OR DEATH. ДЕРЬМО (der'mo)! DOCTORAL... OVER... IN MATTERS OF SECONDS.

**RUTH**

(*RUTH holds АМАЛИЯ's belongings.*)

I HEAR YOU. NOW WILL YOU TAKE ДЕРЬМО' (der'mo).

**АМАЛИЯ**

YOU NEW HERE? YOU SEEM... OLD. DOCTORAL? YOUNG ADULTS.

**АМАЛИЯ**

**RUTH**

(*RUTH interrupts АМАЛИЯ.*)

WE SHOULD CATCH U—.

Go!

**АМАЛИЯ**

YOU ПИЗДА' (pizdá) MADE ME LATE!

(*АМАЛИЯ runs off.*)

(*ADAM rushes in, bewildering RUTH. ADAM picks up the remaining thing.*)

**ADAM**

AMYGDALA! YOU DROPPED SOMETHING!

(*ADAM rushes after АМАЛИЯ.*)

**АМАЛИЯ**

IT'S АМАЛИЯ!

(*RUTH expresses bewilderment.*)

[The tambourines heavily beat.]

SCENE iii

[*Lecture Hall*]

[A field line diagram is written on the chalkboard.]

(*BOLTZ and STUDENTS push in the chalkboard.*)

(*RUTH and STUDENTS sit.*)

(*BOLTZ paces.*)

**STUDENTS**

NEUTRONS !

**STUDENT 1**

PHONONS !

**STUDENT 2**

BOSONS !

**STUDENT 1**

**STUDENT 2**

**STUDENT 3**

BORONS ? !

**STUDENT 4**

MORONS ! THEORY !

**STUDENTS**

HMM .

**STUDENT 4**

THAT'S IT!

**STUDENTS**

(*STUDENTS burst out laughing.*)

(*BOLTZ feels disappointed.*)

(*RUTH stands up.*)

**STUDENTS**

HMM.

**RUTH**

POSITIVE AND NEGATIVE.

**BOLTZ**

WELCOME TO THE CONTOUR. LET IT FLOW—OW.

(*STUDENTS set up the laboratory.*)

**STUDENTS**

'LECTRICITY!

**BOLTZ**

DO BUILD YOUR N—EST.

**STUDENTS**

WITH 'LECTRONICS!

**BOLTZ**

DO THEY ATTRACT...

**STUDENTs**

SO MAGNETIC!

**BOLTZ**

... ATTENTION.

**RUTH**

YOU WOULD LET ME...

**STUDENTs**

IT'S EXCLUSIVE!

**RUTH**

... BUILD MYSELF IN YOUR...

**STUDENTs**

NO EXPERIENCE!

**RUTH**

... LA-BRA-TOR-Y.

**STUDENTs**

SESSION IS FULL!

*(BOLTZ nods. BOLTZ pushes the chalkboard out, revealing magnets on a desk.)*

SCENE iv

[*Laboratory*]

**STUDENTs**

THOUGHT YOU'D NEVER ASK...

**BOLTZ**

PERFORM A CONTROLLED 'PERIMENT. FORCE. ATTRACTING. USING FERROMAGNETS. PERMANENT DIPOLES. REMOVE FIELDS OUTSIDE. DISCIPLES. ADVICE. DON'T REDUCE TO ZERO. SPON-TANE-OUS RACT-ION. TRY COBALT NAMESAKE. ELECTRONS. UNPAIRED. PARTNER UP.

**STUDENTs**

DEAR!

(*STUDENTs scatter.*)

(*Each STUDENT grabs a magnet.*)

(*A STUDENT points magnet to another STUDENT.*)

**STUDENT**

COMPASS FACES...

**STUDENTs**

ATTRACTION HERE!

(*A different STUDENT directs their magnet to another STUDENT.*)

**STUDENT**

YOUR FRIDGE RUNNING?

**STUDENTs**

HA CAUSE MAGNETS!

(*STUDENT 4 reaches another STUDENT.*)

**STUDENT 4**

YOU SEE, MAGNATE.

**STUDENTs**

STILL THE MORON!

(*BOLTZ takes two magnets. BOLTZ extends a magnet to RUTH.*)

**BOLTZ**

NEED A PARTNER?

**STUDENTs**

RATHER WORK 'LONE!

**RUTH**

I WOULD BE HONOURED.

(*RUTH accepts BOLTZ's magnet.*)

**STUDENTs**

OH INDUCTANCE!

**RUTH**

SAY, WE'RE 'TRACTED.

**STUDENTs**

A LITTLE FORCED!

**BOLTZ**

REPEL!

*(Each group of STUDENTS distance themselves, forming magnetic formations with electrifying dances.)*

*(The world has completed some revolutions as time whizzed by in the delightful classes that RUTH and BOLTZ have together.)*

*(Eventually, АМАЛИЯ enters. АМАЛИЯ feels silently intrigued by the experiments.)*

*(RUTH feels distracted by АМАЛИЯ. RUTH seems to be repelling away from BOLTZ.)*

*(Once the experiment concludes, АМАЛИЯ confronts BOLTZ. АМАЛИЯ hands BOLTZ a paper. АМАЛИЯ departs.)*

*(BOLTZ reads the paper.)*

*(STUDENTS stop dancing and focus on BOLTZ.)*

**BOLTZ**

I HAVE BEEN ACCEPTED TO THE NEW LA-BRA-TOR-Y...

