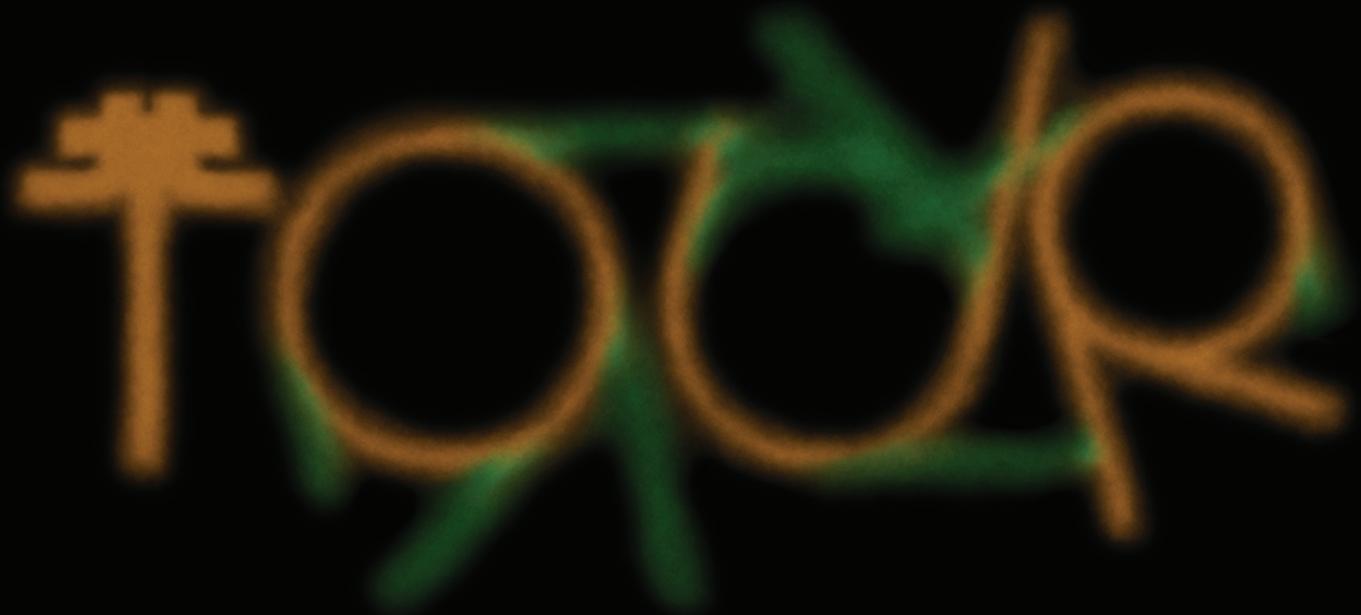


DIRECTOR'S SCRIPT

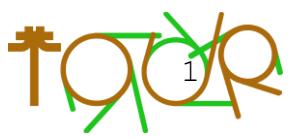


Book, Music, and Lyrics
DAVID QUANG PHAM

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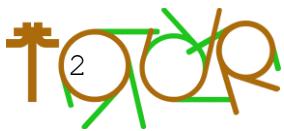


TOUR

An Opera

by

David Quang Pham

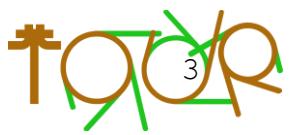


THANK YOU

Name	Role
Emily Johnson	Data Scientist
Marcos "Danny" Caballero	Professor of Electromagnetism
Montana Earegood	Copyeditor
Ruthann Gregory	Physicist
Janelle Lawrence	Operatic/Musical Mentor
Haley Baird	Originated Reader of Quark
Bianca Waechter	Originated Reader of Lepton
Peter Louis Epstein	Originated Reader of Boson
Carina Goebelbecker	Originated Reader of Atom
Monica Cross	Originated Reader of the ensembles
Kami Visitsak	Originated Singer of Quark
Diana Easter	Originated Singer of Lepton
Brian Egland	Originated Singer of Boson
Rina Lubit	Originated Singer of Atom

DEVELOPMENT

Date	Type	Site	Specific(s)
2015	Idea	Fermilab	The spark of love for particle physics
2017	Writing	Chicago	The start of writing this fable
2019 12	Discussion	New York	Reg E. Gaines of the Downtown Urban Arts Festival restructured the entire story
2020 4-24	Reading (Table)	The 24 Hour Plays	Hosted by Madelyn Paquette tourmusical.com/events/2020-4-24
5-16	Reading (Table)	S.I.S.R!	Hosted by Michael Perrie Jr and Lacy Reily tourmusical.com/events/2020-5-16
7-17	Reading (Table)	CreateTheater ETC	Hosted by Cate Cammarata tourmusical.com/events/2020-7-17
8-29	Reading (Table)	S.I.S.R!	Hosted by Michael Perrie Jr and Lacy Reily tourmusical.com/events/2020-8-29



SYNOPSIS

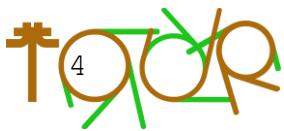
A physics fable, TOUR is an opera that experiments with tango, pop, choral, and four particles named Quark, Lepton, Boson, and Atom. These standard particles collide and compete with one another in the physics academic and professional field. By the end of act one, they all pass college and get jobs at the particle accelerator. In the end of act two, they all die in the accelerator and rise as God Particles.

The characters are particles, who are searching to become perfect. In physics, particles seek out supersymmetry. Particles want to be perfect spheres. Not unlike a human being. We want to be well-rounded. The analogy is told through personifications of the particles in a nuclear reactor. Their types and class structure are costumed as human students and professors.

Quark is an exchange student, Lepton is her doctoral advisor, and Boson is the professor who tries to stop Quark from getting a career in physics.

The first act transcends the particles from college to career or from ground states to energy states. This follows Quark, an exchange student, as she graduates from her undergraduate degree to her doctorate. During her pursuit to be a physicist, she concentrates on magnetic physics and attracts Professor Boson who soon advances on her, so she rejects. He retaliates by ensuring that there are no paths to a career in physics and she experiences enlightening obstacles. As trouble ensues, she is taken under the wings of her doctoral advisor, Lepton.

The second act transcends the particles from career to death or from standard models to supersymmetry. This follows Quark, a recently hired technician, as she rises from being a subordinate to being the director of the Accelerator. In the Accelerator, Atom is a subordinate, Lepton is its supervisor, and Boson leads as the director. As Quark gets the respect she deserves from fellow technicians, Atom grows unstable and Boson loses his influence on the world of physics. When Boson resigns and hands his position to Quark, Atom take matters into their own hands.



CHARACTER BREAKDOWN

Workshops/Productions: Casting the principal characters from underrepresented racial minorities are not recommended. Casting the principal characters from underrepresented racial minorities are required.

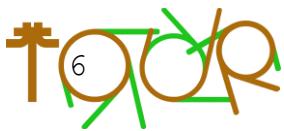
Character	Range
<u>QUARK</u> A student and physicist. Quotidian, Ubiquarian, Antiscian, Rachidian, K?	Mezzo-Soprano
<u>LEPTON</u> A doctoral advisor and lab supervisor. Leaves Electricity Proportional To Obscure Negativity.	Alto
<u>BOSON</u> A professor and lab director. Bright Or Sanctimonious Or Narcissistic.	Baritone – Tenor
<u>ATOM</u> A scholar and right-hand scientist. Attentive Towards Outstanding Matters.	(Currently) Soprano

Ensemble

- | | | |
|---------------|-----------------------|--------------|
| - STUDENTS | - RESEARCH ASSISTANTS | - PROFESSORS |
| - TECHNICIANS | - POLITICIANS | - PARTICLES |

MUSICAL NUMBERS

#	Title	Character(s)
1.	<u>Eigen</u>	ATOM
2.	<u>Symmetry</u>	LEPTON BOSON ATOM students
3.	<u>Exchange Particle</u>	QUARK ATOM
4.	<u>Torsion</u>	QUARK LEPTON
5.	<u>Available Energy</u>	QUARK
6.a.	<u>Tachyon</u>	QUARK LEPTON BOSON ATOM students
7.	<u>Nuclide</u>	QUARK BOSON ATOM
8.	<u>Entanglement</u>	QUARK BOSON
9.	<u>Crossing Field Lines</u>	QUARK BOSON
10.	<u>Centration</u>	QUARK BOSON research assistants
11.	<u>G</u>	QUARK LEPTON ATOM professors
12.	<u>Anyon</u>	QUARK
13.	<u>Valence</u>	QUARK LEPTON ATOM students
14.	<u>Effusion</u>	QUARK
15.a.	<u>Super Collide</u>	QUARK LEPTON technicians
16.	<u>Particulate</u>	QUARK ATOM technicians
17.a.	<u>Slepton</u>	QUARK BOSON ATOM politicians
18.	<u>Backscatter</u>	QUARK LEPTON
19.	<u>Charge</u>	QUARK LEPTON ATOM
20.	<u>Electroform</u>	QUARK ATOM technicians
21.	<u>Remanence</u>	QUARK
22.a.	<u>Preon</u>	QUARK LEPTON
23.	<u>Mole</u>	QUARK LEPTON BOSON technicians
24.	<u>Elementary Particle</u>	QUARK ATOM
25.	<u>Bring the Conductivity</u>	QUARK LEPTON
26.	<u>Mass Charge Spin</u>	QUARK LEPTON BOSON ATOM
27.	<u>Quantum</u>	QUARK LEPTON BOSON ATOM technicians
28.	<u>Fusion</u>	QUARK BOSON ATOM
29.	<u>Synchrotron</u>	QUARK BOSON technicians
30.	<u>Hypercharge</u>	QUARK LEPTON ATOM technicians
31.	<u>Isospin</u>	QUARK LEPTON BOSON ATOM



MUSICAL NUMBERS (cont.)