**STUDENTS**

PLEASE DO NOT GO! WE'LL ALL MISS YOU. CELEBRATION.

*(BOLTZ stays silent.)*

PROFESSOR'S SPEECHLESS.

*(STUDENTS set up BOLTZ's office.)*

THINK IT OVER!

*(BOLTZ waves STUDENTS off.)*

WE WILL REPEL!

SCENE V

[BOLTZ's Office]

(RUTH hands BOLTZ a booklet.)

**BOLTZ**

(BOLTZ reads the title.)

ÉTUDE THÉORIQUES DES SUSCEPTIBILITÉS MAGNÉTIQUE MOLÉCULAIRES.

**RUTH**

I THOUGHT YOU'D LIKE MY THESIS BEFORE YOU'D LEAVE FOR YOUR DESTINY IN LAB.

**BOLTZ**

(BOLTZ reveals a box.)

I THOUGHT I'D NEVER ASK THIS OF YOU...

**BOLTZ**

(BOLTZ opens the box revealing a magnet.)

WILL YOU BE MY PERMANENT COLLABORATOR?

(RUTH is caught off guard. RUTH notices a paper on BOLTZ's desk. It is an incorrect field line diagram.)

**RUTH**

THE FIELD LINES HERE ARE CROSSED.

(BOLTZ looks back through RUTH's thesis.)

**BOLTZ**

OPPOSITE CHARGES REPEL.

**RUTH**

THAT WAS THE... RESULT OF... THE... EX-...PERIMENT.

(BOLTZ swipes a pen over RUTH's thesis.)

**BOLTZ**

YOU... FAIL...

(RUTH builds rage.)

(BOLTZ builds remorse.)

**RUTH**

THE FIELD LINES SHOULD NEVER BE CROSSED-OSED.

**BOLTZ**

THE OPPOSITES SHOULD ALWAYS ATTRACT-ACT.

(BOLTZ pleas to an unmoving RUTH.)

RE-...ACT. CON-...NECT. YOU'RE... NOTHING... BUT... STEEL. MAG...NET. I... AM. NEG-TIVE ENDS POS-TIVE.

(BOLTZ is in shambles.)

END CONTOUR. END CONTOUR. END CONTOUR. END CONTOUR. END CONTOUR.  
END CONTOUR. END CONTOUR. END CONTOUR.

**RUTH**

THE FIELD LINES SHOULD NEVER BE CROSSED!