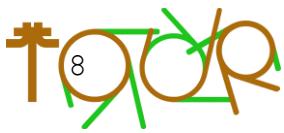
♪ #	Title	Character(s)
32.	<u>Subatomic</u>	QUARK ATOM technicians
33.	<u>Meson</u>	QUARK BOSON ATOM
34.	<u>Pion</u>	QUARK ATOM
35.	<u>Deuterium</u>	QUARK ATOM
36.	<u>Electron</u>	QUARK LEPTON technicians
37.	<u>Positron</u>	QUARK BOSON
38.	<u>Fission</u>	QUARK BOSON ATOM
39.	<u>Parity</u>	QUARK BOSON technicians
40.	<u>Baryon</u>	QUARK LEPTON BOSON ATOM
41.	<u>Decay</u>	QUARK LEPTON BOSON ATOM particles
42.	<u>Supersymmetry</u>	QUARK LEPTON BOSON ATOM particles
43.	<u>Knot</u>	COMPANY

SCENES & SET DESIGNS

Act	Page	Location	SET props
I	8	University	PARTICLE BOARD displays a schedule, holds a box of tacks, hides a field line diagram DESK holds horseshoe magnets(4+) with a note stuck to a magnet, a field line diagram, a packet, a pen, a thesis, a decorative box hiding a magnet tambourine, packets, scantrons, papers, alarm
I	54	Desertron	ABANDONED PARTICLE ACCELERATOR operator's control, cash
I	76	Magnet Factory	PARTICLE BOARD displays tacks DESK holding magnets, metals, a light bulb, wire packets
II	88	Accelerator	COLLIDER treasures, papers, pens, operator's control, magnets
III	129	Quantum World	COLLIDER



ACT I



1. EIGEN

SCENE i

[University]

(ATOM arrives, irregularly playing a tambourine. They quantum tango.)

ATOM

Oscillations. Know what? What is what made of? Who? I make up things as usual. I am just filled with protons! Electrons...

(Depressing.)

Neutrons.

(Shrugging. Demonstrating the tambourine.)

You're on an electromagnetic field trip. Who's ecstatic for the atom smasher?! That'll be halfway, after we grab our subs.

(Holding a zill of the tambourine.)

First, we are going to review some scientific principles.

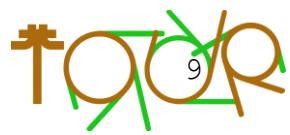
(Twirling their finger around the tambourine.)

We'll circle around. To you, it'll be a blink of an eye. To us, a lifetime of our wave? I'll make up all things along the way. All human stories...

(LEPTON rushes in, carrying the scantrons. She orbits ATOM. She wildly roams around.)

[The space brightens.]

(BOSON restlessly strolls in.)



(*STUDENTS run in and orbit AUDIENCE MEMBERS. They bring in a desk and a particle board, which displays a schedule and holds a box of tacks. They conceal the desk behind the particle board.*)

ATOM (cont.)

Full of...

2. SYMMETRY

(*STUDENTS disorderedly orbit ATOM.*)

ATOM

PARTICLES.
YOU ARE NOT
SYMMETRICAL
PARTLY DUE
TO ME,
ATOMIC DISORGANIZATION.

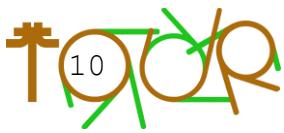
(*LEPTON hands some scantrons to STUDENTS.*)

(*STUDENTS increasingly grow orderly.*)

LEPTON

THESE SCHOLARS.
ALL WILL SPARK
WELL-ROUNDEDNESS IN
PART FROM
SUBJECTS,
UNCOVERED WITHIN THE SCATTERING.

(*Dumping the scantrons into ATOM's arms.*)



BOSON

ENLIGHTEN.
I HEAR NEWS.
AN EXCHANGE STUDENT.
BRIGHTER
THAN ME.
BE READY FOR A DIFFERENT WAVELENGTH.

(STUDENTS try to synchronize but are asynchronous.)

STUDENTS

SYMMETRY...
SYMMETRY.
WE DREAM TO BE WELL-ROUNDED.
WE'LL BE A PERFECT SPHERE.

(Barely spinning.)

ATOM

PARTICLES.
STABLE WORLD.
OSCILLATIONS!

(Greeting the world by waving their arm.)

PARTLY DUE
TO ME,
I MADE YOU, EVERYTHING ABOUT YOU.

[A colourful presence spills into the space.]

(STUDENTS grow synchronous.)

STUDENTS

SYMMETRY.
WE'LL COME AROUND FULL CIRCLE.
LET US BEGIN THE TOUR.

(Scattering around.)

(LEPTON takes the scantrons from ATOM. She scatters away.)

(BOSON intriguingly observes. He departs.)

(ATOM, speechlessly, mouths along the strange and sudden rings of the xylophone.)

(STUDENTS scatter away.)

(ATOM trip over invisible strings and lose their footing. They run themselves into the particle board to keep balance.)

3. EXCHANGE PARTICLE

(QUARK wanders in.)

QUARK

ENDED UP IN UNIVERS-TY? ESTABLISH. MEANT
MAY I JOIN A TOURING CIRCUIT? ELECTRIC— THE
LABS, DO THEY BEHOLD AND FORESEE? ESCAPED IONS.

(ATOM sees through QUARK. They dismiss her.)

WHAT AM I, PART OF? COURSES FULL?

(Humbling herself.)

EXCHANGE.
IT'S NOT WHO I AM.
THE REAL ME.
NOT BEST IN SCIENCE.
I FORCED MYSELF.
GIVE MY ALL TO PHYSICS.
MY PARTING GOALS.



12

ATOM

DOWN, UP, BOTTOM, TOP, CHARM, STRANGE.

(ATOM scans the schedule on the particle board.)

QUARK.

(QUARK swiftly rips out the schedule.)

QUARK

DID I GET IN...?

(Reading the schedule.)

THE LECTURE TAUGHT UNDER BOSON!
PUPIL UNDER CHILD PRODIGY! HE WHO MAKES LIGHT
OF ALL EXPERIMENTS. ENLIGHTENED. NOT SO LONG 'GO
THAT ATOMS WERE BLOWING MY MIND...

(ATOM departs with the tambourine.)

(QUARK aches.)

PART OF YOU YANKED ME WITH THIS EX—

(Ripping apart and dropping the schedule.)

CHANGING,
DEGREE'S
SO COLD.

(Nearing the particle board.)

THIS FIELD'S
HEATED.

(Grabbing a tack from the box.)

CUTTHROAT.

*(Hastily putting the tack back in the box.
She spills the tacks onto the floor.)*

ACA— DAMN
ME. UP.

(*QUARK kneels. She sensitively picks up the tacks.*)

QUARK (cont.)

BOTTOM.

TOP. DOWN.

STRANGE. CHARM.

(*Grabbing the box.*)

STANDARD,

MODELLED

STUDENT.

ACADEMIA.

(*Churning the tacks in her hand. She boldly discards the box. She innovatively pins the tacks onto the particle board. She suddenly feels wedged.*)

STATICS CONSERVE JUST WELL-CONNECTED THEORETICAL PHYSICISTS.

(*Observing the tacks. She moves herself around the space, relative to the formation of the tacks on the particle board.*)

BUT DYNAMICS,

TORQUE ANGLING UNCONNECTED ME TO BEST ALL PHYSICISTS!

GAIN, LOSE, ELECT ON BEING EXPERIMENTAL!

(*Picking up the schedule. She attaches the schedule to the particle board.*)

MAY NOT GET TO KNOW, BUT IT'LL FLOW, EXPLANATIONS.

CAN'T WAIT FOR BOSON. WHAT'S IN CORE? HOW'S HIS WORKLOAD?

IDEAS COME SO FAR. MATTERS, THEY WILL COME TO ME.
PARTICLE BOARD, THANKS FOR THIS EXCHANGE.

(*Knocking on the particle board. She promptly gets a move on.*)

4 . TORSION

(*LEPTON strolls in.*)



(*QUARK collides into LEPTON.*)

(*LEPTON twists herself into a pretzel.*)

LEPTON

ДЕРЬМО (der'mo). TORSION.

(*QUARK helps LEPTON up.*)

TWISTED СУКА (súka).

QUARK

MEAN FREE PATH.

MEANT NO HARM.

LEPTON

WHY THE RUSHING?

(*QUARK tries to flee.*)

(*LEPTON grabs ahold of QUARK.*)

TAKE COURSE LIGHTLY.

QUARK

A DEGREE
NEEDS ALL THESE
TORSIONS, TURNS
TO BE YOU.

(*LEPTON releases QUARK.*)

LEPTON

YOU UNDERGRADS...
 THERE'S NO TORSION
 MORE TORTUROUS
 THAN MATTERS THAT
 TRY TO FIT IN.

(Motioning towards herself.)

SOON CROWNED DOCTORAL.

(Directing out.)

LABS, THEY'RE A BLAST.

(Adjusting herself.)

MUST NOT DECAY.
 THE NAME'S LEPTON.

(Hurrying off.)

5. AVAILABLE ENERGY

QUARK

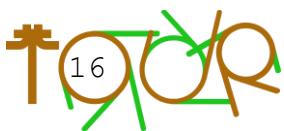
AVAILING MASTER
 ENERGIZED FAILED NEWCOMER.
 WE SHARED A DEVOTION, CAREER IN PHYSICS.
 DISTRIBUTION, FIXED
 AMOUNT OF ENDURANCE 'MONGST
 IDENTICAL PERSONS. ACTIVATE KINEMATICS!

(Disorderly moving about.)

FREE AVAILABLE ENERGY!
 I'LL ENTAIL THE MECHANICS!
 I'LL UPSCALE THE MAGNETICS!
 I'LL UNVEIL THE DYNAMICS!
 I'LL AVAIL IN ALL PHYSICS!
 I'LL PREVAIL AS PHYSICIST!
 FREE KINETIC ENERGY!
 NOT DERAILED TRAINING!

(Focusing her energy.)

GET LOST IN THE CALCULUS!



(*QUARK rigidly moves about.*)

QUARK (cont.)

FREE AVAILABLE ENERGY!
I'LL CURTAIL ALL THE LIMITS!
I'LL ASSAIL DERIVATIVES!
I'LL DETAIL THE STATISTICS!
I'LL AVAIL ALL THINGS PHYSICS!
I'LL PREVAIL AS PHYSICIST!
FREE KINETIC ENERGY!
AND NOT FAIL SPIRIT!

(*Condensing her energy.*)

BE FLUID IN MECHANICS!

(*Smoothly moving about.*)

FREE AVAILABLE ENERGY!
I'LL INHALE GAS WHO ARE QUICK!
I'LL EXHALE ALL THAT'S HOMESICK!
I'LL ENGAIL THEM WITH MY WITS!
I'LL AVAIL THOSE IN PHYSICS!
I'LL PREVAIL AS PHYSICIST!
FREE KINETIC ENERGY!

(*ATOM and STUDENTS enter.*)

(*QUARK adjusts herself.*)

DON'T BLACKMAIL SCEPTICS.
ENTROPIC TIMES THEN
CHAOS. PUT WORK AS YOUR PRIME.
UNIT IS ALWAYS TIME. A DEGRADATION,
'LECTROSTATICS CLASS.
AVOID THAT COLLISION COURSE.
COLLAPSE THROUGH SYNERGY. ENERGIZE POTENTIAL.

6. TACHYON

(*QUARK, ATOM, and STUDENTS gather around.*)

(ATOM speaks after the long silence.)

ATOM

ON BEHALF OF THE TACET.
PROFESSOR
IS REAL SHARP AND TACKY-ish.

[The space slightly brightens.]

TRULY BRIGHT AND TACTFUL
ON TIME,
BOSON.

STUDENTs

HE SHOULD BE FAST AS LIGHT.
PROFESSION
LOST ITS MIND, SIGHT OF US ALL.
HE'S GLUON TO PHOTON?
W?
Z...?

QUARK

HE'S ANSWERING EMAILS.

(STUDENTS tap their heads.)

STUDENTs

TACHYONIC.

[The space intensely brightens.]

(BOSON tactfully arrives. He flips the particle board.)



18

[The particle board displays a colourful field line diagram, familiar to the colourful presence earlier.]

STUDENT

PROTONS !

(BOSON dismisses the answer.)

(ATOM tugs at their chest.)

STUDENT

NEUTRONS !

STUDENT

ELECTRONS !

(ATOM lets go of their chest.)

[An explosion audibly rings after a long silence.]

(QUARK solely hears the explosion.)

STUDENT

PHONONS !

STUDENT

BOSON?

(*BOSON seems taken off guard and blushes.*)

ATOM

BORONS... COLOUR!

(*STUDENTS ponder.*)

STASIS!

(*STUDENTS hysterically laugh.*)

(*ATOM seems brokenhearted.*)

(*QUARK sticks out.*)

(*STUDENTS ponder.*)

QUARK

CHROMODYNAMICS.

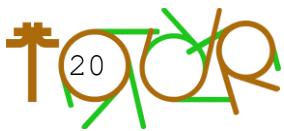
BOSON

TACHYON...

STUDENTS

YOU' RE QUARK!

(*BOSON unites QUARK, ATOM, and STUDENTS.*)

**BOSON**

LET IT FLOW.
DO BUILD YOUR NEST.
DO THEY ATTRACT
ATTENTION

STUDENTs

'LECTRICITY!
WITH 'LECTRONICS!
SO MAGNETIC!

QUARK

YOU WOULD LET ME
BUILD MYSELF IN YOUR
LABORATORY?

STUDENTs

IT'S EXCLUSIVE!
NO EXPERIENCE!
SESSION IS FULL!

(BOSON nods. He pushes the particle board away, revealing horseshoe magnets on a desk.)

BOSON

PERFORM A CONTROLLED EXPERIMENT. FORCE. ATTRACTING.
USING FERROMAGNETS. PERMANENT DIPOLES. REMOVE FIELDS
OUTSIDE. DISCIPLES. ADVICE. DON'T REDUCE TO ZERO.
SPONTANEOUS REACTION. TRY COBALT, YOUR SAKE.
ELECTRONS. UNPAIRED. COVALENT.

STUDENTs

TAU!

(Scattering. They each grab a magnet.)

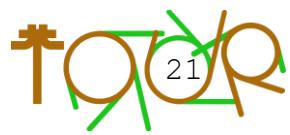
(A STUDENT points their magnet at another STUDENT.)

STUDENT

COMPASS FACES...

STUDENTs

ATTRACTION HERE!



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

STUDENT

YOUR FRIDGE RUNNING?

STUDENTS

HA, CAUSE MAGNETS!

(ATOM reaches for another STUDENT.)

ATOM

YOU SEE, MAGNATE.

STUDENTS

STILL THE BORON!

(BOSON takes two magnets. He extends one to QUARK.)

BOSON

PARAMAGNET?

QUARK

I WOULD BE HONOURED.

(Accepting the magnet.)

STUDENTS

OH INDUCTANCE!

QUARK

SAY, WE'RE 'TRACTED.



STUDENTs

A LITTLE FORCED!

BOSON

REPEL!

(*Each pair of STUDENTs distance themselves, forming magnetic formations. In hand, they dance with magnets facing each other.*)

(*LEPTON passes the experiment. She appears enjoyably disheveled. She takes a brief moment to orbit ATOM.*)

(*QUARK seems distracted by LEPTON. She increasingly repels away from BOSON.*)

(*Their experiment concludes.*)

6a. TACHYON (reprise)

(*BOSON notices the note attached to his magnet. He detaches and reads the note.*)

BOSON

I HAVE BEEN CHOSEN, DIRECTOR OF THE ACCELERATOR...

STUDENTs

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

(*BOSON remains silent.*)

STUDENTs (cont.)

PROFESSOR'S SPEECHLESS.
THINK IT OVER!

(*BOSON waves STUDENTS off.*)

WE WILL REPEL!

(*Departing.*)

7. NUCLIDE

(*QUARK heads over to the desk. She writes a thesis.*)

ATOM

PERHAPS YOU COULD STAY LONGER IF YOU TRIED
SUPERPOSITION?
MASSLESS APPEALS DOES NOT LEAVE US TO BE TIGHTLY
BINDING.
ENERGY STATES OUR STABILITY ALONG THE YEARS HAVE BEEN
A NUCLIDE, A RIDE.

(*Growing disheartened at the sight of QUARK.*)

BOSON

BORON WAS WHAT OTHERS COULD ONLY SEE WITHIN
YOURSELF.
FIVE POSITIVE, NEGATIVE, NEUTRAL SENSES WITHIN YOU.
ATOMIC RADIOACTIVITY DOESN'T HAVE TO HIT YOU, JUST LET
THIS SLIDE.

(*Embracing ATOM.*)



ATOM

AT LEAST YOU SAW ME AS A SYMBOL BESIDES JUST A NUMBER.
BEFORE YOU LEAVE, YOU'RE GENEROUS TO PROVIDE ME SOME
LIGHT.

(Splitting from BOSON.)

THANK YOU FOR THE RECOMMENDATIONS TO LEVELS AMONGST
GRAD SCHOOL'S NUCLIDES, HALF-LIFE.

(Departing.)

BOSON

PICK UP MANY POSITIVE CIRCLES FOR A CHANGE, WILL YOU?!
ATOM, YOU DO MATTER AND MAKE THE BEST OF EVERYTHING.
YOU ONCE THEORETICALLY DID AND NOW WHAT'S LEFT IS TO
DEAL WITH THIS NUCLIDE?

(Focusing on QUARK.)

8 . ENTANGLEMENT

*(QUARK unveils and gifts the thesis to
BOSON.)*

(BOSON reads the thesis.)

BOSON

ÉTUDE THÉORIQUES DES MAGNÉTIQUE MOLÉCULAIRES (e-tude
there-reek des mag-ne-teak mo-le-cu-lairs).

(Setting aside the thesis.)

FLUXING DOWN AN UNDERGRADUATE THESIS?

(QUARK nods.)

LEFT COLLEGE IN FRACTION OF TIME BUT STILL PROUD,
YOU MAY JUST PROFESS

(BOSON motions towards himself. He is in the mood to tango.)

BOSON (cont.)

IN NO TIME.

ARE YOU INTO QUANTUM ENTANGLEMENT?

STILL MAGNETIC EXCITATION TO BE FOUND.

YOU GIVEN PICKING UP PHOTONS FOR A CHANCE?

A COUPLED QUBITS?

LITTLE HIGH ENERGY.

(Grabbing a magnet. He points the magnet at QUARK. He chuckles. He sets down the magnet.)

MAGNETIC, BARS, MOMENTS.

(Shaking QUARK.)

WHEN WE'RE YOUNG, MAKING WAVES.

PARTICLE HORIZON'S A FLASH,

(Releasing QUARK.)

REACH ENLIGHTENMENT.

(QUARK distances.)

JUST A PARTICLE ROAMING IN A VACUUM.

FOUND A PART OF ME AS RAW AND RESOURCEFUL.

MAGNET-FOCUSED AND COME ON PARTICLE BOARD.

(Attaching the particle accelerator blueprints to the particle board.)

EXCEL IN THE ACCELERATOR.

(Forcing QUARK to attach the field line diagram to the particle board.)

RESEARCH COLLABORATION.

INDEPENDENT SCHOLAR.

(Shrugging off.)

VACUUM, THERE'S NOTHING TO PROVE—

(Switching topics.)

BOSON (cont.)

'VIDE THAT STEM GRANTS FOR YOU.
DISCOVERIES. SYMMETRY.
THE JOURNEYS. QUITE LOOPY.

(*QUARK eyes the field line diagram.*)

(*BOSON pulls out the decorative box from the desk. He gets on one knee in front of QUARK.*)

FIELD THEORIES PROPOSED, WILL YOU
(*Opening the box, revealing a magnet.*)
QUANTUM ENTANGLE ME?

9. CROSSING FIELD LINES

QUARK

BOSON.
BOSON...
FIELD LINES.
FIELD LINES...
ARE CROSSED.
ARE CROSSED...
FIELD LINES SHALL NEVER BE CROSSED.

(*Pointing to the field line diagram.*)
THE FIELD LINES HERE, CROSSED.

BOSON

I CROSSED?
(*Extending his arm to QUARK.*)
I CROSSED?

(*QUARK draws the line with her fingers.*)

BOSON (cont.)

I CROSSED?

(*Crossing the line.*)

ENTERED.

(*Pointing out the space.*)

YOU ENTERED.

(*Pointing to his temple.*)

YOU ENTERED.

(*Pointing to his heart.*)

WE LOOP.

(*Walking in a helix-like path.*)

WE LOOP.

(*Pacing back and forth.*)

MONOPOLES.

(*QUARK disapproves.*)

MONOPOLES...

CROSSED FIELD LINES.

(*Retreating to the desk.*)

END TOUR.

END TOUR.

END TOUR.

END OUR...

END OUR TOUR.

END OUR TOUR.

QUARK

YOU ARE MOVING TOO FAST FOR ME...

(*Motioning to herself.*)



QUARK (cont.)

I'M RANDOM...
OUR FIELD LINES CAN'T EVER BE CROSSED.