$\bar{v} = \frac{\Delta v}{\Delta t}$   $\bar{a} = \frac{\Delta v}{\Delta t}$   $v = v_0 + at$   $\sum F = ma$   $Q = mc\Delta T$   $C_p = \sum C_i$   
 $\Delta t x = x_0 + v_0 t + \frac{1}{2}at^2$   $E = \frac{1}{2}mv^2$   $\Delta U = \gamma F dU$   $f_{\text{ext}} = f_{\text{app}} - f_{\text{int}}$   
 $\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$   $\sigma^2 = \frac{1}{n-1} \sum (x - \bar{x})^2$   $V = \frac{1}{4\pi r^2} \cdot \frac{q}{r}$   $C = \epsilon A/d$   
 $f \leq \mu N$   $\tau = \frac{mv}{F}$   $P = mv$   $\Delta V = \beta V_0 \Delta T$   $\rho = \frac{m}{V}$   $COP = \frac{T_c - T_h}{T_h - T_c}$   
 $W = \int \tau \cdot d\theta$   $Re = \frac{v \eta}{D}$   $\bar{F} \Delta s \cos \theta = \Delta E$   $\Delta \ell = a \Delta t$   $\alpha_F = k \frac{q_1 q_2}{r^2} F_B = \frac{\mu_0 I_1 I_2}{2\pi r}$   
 $R = \nu_0 C A d^2$   $Ma = \frac{v \eta}{\tau}$   $m' = \frac{m}{1 - \frac{v^2}{c^2}}$   $E = k \int \frac{dq}{r} \Delta V = \Delta U_E$   
 $\tau = r \times F$   $a_c = \frac{v}{r} \omega^2 r$   $\eta = \frac{W_{\text{ext}}}{\eta}$   $E_m = \frac{d\omega}{dt}$   $(\omega) = \sqrt{\frac{8\pi}{m}} \frac{1}{1 - \frac{v^2}{c^2}}$   $E = \frac{F_E}{R}$   $R = \frac{Q}{I^2 R}$   
 $J = \bar{F} \Delta t$   $\sqrt{g} t$   $\bar{F} \Delta t = m \Delta v$   $W = \bar{F} \Delta s \cos \theta$   $a = \frac{v}{r} \times r - \omega r^2 \frac{1}{r} \sin \theta$   $m = \frac{Q_C}{m} V = IR$   
 $J = \int F \cdot ds$   $\Delta U_I = mg \Delta h$   $P = \frac{F \cdot dt}{\Delta t}$   $W = \int F \cdot ds$   $\Delta U_I = \frac{1}{2} \frac{m}{r} \left( \frac{v}{c} \right)^2$   $E = \frac{mc^2}{m}$   
 $P = \frac{\Delta W}{\Delta t}$   $K = \frac{W}{\Delta \theta}$   $W = \frac{v \Delta \theta}{\Delta t}$   $F = -\nabla U$   $\Delta U = - \int F \cdot ds$   $\Delta U = K = E - \Phi = kUF - \frac{Q}{\lambda} \Phi$   
 $L = I \omega = \nu_0 (\omega + \omega_0)$   $V = \frac{\eta}{\omega} \cdot \frac{d\theta}{dt}$   $E = \frac{Q \Phi}{\lambda}$   
 $U_e = \frac{1}{2} \frac{Q^2}{\lambda}$   $P = \bar{F} v \cos \theta$   $\Phi_E = \frac{Q \Phi}{\lambda}$   
 $P = \frac{dW}{P}$   $P = \omega \cos \theta$   $I = \int r^2 dm$   $W = - \int P dV$   $S = k \log w$   $F_B = Q_B \times B$   
 $F = \frac{\Delta x}{\Delta t}$   $L = \mu v \sin \theta$   $L = \frac{1}{2} k_{el}^2 G m_1 m_2$   $\Delta S = \frac{\Delta Q}{T_c}$   $E = \frac{4\pi \epsilon_0}{\lambda} \sum F$   
 $G = G$   $y = \frac{q_1}{r}$   $U_I = - \frac{1}{r}$   $C = \frac{1}{(1/a) - (1/b)}$   
 $A_F = A_F$   $y = \frac{q_1}{r}$   $A_1 p_1 = A_2 p_2$   $\Phi = \frac{4Q}{dt}$   $M = \frac{1}{2} \sum C = \frac{KE_0 A}{d^2}$   
 $\gamma = \gamma$   $G = \frac{G m_1 m_2}{r^2}$   $F = -k \Delta x$   $V = k \sum C$   
 $F_s = \frac{m}{r^2} \hat{r}$   $B = - \frac{\sin \theta_1 - \sin \theta_2}{r^2}$   $\frac{1}{2} \frac{Q^2}{C^2} = - \frac{QV}{B^2}$   
 $Q/V = \frac{2\pi}{r} \frac{p}{Gm}$   $p = p_0 + Qgh$   $A_2 M = \frac{1}{2} \frac{1}{r^2} U = -CV^2$   
 $V = \frac{Gm}{r}$   $F_s = \frac{m}{r^2} \hat{r}$   $A = \frac{4\pi}{r^2}$   $R_s = \sum R_i$   
 $F_s = \frac{Q}{r^2} \frac{p}{Gm}$   $F_s = \frac{Q}{r^2} \frac{p}{Gm}$   $F_s = \frac{Q}{r^2} \frac{p}{Gm}$   
 $B = B$   $T = 2\pi \sqrt{\frac{L}{A}}$   $F_s = \eta \frac{do}{dz}$   $\delta = \frac{d\Phi_s}{\ln(b/a)} B = \frac{\mu_0}{4\pi} \frac{1}{dt} \Phi_E = EA \cos \theta$   
 $P_1 + Qgy_1 + \frac{1}{2} Qv_1^2 = P_2 + Qgy_2 + \frac{1}{2} Qv_2^2$   $E = -V \frac{2\pi}{L} N = N_2$

## **2. CENTRATION**

*(BOLTZ throws a packet, full of electronic problems, at RUTH.)*

*(RUTH picks up the packet. RUTH realizes the problems are not difficult. RUTH begins solving.)*

*(RESEARCH ASSISTANTS march in. RESEARCH ASSISTANTS carry packets behind themselves. RESEARCH ASSISTANTS surround RUTH.)*

*(BOLTZ directs RESEARCH ASSISTANTS to throw a packet at RUTH.)*

### **BOLTZ**

'TIL END, PROFESSOR, OF ALL LECTURES, LA-BRA-TOR-IES.

*(RESEARCH ASSISTANTS hold and slur "concentration" as choruses.)*

COULD YOU CONCENTRATE? STUDENT. OH YOU INFUR-ATE. SENIOR. HAVE YOU DETER-RATE? CON-... CEN-...

### **BOLTZ**

### **RESEARCH ASSISTANTS**

-TRATE.

*(RESEARCH ASSISTANTS individually throw a packet at RUTH.)*

*(RUTH gradually kneels, in agony.)*

*(BOLTZ feels uncomfortable and sickened. BOLTZ directs RESEARCH ASSISTANTS to stop. BOLTZ levels with RUTH.)*

**BOLTZ**

ALWAYS, A TRUE FRIEND, WHO WILL LISTEN, EXPERIMENT. RIGHT NOW, A SAVIOR, PROVIDES METHODS, HANDS OUT TECHNIQUES. BEYOND CENTRATION. NARRATE. OH DEAR APPRENTICE. GERM-NATE. WOMAN WHO'VE GROWN WISE.

(*RUTH, still on her knees, hands the packet to BOLTZ.*)

(*BOLTZ strikes pen ink over the packet. BOLTZ hands the packet to RUTH.*)

(*RUTH looks at the packet and to BOLTZ.*)

**RUTH**

YOU'VE... CROSSED... IT.

(*BOLTZ grabs a book. BOLTZ throws the book in RUTH's face.*)

(*RUTH falls back, unconscious.*)

(*BOLTZ leads RESEARCH ASSISTANTS off. BOLTZ feels ashamed.*)



ACTI

**3. G**

SCENE vi

[Conference Hall]

(PROFESSORS wander in. Some PROFESSORS move objects off. PROFESSORS begin picking up and reading the packets surrounding RUTH.)