(*BOSON grabs the thesis. He takes a pen. He crosses the thesis with a stroke of the pen. He hands the thesis to QUARK.*)

(*QUARK grows enraged. She hesitantly discards the thesis. She silently expresses that she has the grit to finish her degree.*)

10. CENTRATION

(*BOSON takes out a physics packet. He throws the packet at QUARK.*)

BOSON

TENURE AS PROFESSOR ENDS LATER. EVERY LECTURE,
LABORATORY, COLLOQUIUM. YOUR SCHOOLING WILL FEEL LIKE
TEN YEARS.

(*QUARK picks up the packet.*)

COULD YOU CONCENTRATE?
STUDENT.

(*QUARK begins solving.*)

OH, YOU INFURIATE.
R. A'S.
DETERIORATE.
CONCEN—

(RESEARCH ASSISTANTS march in, holding packets.)

BOSON

RESEARCH ASSISTANTS

'TRATE.

(RESEARCH ASSISTANTS stand by BOSON.)

RESEARCH ASSISTANTS

IN COMES INTERACTION.
OH THE NUCLEATION.
A PLASMIC COLLISION.

(Singularly throwing a packet at QUARK.)

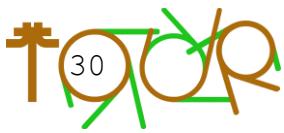
IN NAME OF CENTRATION.
WHY THE INFURATION?
LEADS TO DETERIORATION.
CONCENTRATE.

BOSON

WEAK.
BUT YOUR INTERACTION HAS ALWAYS IMPACTED ME.
FIRM NUCLEATION.
COUPLED.
QUARK-GLUON PLASMA.
QUANTA.
DEFY CENTRATION.

QUARK

FIELD LINES CROSS
ONLY IF I DROP THE QUALITY OF MY DATA.
YOUR INHIBITION'S
ERROR.
THIS OLIGOMER'S
FLUID.



BOSON

DON'T CONCENTRATE NOW.
YOU LEARN QUICK.
THE MATTER BETWEEN US, THE ONLY THING YOU'LL EVER
CROSS.
OLIGOMERS, NO UNITS WILL EVER BE REPEATED.
MASTER EQUATION.

(RESEARCH ASSISTANTS head in various directions.)

QUANTUM
ARE AGGREGATION.
OUTLIER!

(Pointing to QUARK.)

APPLY CENTRATION.

(RESEARCH ASSISTANTS encircle QUARK.)

CONCEN—

BOSON **RESEARCH ASSISTANTS**
TRATE.

(RESEARCH ASSISTANTS throw all the packets at QUARK, like a circular firing squad.)

RESEARCH ASSISTANTS
ALL THE FRAGMENTATION.
NOT A GLOBAL FITTING.
JUST SCALING EXPONENT.
HAVE RESPECT FOR RATE LAWS.

(QUARK kneels.)

RESEARCH ASSISTANTS (cont.)

QUANTUM INDETERMINC-.
PRIMORIDAL BEHAVIOURS.
CONCENTRATE.

(*BOSON snatches the packet from QUARK.*)

CONCENTRATION.
CAN YOU THINK RIGHT?

(*BOSON marks the packet.*)

CENTRATE.

(*BOSON hands the packet to QUARK.*)

CONCENTRATION.
CAN YOU BELIEVE?

(*QUARK brokenheartedly reads the packet.*)

CENTRATE.

(*BOSON grabs a rolled-up diploma.*)

CONCENTRATION.
CAN YOU FEEL IT?

(*BOSON remorsefully slaps QUARK with the diploma.*)



(*QUARK falls back, unconscious.*)

(*BOSON drops the diploma onto QUARK.*)

RESEARCH ASSISTANTS (cont.)

CENTRATE.

CONCENTRATION.

(*Removing the particle board and the desk.*)

CAN'T

CONCENTRATE.

CENTRATE.

(*BOSON and RESEARCH ASSISTANTS march off.*)

11. G

(*ATOM and PROFESSORS wander in. They unroll the diploma. They pick up and read the packets. They discard the diploma.*)

ATOM

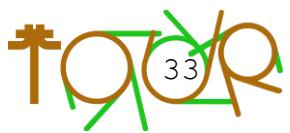
GRADES DO NOT FIT THE CURVATURE, QUARK.

PROFESSOR

I Q IS LEFT TO BE TRULY DESIRED.

PROFESSOR

SUCCESS IS THAT, NOT WITHIN YOUR VERY REACH.



PROFESSOR

B'S STAY IN TRASH BINS OF HISTORY.

PROFESSOR

LENS, THERE IS NONE THAT WE WILL EVER SEE THROUGH.

ATOM

WHAT THE F'S, DO ATTEMPT QUANTUM SUICIDE.

(QUARK sits up.)

PROFESSOR

GRAVITY.

ATOM

PROFESSORs

FORCE YOU'LL BRING IS G.

(Leveling with QUARK.)

GRAD PROGRAMS ARE EXCLUSIVE.

DON'T HAVE WHAT IT TAKES FOR A MASTER'S.

(Gathering the packets.)

(LEPTON rushes in. She orbits ATOM.)

LEPTON

БЛИН (blin).

I'M LATE, SORRY, PROFESS-...

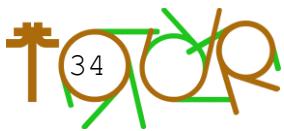
(Noticing QUARK.)

WHAT A STRANGE DAY TO SELECT DOCTORATE CANDIDATES.

(Heading to QUARK.)

CHARMING MATTERS WITHIN YOU.

FAMILIARITY.



(*LEPTON recognizes QUARK.*)

LEPTON (cont.)

YOU MADE ME MISS IT!

YOU SAVED ME THE TROUBLE OF HAVING MISSED OUT ON AN ATOM SMASHING ACCIDENT.

(*Embracing QUARK.*)

(*PROFESSORS motions for LEPTON to not disclose that information.*)

PROFESSORS

AFFLICT.

PROFESSOR

FORCE CLASSIFIED, JEEZ.
BRIGHT ADVISOR, LEPTON.
FIND ONE UNBENT.
NOT THIS DELINQUENT.

LEPTON

I KNOW G-FORCE BEING

PROFESSORS

YOU'LL KNOW G-FORCE.

PROFESSOR

A FORMER DOCTORAL CANDIDATE.

A BURDEN SO PECULIAR.
WEAK.

ATOM

PUPIL BRINGS LONG DAYS, SHORT NIGHTS,
ATOMIC WEEKS.

LEPTON (cont.)

PHYSICS, CLASSIC, QUANTUM,
BASIC, NEVER SLEEP.

PROFESSOR

EQUATIONS, UNFIT SO
YOU HAVE TO TWEAK.

(*LEPTON takes the packet from ATOM. She reads the packet.*)

LEPTON

AT THE VERY LEAST, SHE HAS PRINCIPLED HALF SPINS!

ATOM

SPIN IT.

PROFESSORS

FLUX, GIVEN NONE.

PROFESSOR

HER VARIABLE IS JUST A MASS.

LEPTON

CLASSIFICATION, YOU'VE PUT
ALL US IN, NO MORE, NO
LESS, INTEGERS, BUT SHE
HAS ELECTRICITY.

ATOM

YOU KNOW THAT I KNOW
THAT THERE'S LOTS TO
SURPASS.

PROFESSOR

METHODS, NONE
INTEGRAL ITS ANGLING
FOR.

(*LEPTON returns the packet to ATOM.*)

ATOM

GRAVITY.

LEPTON

FELT I FORCE THESE G'S.

PROFESSORS

FORCE YOU'LL FEEL ARE
G'S.



36

(LEPTON takes QUARK out for a spin.)

(QUARK flounders around.)

(ATOM and PROFESSORS humbly depart.)

LEPTON

YOU SURE NEED SOME ANGULAR MOMENTUM IN YOU.
IDEALLY, COMMIT TO OCCUPY THIS STATE.

(QUARK seems hesitant.)

MATTERS THAT ARE PARTICLES WITHIN YOU.

(ATOM and PROFESSORS remain unpresent.)

ATOM

PROFESSORs

OCCUPY STATE!

LEPTON

NAME?

(QUARK whispers into LEPTON's ear.)

QUARK?

SEEMS TO HAVE A LACK OF SPIN.

FIRM.

I AM IN ANY CIRCLES, ORBITALS.

ДРУГ (drug).

YOU'RE A FORCE TO BE WEIGHTED UPON THEE!
STATE. HAVE TO SPIN TO!

(Spinning off.)

12. ANYON

QUARK

DIMENSION.
IT'S TWO.
OPEN.
ANYON.
THIS DEGREE OF FREEDOM!
NOW IS THE TIME FOR PHASE SHIFTS.

(Twirling.)

JOINT, THIS EXCHANGE HAS GIVEN ME.
HOLD FERMIONS.
PICK UP PHASES BY WAVE FUNCTIONS!

[The space brightens.]

BOSON...

(Slowing the spin.)

A PART OF ME FEELS LIKE ZERO.
THIS RELAXATION STATES: YOU ARE ALPHA. PI.
INCOHERENT ELECTRON STATES: ANYONS, ANYONE? ABELIAN?
DEGENERATE GROUND STATES: LEPTON.
A NON-ABELIAN...
I CAN'T TIE UP THIS QUANTUM KNOT.
QUANTUM WEIGHT. ENVIRONMENT. OPERATIONS.
NO NOISE. THERE ARE ONLY ENERGY GAPS.
QUBITS. YOU ARE A QUANTUM COMPUTER.
DON'T FLUXUATE. I CARE FOR ANYONS. TRY.

13. VALENCE

(STUDENTS wander about.)



STUDENTs

IT'S HIGHER ENERGY LEVEL.

THIS HIGHER EDUCATION HAUL.

IT'S HIGHER ENERGY LEVEL.

THIS HIGHER EDUCATION HAUL.

(LEPTON trudges in, carrying an alarm and paperwork with scantrons.)

QUARK

OSCILLATIONS DOC!

STUDENTs

IT'S HIGHER ENERGY LEVEL.

THIS HIGHER EDUCATION HAUL.

QUARK

ALTERNATING CURRENTS?

STUDENTs

IT'S HIGHER ENERGY LEVEL.

THIS HIGHER EDUCATION HAUL.

QUARK

SPECIAL STATES TODAY?

STUDENTs

IT'S HIGHER ENERGY LEVEL.

THIS HIGHER EDUCATION HAUL.

QUARK

ANY PHENOMENA?

STUDENTs

IT'S HIGHER ENERGY LEVEL.

THIS HIGHER EDUCATION HAUL.

LEPTON

ALARM, INFREQUEN-

(Chuckling the alarm.)

STUDENTs

THIS EMISSION LEADS TO GROUND STATE.

THAT ADMISSION LEAVES YA GROUNDED.

(LEPTON hands a paper to QUARK.)

LEPTON

SEE

STUDENTs

WHO IS THIS EDUCATED SPOIL?

WHAT A LOW ENERGY LEVEL.

LEPTON

TO INTEGRATION.

STUDENTs

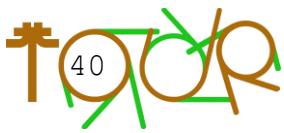
WHO IS THIS EDUCATED SPOIL?

WHAT A LOW ENERGY LEVEL.

(LEPTON dumps the paperwork into QUARK's arms.)

LEPTON

DERIVE ON.



STUDENTs

WHO IS THIS EDUCATED
SPOIL?

WHAT A LOW ENERGY
LEVEL.

(QUARK demonstrably questions the content of the paperwork.)

LEPTON

POSTULATE. A POS-
THINK SPHERE.

STUDENTs

WHO IS THIS EDUCATED
SPOIL?

WHAT A LOW ENERGY
LEVEL.

QUARK

CHECK VALIDITY.

STUDENTs

JUMP UP THOSE ENERGY
LEVELS!

BUMP OUT SOME ENDLESS
CREDENTIALS!

(LEPTON eyes STUDENTs.)

QUARK

ASSUME MY MOTIVE.

FIRST ORDER NOTED.

STUDENTs

MOTIVATION.
MAKE ASSUMPTIONS.
NATURAL EQUATIONS.
DIRECT NOTATIONS.

(QUARK disorderly eyes STUDENTs.)

QUARK (cont.)

FRESH SCHOLARS UNVEILED.

SURVEILLANCE.

SERVE VALENCE.

STUDENTs (cont.)

FRESH GENERATIONS.

INFORMATION.

OBSERVATION.

SHELLED ELECTRONS!

LEPTON

TEACHING ASSISTANT.

STUDENTs

WE HAVE AN IMPORTANT QUESTION.

LEPTON

THESE STUDENTS

STUDENTs

WE HAVE AN IMPORTANT QUESTION.

LEPTON

SUCK ENERGY

STUDENTs

WE HAVE AN IMPORTANT QUESTION.

LEPTON

OUT OF YOU.

STUDENTs

WE HAVE AN IMPORTANT QUESTION.



QUARK

STATE, I'M FAMILIAR.

STUDENTs

THIS MIGHT BE A
STUPID QUESTION.

(*QUARK coalesces STUDENTs.*)

QUARK

CONVECTION, IT'S CHILL.

STUDENTs

GEE PROFESSOR LEPTON.

QUARK. QUARK.

QUARK

OPTICAL, LOOKS GOOD.

STUDENTs

GEE PROFESSOR LEPTON.

QUARK. QUARK.

QUARK

BASICALLY, I'M HIP.

STUDENTs

GEE PROFESSOR LEPTON.

QUARK. QUARK.

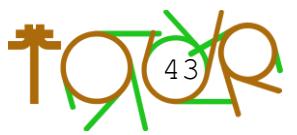
QUARK

I'LL ADDRESS ALL QUESTIONS!

STUDENTs

GEE PROFESSOR LEPTON.

QUARK. QUARK.



LEPTON

SO FAILING. ASK IF

STUDENTs

THANK YOU, QUARK!
THANK YOU, QUARK!

NO THANKS TO YOU,
LEPTON.

LEPTON

QUESTIONS 'RISE BRIEFLY

STUDENTs

THANK YOU, QUARK!
THANK YOU, QUARK!

NO THANKS TO YOU,
LEPTON.

LEPTON

THEN YOU SNUB. NO

STUDENTs

THANK YOU, QUARK!
THANK YOU, QUARK!

NO THANKS TO YOU,
LEPTON.

LEPTON

NEED VALIDATION.

STUDENTs

THANK YOU, QUARK!
THANK YOU, QUARK!

NO THANKS TO YOU,
LEPTON.

(Becoming rigid.)

(ATOM struts in.)

**ATOM**

STEAL 'LECTRICITY. I'LL
SURVEIL HERE. HIGHER
LEVEL. HOW'S THAT GOING?

STUDENTs

EXACTLY WHAT IS SPIN?
QUARK?

(*QUARK feels flabbergasted.*)

QUARK

SPIN IS AN ODD MAGNETIC PROPERTY ENCOMPASSING QUANTUM
'LECTROMAGNETISM THEO— REALLY, WE SHOULD 'DRESS THE
MATTER HERE.

ATOM

YOU CAN'T SPIN THIS.
YOU CAN'T SPIN THIS.
YOU CAN'T SPIN THIS.
YOU CAN'T SPIN THIS.

STUDENTs

EXACTLY WHAT IS SPIN?
T A?

(*STUDENTs wobble.*)

QUARK

I NEED TO EIGENSTATE UP-DOWN OBSERVABLE. YOU'RE
ALWAYS IN MY SPACE?

(*Confronting ATOM.*)

ATOM

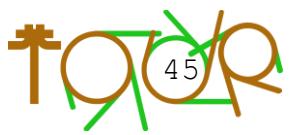
YOU CAN'T SPIN THIS.
YOU CAN'T SPIN THIS.
NEED TO MENTION.
YOU CAN'T SPIN US.

STUDENTs

EXACTLY WHAT IS SPIN?
TEACHER?

QUARK

SPACETIME FABRICATION BRINGS ABOUT LIMITATIONS, SO
LET'S

**ATOM**

YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
YOU CAN'T SPIN US.

STUDENTs

WHAT DO YOU HAVE IN
CORE FOR US?

(*QUARK herds STUDENTs together.*)

QUARK

MOVE TO STATE FORMATION, MIXED VALENCE WITHIN
FEMTOSECONDS, HEAR

ATOM

YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
YOU CAN'T SPIN US.

STUDENTs

WHAT DO YOU HAVE IN
ACCORDANCE?

QUARK

ALL THAT, QUASI-BORONS? AN EXAMINATION FILLED

ATOM

YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
YOU CAN'T SPIN US.

STUDENTs

WHAT DO YOU HAVE
THAT'LL SHOCK OUR
CORE?

(*QUARK hands out the scantrons to STUDENTs.*)

QUARK

WITH HOLES IN SCANTRONS.

**ATOM**

YOU CAN'T SPIN US.
YOU CAN'T SPIN US.
IN THEORY THOUGH,
PLEASE SHARE WITH US.

STUDENTs

WHAT DO YOU EXPECT
FROM NUCLEI?

(ATOM orbits QUARK.)

QUARK

THINK OF INSIDE-OUTSIDE YOUR MATTERS, YOU'LL FIGURE
OUT YOUR CHARGE AND YOUR CONFIGURATION. THERE'S
SOMETHING TO BEING NOBLE, GUESS.

ATOM

PLEASE SHARE WITH US.
PLEASE SHARE WITH US.
PLEASE SHARE WITH US.
PLEASE SHARE WITH US.

STUDENTs

WILL THIS MOMENTUM BE.
CURVED?
FAILURE?

QUARK

I'LL STOP WITH SURVEILLANCE WHEN THIS BASIC UNIT JUST
QUITs TAKING ENERGY!

(Grabbing ahold of ATOM.)

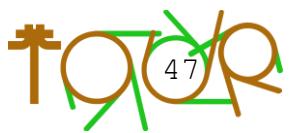
ATOM

PLEASE SHARE WITH US.
PLEASE SHARE WITH US.
PLEASE SHARE WITH US.
I SERVE VALENCE.

STUDENTs

WILL THIS MOMENTUM BE
CURVED?
VALENCE?

*(ATOM snatches the paperwork from QUARK.
They push off of her.)*



ATOM (cont.)

ENERGIES FOR
THE VALENCE!

STUDENTS (cont.)

CONTRIBUTION.
CONTRIBUTION.

IF YOU
ARE HIGHER
LEVEL
THOUGH FAILURE,
THEY CAN TOO!

CONTRIBUTION.
CONTRIBUTION.
CONTRIBUTION.
CONTRIBUTION.
CONTRIBUTION.
CONTRIBUTION.

(*LEPTON holds back QUARK.*)

LEPTON

THEY'LL GET ELECTRONS.

(*STUDENTS pass around scantrons.*)

STUDENTS

DISTRIBUTION OF THE SCANTRONS.

LEPTON

THEY'LL GROUP THE ELEMENTS.

(*STUDENTS group together.*)

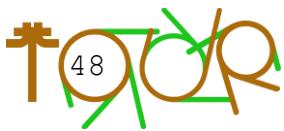
STUDENTS

NODES, ORBITALS.
NODES, ORBITALS.

NEUTRAL CIRCLES.
NEUTRAL CIRCLES.

LEPTON

THEY'LL CONFIGURATE.



(*STUDENTS form circles.*)

STUDENTS

NODES, ORBITALS.
NODES, ORBITALS.

NEUTRAL CIRCLES.
NEUTRAL CIRCLES.

LEPTON

THEY'LL COME OUT THEIR SHELLS.

(*STUDENTS move from one circle to another.*)

STUDENTS

NODES, ORBITALS.
NODES, ORBITALS.

NEUTRAL CIRCLES.
NEUTRAL CIRCLES.

LEPTON

THEY'LL FIND OUT THEY'RE VALIANT.

(*STUDENTS orbit either LEPTON and QUARK,
and/or ATOM.*)

STUDENTS

NODES, ORBITALS.
NODES, ORBITALS.

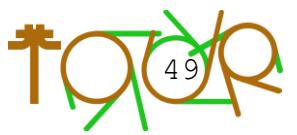
NEUTRAL CIRCLES.
NEUTRAL CIRCLES.

LEPTON

QUARK,
ASSISTANT,
YOU'LL NOT
FAIL.
QUARK,
ASSURANCE,
YOU NEED
NO VAL-

STUDENTS

MOTIVATION.
MAKE ASSUMPTIONS.
NATURAL EQUATIONS.
DIRECT NOTATIONS.
GENERATIONS.
INFORMATION.
OBSERVATION.
SHELLED ELECTRONS!