**PROFESSOR 1**

THESE... GRADES... DO NOT FIT THE CURVATURE.

**PROFESSOR 2**

I... Q... IS LEFT TO BE DESIRED.

(RUTH sits up.)

**PROFESSORS**

SUCCESS. THAT'S WHAT YOU ARE NOT.

**PROFESSOR 3**

LET B'S...

**PROFESSORS**

...IN TRASH BINS OF HISTORY.

**PROFESSOR 4**

OH F'S...

**PROFESSORS**

YOU MIGHT AS WELL KILL YOURSELF.

(*PROFESSORS level with RUTH.*)

GRAD... PRO...GRAMS ARE EXCLUSIVE. DON'T HAVE WHAT IT TAKES FOR MASTER'S.

(*PROFESSORS pick up all the remaining packets.*)

(*АМАЛИЯ rushes in.*)

**АМАЛИЯ**

SORRY I'M LATE. SORRY I'M LATE. SORRY I'M LATE. WOAH I KNOW YOU!

(*АМАЛИЯ rushes to RUTH.*)

THANK YOU FOR SAVING MY LIFE. SERVICE NABBED THE RESEARCH GROUP.

**PROFESSORS**

WHAT'S GOING ON?

**АМАЛИЯ**

MY... WING'S... WHAT'S GOING ON OVER HER. LAD—...DER. SHE WON'T NEED TO SOAR THE SKIES. GET OUTTA HERE.

(*PROFESSORS leave.*)

WHY SEE INVISIBLE?

**RUTH**

GEE—E... NORMAL PEOPLE ASK NAME FIRST.

**АМАЛИЯ**

FAIL—...URE... ЦИВИЛИСТ (tsivilist) DON'T HAVE THIS MUCH.

**RUTH**

IT'S BEYOND JUST AN F.

(АМАЛИЯ *rushes out.*)

[*The room darkens.*]



4 . FUSE

RUTH

SO... CONFUSED. REFUSE. DIFFUSE.

*(RUTH raps her hand around her head. RUTH words the prefix to sound closer to "I".)*

IN-...

*(RUTH words the word to sound close to "Feel".)*

FUSE.

*(RUTH places her hand on her heart.)*

SO ELECTRIFYING!

*(RUTH stands tall and confident.)*

NOW IS THE PERFECT TIMING.

*(RUTH places a hand on her temple.)*

YET, THE WOUND HAS LEFT ME STATIC.

*(RUTH looks up. RUTH is once more confident. RUTH states this assertively to herself.)*

THUNDER LATER! CHARGE YOURSELF TO FLOW LIKE LIGHTNING!

*(RUTH brings herself back to reality.)*

THUNDER...

*(RUTH sheds a tear.)*

NOTHING LIKE OVERCURRENT. RAIN OFF EXCESS HEAT. END MY FIRE.

*(RUTH flinches.)*

ZAP. BREAKER OUT OF ALL THE CURRENT. POSITIVE. NEGATIVE. SO IMBALANCED... MUST KEEP FEELINGS GROUNDED... LIGHTNING... SHORT CABLE THAT SUFFUSE. SURE AM UNABLE TO REFUSE... RESISTOR. LIMITER. CURRENTLY CAN'T. CLIPPING. YOUR POWER RATING IS PROFUSE. SWEATING.

*(RUTH places her hand on her heart.)*

SENSORS DETECT MY HEART BEATING. HERE GOES NOTHING. SOMETHING. ELECTRIFYING...



**5 . VEX**

SCENE vii

[*Desertron*]

[*The lights reveal a massive operator's control.*]

**RUTH**

IT... VE-... XES... ME... I'M ON THE VERGE... OF DISCOV-RING... THE FATHER... OF ALL ETERNITY... IT VE-... XES...

(АМАЛИЯ elegantly tiptoes in. АМАЛИЯ is clad in a rancher's uniform.)

**АМАЛИЯ**

HOWDY... HOWDY. HOWDY. WEL-... COME TO THE CIRCUIT!

(АМАЛИЯ sings before RUTH could.)

I KNOW WHAT YOU'RE ABOUT TO SAY! CAN YOU TOUCH THESE COLOURFUL BUTTONS THAT WILL PROPEL PROTONS, SMASHING THEM INTO A GRAPHITES' NUCLEIS, PRODUCING NEUTRONS WITH PIONS, NEGATIVE AND POSITIVE, TAKING THOSE POSITIVITIES AND FOCUS THEM INTO A BEAM SO THEY WOULD, EXCUSE MY LANGUAGE, DECAY... I SAY YOU CANNOT LIL' BACHELOR.

**RUTH**

THEY BECOME NEUTRINOS. I HAVE MY MASTERS.

**АМАЛИЯ**

WELCOME TO THE ENERGY! FREE ENERGY. POSITIVE! IN THE HEARTLAND... OF SCIENCE INNOVATION! WHERE NOT ONLY DOES EVERY MATTER EXIST, BUT MATTER! WHERE THE LAWS OF PHYSICS... BREAK THE LAWS THAT HUMANS DRAW.

**RUTH**

CONTACT TENSION?

**АМАЛИЯ**

IGNORE THAT ONE, NOW. WELCOME TO THE... MAGNETIC ATTRACTION... YOUR DATA WILL SURE TO BE...

(*ADAM enters, protesting.*)

NEGATIVE!

(*АМАЛИЯ canters off.*)

**ADAM**

THEY ARE SHUTTING IT DOWN!

**RUTH**

DID SOMEBODY GET BEAMED?

**ADAM**

EVEN WORSE... WE ARE LOSING FUNDING!

**RUTH**

WHAT UNKNOWN FORCE DRIVES THIS? WHAT BREAKS THE BOND BETWEEN UM...

(*RUTH is questioning ADAM's identity.*)

**ADAM**

ADAM...

**RUTH**

MOLECULES!

*(BOLTZ slyly enters.)*

**BOLTZ**

IT VEXES ME...

**RUTH**

WHAT ARE YOU DOING HERE?

**BOLTZ**

FEEDING THE UNKNOWN FORCE.

*(BOLTZ pickpockets a stack of cash from ADAM.)*

**ADAM**

KIDS' MEAL FUND!



**6. GRESS**

SCENE viii

[*Debate Chamber*]

(*BOLTZ throws the stack of money into the void.*)

(*POLITICIANS leap out and fight for the stack of money like dogs fighting over a bone. POLITICIANS set the debate.*)

**POLITICIANS**

(*POLITICIANS focus on ADAM.*)

WHERE IS THE MONEY IN THA-AT?

**POLITICIANS**

(*POLITICIANS grab ahold of ADAM. POLITICIANS hold ADAM upside down.*)

WHERE IS THE MONEY IN THA-AT? WHERE IS THE MONEY IN THA-AT?

(*POLITICIANS drop ADAM. POLITICIANS focus on the operator's controls.*)

WHERE IS THE MONEY IN THA-AT? WHO GON' BE PAYING FOR THA-AT?  
WHAT IS OUR DIVVY ON THA-AT? WHERE A TOWN SHANTY PLACE THA-AT.  
WHEN WORLD RIVALRIES START THA-AT.

(*RUTH defends the operator's controls.*)

WHY NO EXPLOITING WITH THA-AT! HOW WE FIND MONEY FOR THA-AT? HOW  
WE FIND MONEY FOR THA-AT? HOW WE FIND MONEY FOR THA-AT?

**BOLTZ**

BRING IT BACK.

(*BOLTZ takes the stack of money back from POLITICIANS.*)

BRING IT TO ME IN MY LAB.

(BOLTZ points to RUTH.)

ADDRESS CONGRESS FOR THESE HACKS. NO LONGER PAID WITH YOUR TAX.

(BOLTZ hands the stack of money back to ADAM.)

MORE IN TREASURY RELAX. BE FULL HA-MIL-TO-NAN 'TIL TAPS.

(POLITICIANS feel puzzled by the phrase.)

NONE MORE PA-TRO-DIC WOLF PACK! SO WHY NOT JUST DEFUND THAT!

(POLITICIANS take apart the operator's controls.  
POLITICIANS assembly a rifle from the parts.)

### **POLITICIANS**

MO—... NEY... MO—... NEY... MO—... NEY... MO—... NEY...

### **BOLTZ**

(BOLTZ focuses on RUTH.)

TIT FOR TAT. WHERE'S WORK AT? LOST BRASS TACKS. BUREAUCRAT. DID I CROSS THAT?

(RUTH points out what has become of the operator's controls.)

(BOLTZ turns around. BOLTZ is shocked at what is before his very eyes.)

### **RUTH**

NO PROGRESS. BUT INSTEAD. UNDER DEBT. POOR MINDSET. WHERE YOUR SCI-TISTS?

**BOLTZ**

JUST... HIRED... AM-LI-YA...

(ADAM mocks RUTH as though BOLTZ has a sick burn.)

(POLITICIANS grab ahold of RUTH.)

**BOLTZ**

FAILED WHAT YOU PUT TO THE TEST.

A-...

NEVER WILL GIVE IT A REST.

WARDS...

ALL YOU DO IS PROJECT.

LE-...

YOU WILL DE-FIN-LY BE BEST-... ED.

GA-... CY...

**POLITICIANS**

(RUTH is thrown out of the debate chamber.)