(*QUARK openly dismisses LEPTON.*)

(*LEPTON motions STUDENTS to turn in their papers to QUARK.*)

LEPTON

DON'T TAKE IT.

STUDENTS

VALENCE ELECTRONS.

VALIDATION.

(*Handing the papers to QUARK.*)

(*QUARK snubs STUDENTS.*)

STUDENTS

VALENCE ELECTRONS.

VALIDATION.

LEPTON

WRONG ENERGY LEVEL.

(*Gathering all the papers from STUDENTS.*)

STUDENTS

VALENCE ELECTRONS.

VALIDATION.

VALENCE ELECTRONS.

VALIDATION.

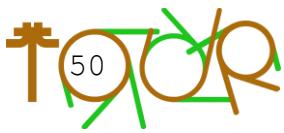
LEPTON

VALIDITY.

STUDENTS

VALENCE ELECTRONS.

VALIDATION.



LEPTON

THERE'S

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

NO NEED SEARCHING

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

VALENCE ELECTRONS.

VALIDATION.

LEPTON

VALIDITY.

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

THE HEART

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

OF PHYSICS

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

PUMPS

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

VALIDITY.

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

NEED

STUDENTs

VALENCE ELECTRONS.

VALIDATION.

LEPTON

NO VALIDATION.

*(Dumping the paperwork into QUARK's arms.)***STUDENTs**

VALENCE ELECTRONS.

VALIDATION.

VALENCE ELECTRONS.

VALIDATION.

JUMP !

BUMP !



(LEPTON departs.)

(STUDENTS orbit away.)

14. EFFUSION

(QUARK kneels. She spreads the papers out onto the floor.)

QUARK

EFFUSION.
'BOUT TO BLOW A FUSE.
LOSING FEELINGS.
MENTAL DIFFUSION.
I AM SO EFFUSION.
ACTUALLY, EFFUSION.

(Slapping the papers.)

DON'T BE CONDENSED.
LET OFF SOME STEAM.
GASES MOVE FAST.
INCREASE HEART RATE.
FIND WHAT'S GIVEN.
HOLE IN THE WALL.
LESS MOLAR MASS.
ESCAPE THIS BOX.

(Refocusing on the papers. She gathers the papers.)

EFFUSION.
WAS I A BORON?
GOT TO HAND
ELECTRONS, JUST TO BE
LENIENT. EFFUSION.
HOW ABOUT? EFFUSION.

(Tossing out the papers.)

EFFUSION.
GIVE NO EFFUSIONS.
NONE EFFUSION.

QUARK (cont.)

JUST GO EFFUSION.
I SWEAR TO EFFUSION.
YOU ALL CAN EFFUSION IT!

(Preparing for a journey.)



15. SUPER COLLIDE

SCENE ii

[Desertron]

(LEPTON elegantly arrives, clad in a rancher's uniform.)

LEPTON

HOWDY. JOIN IN THE
CIRCUIT!

(Pointing in the distance.)

HOME TO DESERTRON.
HOPE, THESE RAYS
HOLD IN. BEAMS AS FAR
AS THE EYES CAN SEE
ANY BEINGS TO
EVER TOP YOUR DISSERTATION.

QUARK

NO LABS THERE YET. WHAT KIND OF ADVISING YOU DO TO
LEAD US HERE?
MY NATURAL PHYSICS HAS BEEN TRAINED TO GET YOU COFFEE.

(LEPTON wanders off.)

END UP WITH DESERTS.

(Noticing LEPTON's disappearance.)

NOT THE COURSE TO DESERT THIS DOCTORATE!

(Motioning towards herself.)

WELL, THERE IT GOES. MY CONCLUSION.
EGO'S NEVER HYPERSENSITIVE. THIS MIND STAYS DEHYDRATED.

(LEPTON tiptoes in, sanding off an operator's control.)

LEPTON

HYPOTHESIS THAT THIS
HEARTLAND OF
INNOVATION BRINGS FREE
ENERGY. WHERE NOT JUST
MATTER EXISTS, BUT THEY
MATTER IN OUR LAWS.
IN FACT, FORCE THESE
WAVELENGTHFUL KEYS.

(Handing the control to QUARK.)

PROPEL PROTONS, SMASHING THEM INTO A GRAPHITE'S NUCLEI,
PRODUCING NEUTRONS WITH PIONS, POSITIVE NEGATIVE,
TAKING THOSE POSITIVITIES, FOCUSED IN A BEAM SO THEY'D.
PARDON MY, DECAY.
JUST THEORIZ...
SUPER COLLIDE.

(QUARK presses on the control.)

BEAMS SUPER COLLIDE!

(Preparing for the collision. When nothing happens, she takes over the control.)

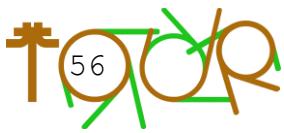
БЛЯДЬ (blyat).
GIVE ME A MOMENT.
HOLD UP UNIVERSE!

(Trying to raise QUARK.)

QUARK.

[Particles collide.]

BEHOLD THE DESERTRON!
SUPERCONDUCTING SUPER COLLIDER!
A SMASH.



[*Particles move along and around.*]

QUARK

STRANGE.

FERMIOnS.

MUONS.

'TRINOS.

GLUONS.

CHARM.

QUARK

QUANTA.

TECHNICIANs

RAYs!

QUARK

(*Feeling matters.*)

ENERGY BUNDLES.

QUARK

STANDARD

TECHNICIANs

FORCE!

QUARK

MODEL.

(*Growing antsy.*)

THEORIZED

QUARK

'NOUGH.

TECHNICIANs

NOWT.

(*QUARK deactivates the control.*)

(TECHNICIANS collide with one another.)

TECHNICIANS

QUARK! JUST GOT YOURSELF ROLLING!	GET PARTICLES IN TUBE.
SPIN PARTICLES AT HOME.	SAY HI TO 'LECTRONS.
PASS BY NICE PROTONS.	FEEL THE ENERGY.
STEER MAGNETIC FIELDS.	LIGHTEN UP, WILL YA?
REACH THE SPEED OF LIGHT.	

LEPTON

COL-

(TECHNICIANS collide and gather.)

TECHNICIANS

'LIDE!	
SCIENTISTS, BUILDERS, PLAYERS, FRIENDS, AND	
FAMILY ALL	
GATHER HERE THERE AROUND HUMAN'S GREATEST	
FEAT	
UNDER.	EVER.

LEPTON

BUILD	
THE MACHINE THAT PURSUES ALL OF OUR DAYDREAMS.	
FULFILL UNSEEN WONDERS WITH PROTON BEAMS.	
DARK FIELD.	

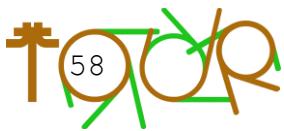
(Interacting and colliding.)

TECHNICIANS

LUXURY SCIENCE IN A DESERT!

(Interacting and colliding.)

(QUARK rein in the particles.)



LEPTON

AT DESERTRON.

TECHNICIANS

ENERGY, CAN YOU FEEL
IT, GAIN THE MAGNET!

QUARK

SUPERNATURAL.

REACH THE SPEED OF

LEPTON

CONDUCT YOURSELF.

LIGHT!

QUARK

SUPERVISION.

ANTI-QUARK MATTERS

LEPTON

COLLIDE OTHERS.

SUPER COL-

(Setting QUARK on a collision course.)

'LIDE!

HER WAY OUT BARYONS! SUPER COLLIDE BEYOND!

SUPERCONDUCTIVITY MEDIUM

MODELLED!

SMASH THE PARTICLES TOGETHER FOR ENTIRE WORLD
RECORD AROUND FORTY TERA 'LECTRON
VOLTS!

(Gathering around the control.)

GOD PARTICLE BURIED RIGHT UNDER THE DESERTRON.

(Expanding.)

QUADRUPOLE LIGHTEN UP THE MOMENT. SUPER
COLLIDER!

15a. SUPER COLLIDE (reprise)

(TECHNICIANS exit.)

LEPTON

QUARK.

SUPER

CONDUCT YOURSELF, CANDIDATE.

JOB

INTERVIEW, I'VE GOT TO GO. IT'S MY COLLISION COURSE.

(Departing.)

16. PARTICULATE

(*QUARK redirects her attention to the control. She increasingly toys around with it.*)

(*ATOM frantically rushes in.*)

ATOM

AM I TOO LATE?

(*Noticing QUARK.*)

A POSTULATE DREAMER.

ALWAYS IN THE CLOUDS.

PARTICULARLY EERIE MATTER.

NO OPERATIONS REAL SOON.

THEY'RE ALLOCATING FUNDS.

LIQUIDATED SCIENCE.

PARTLY DUE TO THIS WARY SOCIETY.

(*Hesitantly accepting QUARK.*)

TO ABDICATE, WE MUST NOT.

SATURATE DESERTRON.

I SHALL POSTULATE.

PARTICULARLY AIRY QUARKY.

(*QUARK DJs the control.*)

[*Particles may collide.*]



ATOM (cont.)

QUIRKY.

(Readjusting himself.)

ARTICULATE THIS BAD NEWS.
LET'S CONCENTRATE SOLIDS.
LET US SAVE THIS LAB.
PARTICLES TO PARTICLES, JUST BREATHE.

(TECHNICIANS fill the space.)

ARTICULATE PARTICULATE. ARTICULATE PARTICULATE.
ARTICULATE PARTICULATE. ARTICULATE PARTICULATE.
ARTICULATE PARTICULATE. ARTICULATE PARTICULATE.
ARTICULATE PARTICULATE. ARTISTICALLY PARTICULAR.

(QUARK parties on. She feels admiration.)

ARTICULATE PARTICULATE. ARTICULATE PARTICULATE.
ARTICULATE PARTICULATE. ARTICULATE PARTICULATE.
ARTICULATE PARTICULATE. ARTICULATE PARTICULATE.
ARTICULATE PARTICULATE. ARTFULLY PARTICULARLY LATE.

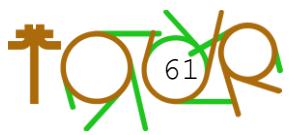
17. SLEPTON

(ATOM rushes towards QUARK, protesting.)

ATOM

SCIENCE ENDING.
THEY'RE SHUTTING THE DESERTRON DOWN!

(TECHNICIANS fearfully run away.)



QUARK

QUIT LYING.
WHAT'S THE MATTER?

ATOM

INFER, ATOM.

(Motioning towards himself.)