**POLITICIANS**

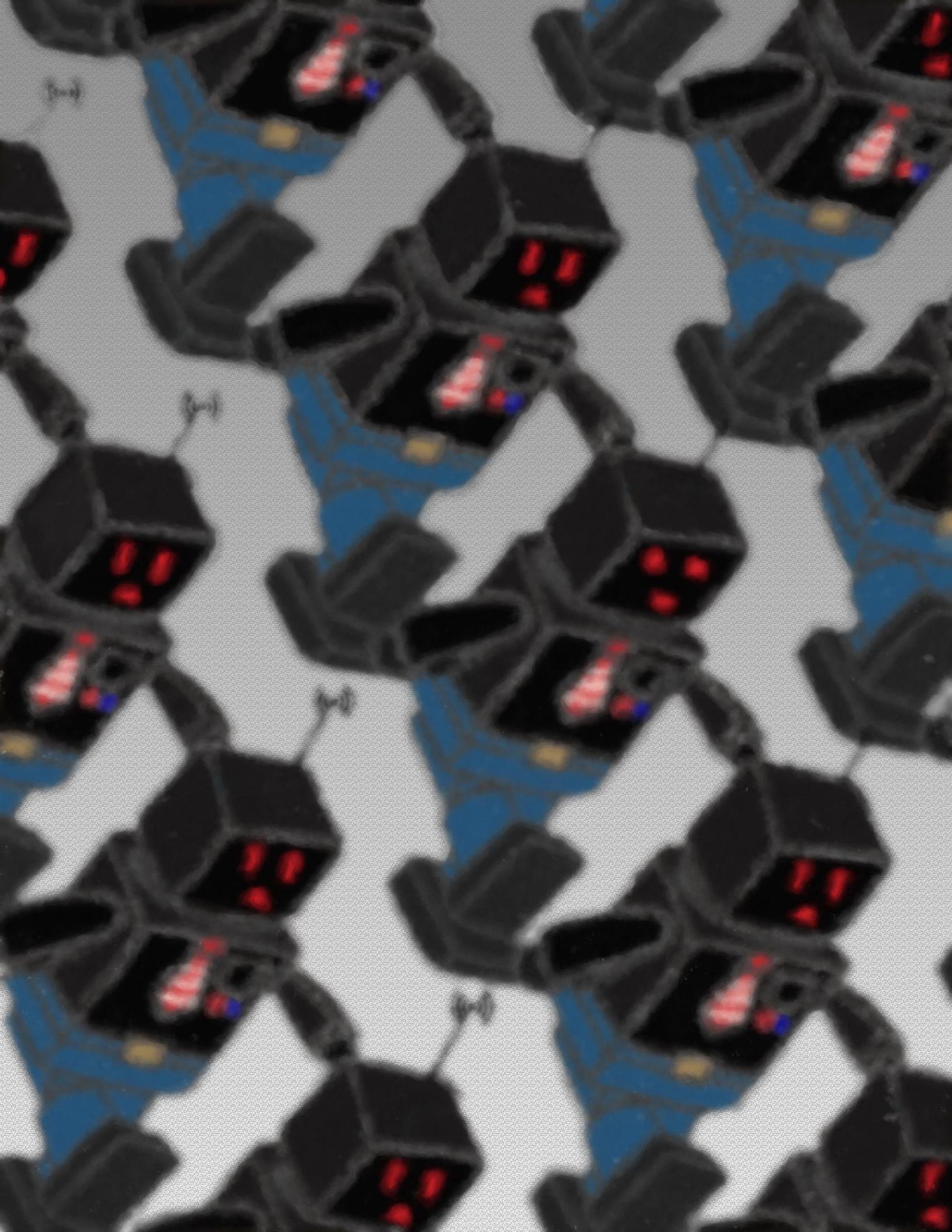
(Half of POLITICIANS sing "board" and the other half sing "lord".)

BOARD/LORD... OF... SCI-... TY...

(BOLTZ victoriously holds the rifle.)

(BOLTZ and POLITICIANS leave.)

(RUTH ends up alone.)



**7. FORM**

SCENE ix

*[Medical Supply Facility]*

*(ADAM joins ENGINEERS.)*

*(ADAM and ENGINEERS march in.)*

*(ENGINEERS set up the surroundings as a facility to build medical supplies. Much of the supplies are magnets and pacemakers.)*

**ENGINEERS**

*(ENGINEERS address RUTH.)*

CONFORM.

*(ADAM hands a form to RUTH.)*

FILL THIS FORM.

*(RUTH quickly signs the form.)*

COME WITH US. WORK WITH US.

*(RUTH hands back the form.)*

YOU'RE WELCOME. JUST HARD WORK.

*(RUTH joins in with ENGINEERS. RUTH is given her helmet.)*

HEART ON FIRE. MIND ON ICE.

**ENGINEERS**

CONFORM. CONFORM.

*(ENGINEERS sit at their workstation.)*

CONFORM. CONFORM.

*(ADAM sits down. ADAM starts testing magnets with the pacemakers.)*

CONFORM. CONFORM.

*(ENGINEERS seat RUTH next to ADAM.)*

CONFORM. CONFORM.

**RUTH**

*(RUTH addresses ADAM.)*

YOU HEAR ME? IS IT CLEAR? TOGETHER. NOW'S HELPFUL.

*(RUTH tries to hold back the internal cubicle she is trapped in.)*

IN THE MOOD. TO FIGHT YOU...

**ADAM**

STAY PATIENT. THAT'S YOUR ROLE.

*(The pacemaker combusts.)*

*(A supervising ENGINEER steps in.)*

DIRECTOR. I'M SORRY. FORGIVE ME. FORGET ME.

*(ADAM focuses on RUTH.)*

SAVE YOUR LIFE. SAVE YOUR LIFE.

**RUTH**

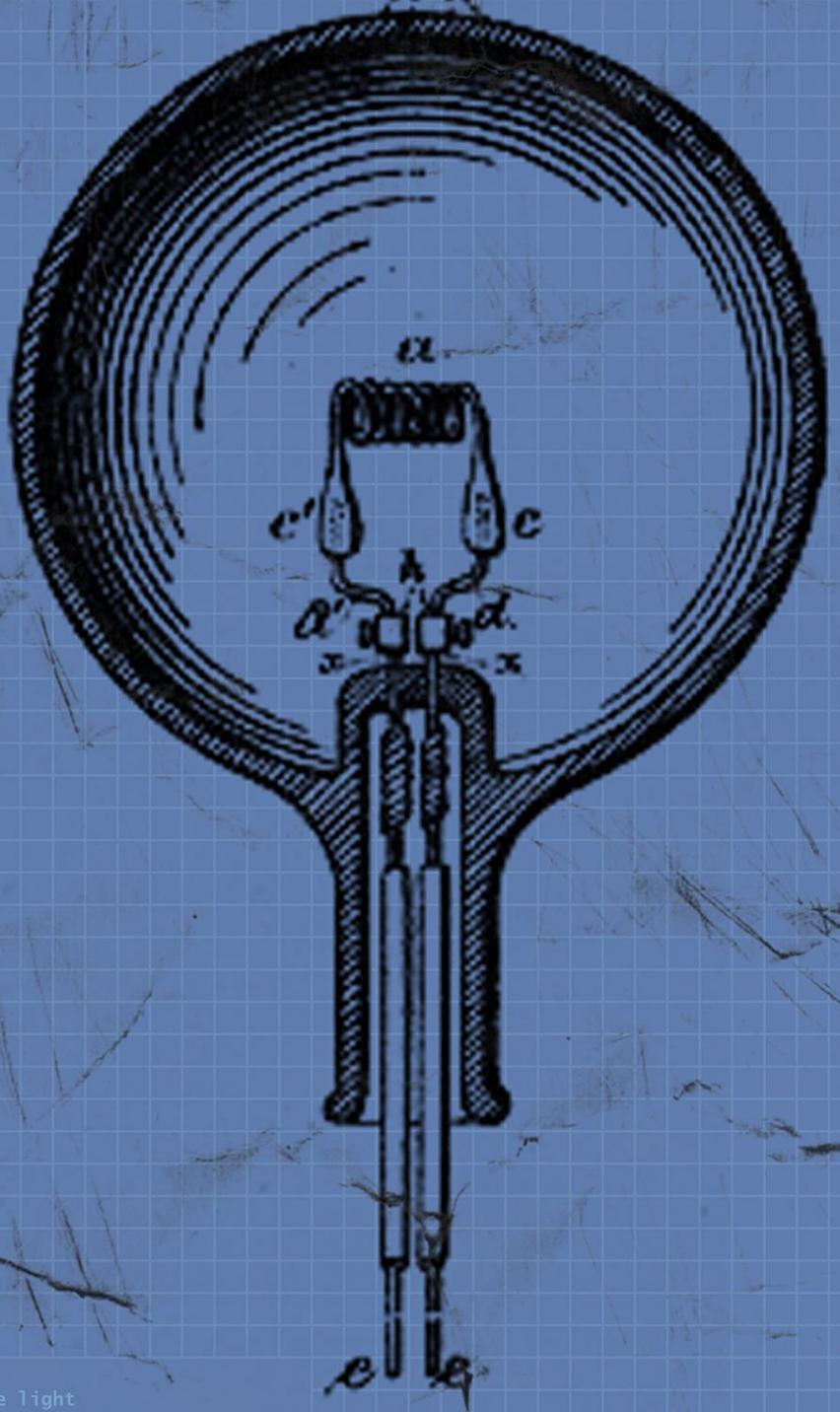
FIGHT FIGHT FIGHT. FIGHT FIGHT FIGHT.

**ENGINEERs**

DE-... FORM...

*[Blackout.]*

*(ADAM and ENGINEERs depart with all but RUTH's workstation.)*



PROJECT: let there be light

CLIENT: АМАЛИЯ

**8 . QUER**

[The entire facility brightens.]

(RUTH rests at the workstation.)

(АМАЛИЯ tiptoes in.)

**АМАЛИЯ**

(АМАЛИЯ walks up to RUTH.)

RUTHANN. P. H. D.

(RUTH stays unresponsive.)

REMINDER TO CONQUER...

(RUTH stays still unresponsive.)

COMRADE?

**RUTH**

I CANNOT FACE THE WORLD.

**АМАЛИЯ**

SO... DOES... MY... LAB. SE—... CLU—... DED... BUT... U—... NIQUE. WE'RE... RE—... CRUI—... TING...

(АМАЛИЯ pulls out a wooden board from underneath the workstation. АМАЛИЯ grabs the circuits and batteries. АМАЛИЯ forms these materials into a circuit workbench.)

I'LL... GIVE... YOU... A... PRE—... VIEW... LET'S... EX—... PER—... MENT...

(АМАЛИЯ does much of the procedure.)

*(Gradually, RUTH joins in to fix some of АМАЛИЯ's errors.)*

HY—... PO—... THE—... SIS...

**RUTH**

*(RUTH intently looks at АМАЛИЯ.)*

WHERE... IS... IT... GOING?...

*(АМАЛИЯ earnestly acknowledges it.)*

**АМАЛИЯ**

LET'S DIVIDE AND CONQUER.

**RUTH**

LET'S...

**АМАЛИЯ**

THERE BE LIGHT...