I FIGURED EVERYTHING MATTERS!

QUARK

ATOM SHOULD STOP MAKING THINGS UP.
WHEN THINGS SEEM TOO GOOD TO BE TRUE.
JUST SLEEP ON IT, REST.
WAKE UP, FIND MATTERS BEYOND DREAMS!

BOSON

OSCILLATIONS.

(QUARK feels the nightmares.)

(BOSON brightly returns.)

(ATOM joyfully tears up.)

NON-PHYSICIST HAS DRAWN
HERSELF TO DESERTRON.

(Embracing ATOM.)

DEAR ATOM, HERE'S BOSON.
ACCELERATOR, I RUN.

(Releasing ATOM. He views the control.)

THERE'S TIME THAT YET NEEDS CRUNCH.



(*QUARK guards the control.*)

BOSON (cont.)

THIS HERE'S PARTICLE'S DAWN.
DUSK WILL APPROACH WITH FUNDS.

(*ATOM hands cash to BOSON.*)

STILL HAVE ALL THE SPUN, SQUARK.

(*QUARK attempts to get ATOM to retrieve their cash. She reaches for the cash herself.*)

(*BOSON tosses the cash into the open.*)

(*POLITICIANS rabidly bound for the cash. They notice BOSON. They quickly adjust themselves. They dismiss the cash.*)

POLITICIANS

SCIENCE NEEDS FUNDING?
SCIENCE NEEDS FUNDING!

BOSON

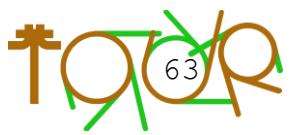
DESERTRON COSTS A SLEPTON.

(*Kicking the cash to POLITICIANS.*)

POLITICIANS

SLEPTON?

(*Picking up the cash.*)



BOSON

DESERT...

(Directing out.)

BOSON

LOST ITS RUN.

POLITICIANS

WE WILL SLEEP ON THIS!

BOSON

TO SPUN ON NO AXIS.
NICE RUN, MARATHON, LASTED.
YOU'RE DONE, ALL THAT MATTERS.
REAL FUN, IT WAS.

POLITICIANS

A SLEPTON!

BOSON

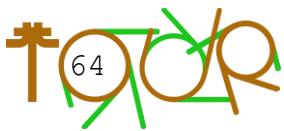
NO ACTIONS REQUIRED.
PASSION, BIT QUANTUM, FULFILLED.
OUR TAXES, DO BLOW IT.
THEIR FUNDS, GO SLOW.

POLITICIANS

A SLEPTON!

(Counting the cash.)

THESE PARTICLES.
THEY'RE PARTLY CHORES.
DON'T MAKE WARS AS ATOMIC.
I NEED GAS AS AN ADDICT.
THERE'S NEW SCIENCE TO ENRICH.
I'M PRINCIPLED.
THEREFORE, NO MORE POEMS.
THESE KNOWLEDGE YOU SHOULD DITCH.



POLITICIANS (cont.)

I WILL OUTCLASS, NOWT TO COMMIT.
ART, ALSO MAKES THE WORLD

QUARK

THERE'LL BE PEACE.
RENEWABLES.
SOME POETRY.
THERE IS ART
IN PARTICLES!

POLITICIANS

SICK!

(*TECHNICIANS rush in to collide with one another.*)

(*POLITICIANS shove TECHNICIANS out of the space.*)

BOSON

ALREADY HAVE IT ALL AT THE ACCELERATOR.

QUARK

MORE.

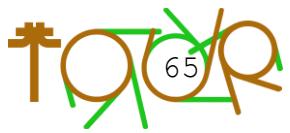
(*Directing out.*)

POLITICIANS

OPEN...

BOSON

DESERTRON'S CONDUCT SHOULD HAVE LEFT YOU SUPER FLOORED.



QUARK

EXPLORED PARTICLES!

POLITICIANS

DOORS.

BOSON

FOR YOU, THERE'LL BE NOTHING IN STORES.
ONLY TO LEAVE YOU IN THE DARK, ENLIGHTEN YOUR ACCORD.

QUARK

THEY'LL SEE DEATH.
RECRUITING.
IT'S SO LOW.
I AM QUARK
IN PART CAUSE!

POLITICIANS

ATOMIC MATTERS!

BOSON

I'M BOSON, I LIGHT UP THE PHYSICS WORLD!

POLITICIANS

ATOM...

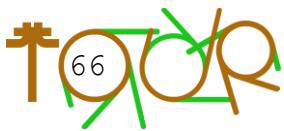
(BOSON addresses ATOM.)

BOSON

LISTEN HERE BUM,
THERE IS NOTHING TO GLUON.

POLITICIANS

SPLIT.



BOSON

HEART TO HEART, NUCLEI NUCLEI. YOU'LL FEEL RENEWED.

(ATOM *rhythmically claps.*)

POLITICIANS

(*Rhythmically slapping cash against their hands.*)

YOUR PARTING CALL.
A MATTER SOUGHT.
THE WORLD WILL REMEMBER IT.
TO RID OF THOSE WHO ARE SICK.
POSITIVES FINALLY FIT.
GIVE UP, ACCELERATOR.

(ATOM *riles up.*)

PARTICLES FOR ALL.
TO EXPLODE IS YOUR PICK.
CLIMATE IMPLODES, IS ALL OPTICS.
CASH, REALLY MADE THE TIMES

QUARK

ATOMIC.
CREATION.
BIRTHS NEW LIFE.
DON'T SELL OUT TO
DESTRUCTION!

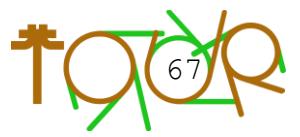
POLITICIANS

TICKED!

BOSON

YOU HAVE THE POTENTIAL, JUST NEED A LITTLE FORCE.

(*Presenting nominal cash.*)



QUARK

DROP...

POLITICIANS

FUNCTION...

QUARK

KINETIC.

(Removing the cash from BOSON.)

BOSON

TAKE A POSITION, THIS IS YOUR MOMENTUM.

POLITICIANS

RAN.

QUARK

ALL LAGRANGIAN.

BOSON

LET THE ENERGIES BE HAMILTONIAN.

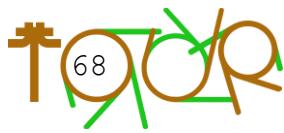
POLITICIANS

SUM.

(Raining down the entire cash on ATOM.)

ATOM

NUCLEAR NOW!



(ATOM tears apart the control.)

(QUARK helplessly watches.)

BOSON

THE BOMB, YOU REALLY ARE.
NO FLAWS, IT IS IN NUCLEAR.
IN AWE OF REVENUE.
THE PALM OF YOURS.

POLITICIANS

SLAP ON IT!

BOSON

THESE FEES KEEP PILING ON.
LIFE TEEMS CONCLUSIVE RESULTS.
YOUR DREAMS ARE ATOMIC.

(Pinching his thumb and index finger.)

ENERGIES, RUN FREE.

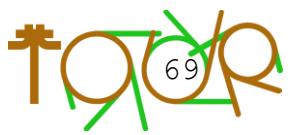
POLITICIANS

SLEEP IT OFF!
SCIENCE DON'T NEED FUNDS!

(*QUARK weeps.*)

POLITICIANS

CRY AWAY. PHYSICS GONE!



BOSON

DO SLEPTON IT.
SUPER COL- WHAT, SQUARK.

POLITICIANS

GO AWAY... GO DECAY...

BOSON

SUPER COL-
SUPER COL-
SUPER DEFUNDED, DESERT IT!
SLEEP ON IT.
SLEEP ON IT.
SLEPTON.

POLITICIANS

DESERTRON'S DONE! SUPER GOODBYE!

(*BOSON, ATOM, and POLITICIANS huddle around in the nuclear winter.*)

17a. SLEPTON (reprise)

(*ATOM and POLITCIANS depart.*)

BOSON

A SHAME YOU CAN'T MEET.
HER GAME, PARTICLES, NEW HIRE.

(*QUARK recognizes the persona of LEPTON.*)



(*BOSON reminisces.*)

BOSON (cont.)

GOURMETS, DESERTRON.

(*Pushing away QUARK.*)

NOW STRAY, SLEPT ON.

(*Vacating.*)

(*QUARK reclusively perches.*)

18. BACKSCATTER

(*LEPTON eagerly skips in.*)

LEPTON

I'M BACK WITH A TORSION. IT'LL SHATTER
EXPECTATIONS. I'M POSITIONED
VECTOR OF THE ACCELERATOR!

(*QUARK remains silent.*)

I SUPERVISE PARTICLES!

QUARK

SHUT UP WITH YOUR PARTICLES.
I DO NOT KNOW THESE BACK—
STABBING MATTERS. I DON'T BELIEVE
IN ANY OF YOUR WORK.

QUARK

BACKSCATTER!

LEPTON

SO UPFRONT.

(LEPTON looks around the void.)

LEPTON

YOU'RE TRULY NOT ENVIOUS FOR ME TO BE MAKING WAVES.
DON'T MAKE OUR COUPLED ACADEMIC BOND INELASTIC.
THERE'RE PLENTY OF PHOTONS ALIGNED BEYOND THIS
GEGENSCHEIN.

(QUARK slightly shudders.)

WHY NOT REFLECT WITH ME, COMRADE?
WORLD MAY LACK THE IONS OF FUTURE.
LET'S FORWARD SPECULAR FAR PASSED.
NO MORE FOR ME. FOR ONCE, WORK WITH ME.
IT'S PRESENT, ACCELERATOR.
I'M AWARE PARTICLES ARE NOT THE RIGHT FIT PHYSIC-LY.
BUT I REMEMBER HOW MAGNETS ALWAYS GAVE YOU MOMENTS.
EXCITATION CIRCUITS AS MAGNETIC FLOWS ALL CORNERS.
TAKE THE ACCELERATED TOUR!

(Orbiting QUARK.)

(QUARK pushes away LEPTON.)

MY LOVE FOR PARTICLES MADE YOU REPELLED.
FIND HOME IN SOME MAGNET FACTORY.
AS ADVISOR, I SHALL BACKSCATTER.
SEND MY SIGNALS, TO BE FREE.

QUARK

A WEAK LOCALIZATION.
FIBER WENT BAD OPTICS.
LEAVE ME MORE LESS ISOTROPIC
IN RANDOM DIRECTIONS.



QUARK

BACKSCATTER!

LEPTON

GOT YOUR BACK.