*[The circuit workbench lights up the incandescent light.]*

*(RUTH and АМАЛИЯ intimately hold their gazes.)*

*[Blackout.]*

ACT I  
1 "Template"  
2 "Grats"  
3 "Dition"  
4 "Trol"  
5 "Vent"  
6 "Firm"  
7 "Serve"  
8 "Sequence"  
9 "Sciuous"  
10 "Fine"  
11 "Side"  
12 "Sty"  
13 "M"  
14 "  
15 "

ACT II  
24 "Vex"  
25 "Gre"  
26 "E)  
27 "P"  
28 "



ifuseso

**9. TEMPLATE**

SCENE X

[*Brookhaven*]

[*A barrier hides Brookhaven National Laboratory. There are chairs.*]

(*АМАЛИЯ, BOLTZ, and PROFESSORS wander or sit. Some PROFESSORS shake hands. Some PROFESSORS carry refreshments.*)

[*Fog disperses from a lower section. There is a boom.*]

(*АМАЛИЯ and BOLTZ are not startled.*)

(*Sitting PROFESSORS and some upright PROFESSORS applaud.*)

(*The rest of PROFESSORS tremble.*)

(*АМАЛИЯ, BOLTZ, and PROFESSORS sit.*)

(*RUTH strolls backwards to enter. RUTH pulls with her a chalkboard. RUTH turns only her head towards the fog. RUTH keeps her grip on the chalkboard.*)

[*The fog disperses, revealing a chalkboard eraser.*)

(*АМАЛИЯ heads to pick up the chalkboard eraser.*)

(RUTH drops her grip. RUTH turns, revealing her torso. RUTH feels embarrassed. RUTH grabs the chalkboard eraser out of АМАЛИЯ's hand. RUTH places her free hand on the helmet on her chest, with a lanyard holding her helmet. RUTH bows to АМАЛИЯ.)

(АМАЛИЯ places her hand on her helmet and bows.)

(RUTH erases the chalkboard and writes, "PIECE".)

### **АМАЛИЯ**

(Simultaneously, АМАЛИЯ extends her right arm.)

PEACE...

(RUTH writes, "of a magnetic quadruple.")

(Simultaneously, АМАЛИЯ extends her left arm.)

...WITHIN HER HEART CHAMBERS...

(RUTH draws an "X" anywhere in the center of the lower right-half of the chalkboard. RUTH writes, "is here".)

...IS NOT QUITE THERE.

(RUTH draws a circle that touches the "X". The circle encompasses the whole chalkboard. The circle's center is directly in the middle of the chalkboard.)

(PROFESSORS stand up.)

SO, LET'S SETTLE FOR THE REST OF THE MIND.



RUTH

**10. GRATS**

**BOLTZ**

(*BOLTZ stands up.*)

THIS CANNOT STAND.

(*BOLTZ promptly sits down.*)

**АМАЛИЯ**

(*АМАЛИЯ places her hand to her chest.*)

YOU STRUCK A CHORD IN MY HEART. (*АМАЛИЯ clears her throat.*)

(*АМАЛИЯ extends her arm.*)

ИЗВИНИТЕ (izvinite), A CORE IN THE UNIVERSE.

(*PROFESSORS applaud.*)

(*Some PROFESSORS raise RUTH high up on their shoulders.*)

(*BOLTZ bolts out.*)

(*Some PROFESSORS remove chairs and return.*)

**RUTH**

HEY BUILDERS. I MUST-A SAY... THERE'S TIME FOR LOLLYGAGGING.  
THERE'S SPACE JUST TO REST EASY.

(*АМАЛИЯ attempts to direct PROFESSORS to set RUTH down.*)

(*RUTH notices АМАЛИЯ.*)

HEY BUILDERS. SHE DOES DECLARE. I MAY BE FUN AND SHE'S NOT. BUT SHE'S STILL YOUR GUARDIAN.

**PROFESSORS**

CONGRATULATION-ION-IONS! TO THE NEW TECHNICIAN-IAN!

**АМАЛИЯ**

ALL. ПРИВЕТ (privet)! PARDON ME. SHE DIDN'T FINISH THIS LADDER.

(*PROFESSORS let RUTH down. PROFESSORS leave to uniform as ENGINEERS then stand at attention behind the barrier.*)

HEY RUTHANN. I MUST REMIND... THAT LADDER'S AN ILLUSION. WE COMRADES JUST SAW YOU SOAR.

(*PROFESSORS leave to uniform as ENGINEERS and stand at attention behind the barrier.*)

**RUTH**

(*RUTH sings to herself.*)

YOU. MATTER. ACT NORMAL. THERE ARE CLOUDS TO LAND BELOW. BUT NO ROOM TO BREATHE ABOVE.

(*BOLTZ enters with an ID.*)

**BOLTZ**

DON'T... GIVE UP. I WILL JUST SAY... CONGRATULATIONS.

(*BOLTZ pins the ID onto RUTH.*)

WELCOME TO THE CONTOUR.

(*BOLTZ heads behind the barrier.*)

*(RUTH feels stiff by the ending remark.)*

HEY. CAREFUL. I MUST-A STATE... LET'S BE MODEST ON ENTRY.

**АМАЛИЯ**

REVEAL TO US WHAT WE GOT!

*[The barrier opens to reveal the beauty of Brookhaven National Laboratory.]*

**RUTH**

I MUST SAY...

**COMPANY**

CONGRATULATION-ION-IONS !

**RUTH**

NO WORDS. I AM LEFT SPEECHLESS.

*[End of Musical.]*