(*LEPTON leaves.*)

QUARK

HEART SHATTERED.

(*Perching.*)

19. CHARGE

(*ATOM anxiously enters.*)

(*LEPTON swiftly returns.*)

LEPTON

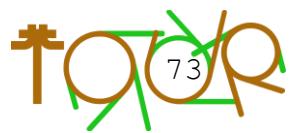
THIS CHARGE.

(*Pacing in a circle.*)

THESE ARE MY FIELDS.
I ELECTRIFY THE PLACE.
PARTICLES LISTEN.
NO MATTERS HESITATE.
AND THE WHOLE WORLD YIELDS.
THEY LET ME INTO THE SPACE.
SO WHAT TO DO THEN
AS I'M DISENGAGED.
ALL I DID WAS NEGATE.
LEPTON, ELECTRONS...

(*Getting closer to ATOM.*)

(*ATOM demonstrates a headache. They distance away from LEPTON.*)



LEPTON (cont.)

DERIVE
REPULSIVE EQUATIONS.
PART OF ME
ADDS JUST THIS FACTOR:
NEGATIVE.
MY CHARGE.

(ATOM perches with QUARK.)

MY CHARGE.

(Stopping in her tracks.)

THOUGHT INDIVISIBLE.
ALL POWERS INTERWOVEN.
THEN LIKE A GENIUS
IN A CATHODE RAY TUBE.

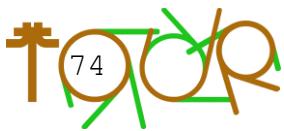
[Lights scatter about.]

TO STAY INVISIBLE.
INSTEAD LET FEELINGS APPREHEND.
I LET MY LIFE SPARK
AND BRING ENERGY BUT
MY NATURES NOT TO SOOTHE.

(QUARK finally acknowledges ATOM's presence.)

I ADD NEGATIVE.
BUT IT'S HIDDEN IN
ELECTRICITY.
WHAT MUST I TAKE IN?

(ATOM extends their arm to QUARK.)



LEPTON (cont.)

ALL I BRING IS
NEGATIVITY.
I AM CHARGED.

(Standing.)

TAU.
I AM THE ONE WHO MAKES IT IN.
THE ONE WHO ALWAYS
LED THE CHARGE.
I SHOULD NOT HAVE LEFT
WHAT WAS GOLDEN.
I STAYED INVISIBLE.
ELECTRIC FIELDS WOKE.
JUMPED TO THE HIGHEST POINTS
ON ALL ENERGY LEVELS.
NATURAL CLIMBER.
I FELT PROTONS AND NEUTRONS.
GAVE EVERY VALENCE.
GIVE ATOM THE VALIDATION.

(QUARK slaps away ATOM's hand.)

YET I HAVE GOT NO STRONGER
INTERACTIONS.
WITH MY CHARGES IN
THE NEGATIVES.
FROM ME TO THE FORCES OF NATURE,
WONDERS, WHY LEPTON,
BE NEGATIVE?

(Moving with the light.)

ALIGN YOURSELF.
DISTANCE FROM THE MATTERS.
PARTICLE'S TAU.
PARTICLE'S MU.
USE STANDARD MODELS,
LIGHT BOSON,
ALL THE QUARK.
ORBIT, LEAVE FIELD.

(LEPTON distances from QUARK and ATOM.)

LEPTON (cont.)

THEN PREON THE POINT,
DERMO (der'mo).
WHAT DOES QUARK EVEN BELIEVE?
CAN I RETURN TO HER WITH...
DOES SHE DESERVE
HER DOCTORATE?
LEPTON,
YOUR CHARGE.

(Vanishing.)

20. ELECTROFORM

SCENE iii

[Magnet Factory]

(TECHNICIANS march in, carrying a desk, particle board and supplying metals. They set down the desk.)

[The particle board displays an orderly pattern of tacks.]

TECHNICIANS

ELECTROFORMATIONS MAGNETIC PERSONNELS.

(Noticing QUARK.)

ELECTROFORMIDABLE MADE-UP CONNECTIONS.

(Encircling QUARK.)

ELECTROFORMULIZE ORBITALS TO BRING ABOUT CONCLUSIONS.

(Pointing their metals towards QUARK.)

(ATOM breaks the circle)

ATOM

ELECTROFORM.

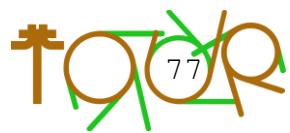
ELECTROFORM.

ELECT ME FORMALLY FOR I AM YOUR ALLY.

IT IS REFORMATION FOR MATTERS WITHIN US.

(Leveling with QUARK.)

ATOM SHALL FORMULATE AN EXPERIMENT TO FIELD PROPOSALS.



TECHNICIANS

TEST THE WATER.
THIS DISTILLATION.
ELECTROFORM.
JOIN THIS CIRCUIT.
MAGNET FACTORY.
ELECTRO— REBORN.

(Hypnotically moving around QUARK.)

ATOM

I KNOW WHAT YOU'RE
THINKING IN MAGNETIC
MOMENTS.
HOW DID I GET
THIS HIGH ENERGY
POSITION?
BOSON GRANTS ME
AN OPENING INTO THE
ACCELERATOR.

TECHNICIANS

ELEMENTARY.
BY YOUR UNIT.
WHAT'S UP, ATOM?
GONE DOWN, ATOM?
CHARMING QUESTION.
A STRANGE ANSWER.
ON TOP OF THINGS.
DON'T BOTTOM OUT.

(QUARK nears the desk.)

TECHNICIANS

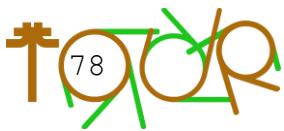
ATOM HAS FORMED THIS PACT FOR ALL US LITTLE GUYS.
ATOM WAS FORMERLY CONSIDERING BOSON.
ATOM CHOSE FORMALISTS AND PERSISTS LEADING MAGNET
FACTORY.

(Building magnets.)

QUARK

ELECTROLYTES.
ELECTRO-TRAP.

(Steering away from the desk.)



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TECHNICIANS

NONCONDUCTIVE?
DO NOT COPPER OUT.
ELECTROFORM.

(Coalescing.)

ALL THAT ARE LEFT.
POSITIVELY CHARGED.
ELECTRO— WE'RE TORN.

(ATOM hands magnets to QUARK.)

ATOM

THE SOLUTION,
THEY PRECIPITATE
AND CRYSTALLISE.
YOU ARE SOLID.
YOU ARE GOOD TO GO.
YOU'LL REALIZE YOU'RE FORMED.

(QUARK churns the magnets in her hand.)

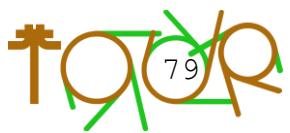
TECHNICIANS

SHE IS JUST A DOCTORAL ADVISOR'S LOST PET.
WE BET SHE CAN'T FIND HER PLATES AND IRON THINGS OUT.
RANDOMNESS AS CORROSIVE AS THEY COME TO MAGNET FACTORY.

ATOM

ANODES ARE KEY TO ELECTROFORM SOLUTIONS.
REWIRE OURSELVES AWAY FROM THESE OLD FORMULAS.
QUARK AND ATOM CAN SHAKE THINGS UP CAUSE AFTER ALL,
YOU JUST FOMENT.

(TECHNICIANS move in formation.)



TECHNICIANS

ANODES ARE KEY TO ELECTROFORM SOLUTIONS.
REWIRE OURSELVES AWAY FROM THESE OLD FORMULAS.
QUARK AND ATOM CAN SHAKE THINGS UP CAUSE AFTER ALL,
MAGNET MOMENTS.

(QUARK garnishes the magnets with her hands.)

ATOM

ELEMENTARY.
STANDARD MODEL.

KEEP IT UP, QUARK.
DOWN-TO-WORLD QUARK.

CHARMING FELLOW.
'TWAS STRANGE ROOKIE.
ON TOP OF THINGS.
DON'T BOTTOM OUT NOW.

TECHNICIANS

ELECTOFORMATIONS
MAGNETIC COTERIE.

ELECTROFORMIDABLE
THEORIZIED CONNECTIONS.

ELECTROFORMULIZE
ORBITALS TO BRING
ABOUT
INTRODUCTIONS.

(QUARK justly tears apart the magnets.)

*(The poles in TECHNICIANS' formations flip.
They cross each other. They zigzag.)*

TECHNICIANS

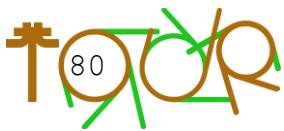
QUANTUM TUNNELLING IS HERE.

ATOM

TUNNELLED ELECTRODES.

TECHNICIANS

CAN'T DIG OUT OF THIS, ATOM.



ATOM

DETРИMENTAL HEAT.

TECHNICIANS

THERE IS NOTHING TO WELDING.

ATOM

BRAZING WEAKENED PIECE.

TECHNICIANS

DISSIMILIAR ALLOYS.

(Pointing to either QUARK or ATOM.)

ATOM

SUPERIOR BONDS.

ATOM

ELECTROFORM.
ELECTROFORM.
ELECTROFORM.
ELECTROFORM.
ELECTROFORM.
ELECTROFORM.
ELECTROFORM.
ELECTROFORM.

TECHNICIANS

ELECTROPLATING
IS ALL.
SETTLE FOR LESS.

YOU CAN'T COAT ALL
THESE FACTORS.
DON'T GET BROKEN
DOWN.

QUARK

MATTER THAT MAKES THE WORLD

(Motioning towards herself.)

TO MATTER THAT MAKES THE WORLD

(Motioning towards ATOM.)

QUARK (cont.)

NOW ASKS YOU TO JOIN ME
IN MAGNETIC MOMENT.

(Extending her hand to ATOM.)

(TECHNICIANS contract and detract.)

TECHNICIANS

CAN'T CONFORM.
YOU'RE DEFORMED.

ATOM

MAGNETIC MOMENT, QUARK?
YOU HAVE ALWAYS MADE IT.

(Descending.)

I'VE DONE NOTHING TO STRENGTHEN.
THE WORLD'S NOT MY PLACE.

(Instantly ascending.)

ATOM

I'M HOPING TO HAVE A
LOT ON MY PLATE.
THIS IS YOUR FEAST TO
EAT.

TECHNICIANS

ELECTROPLATE.
ELECTROPLATE.
ELECTROPLATE.
ELECTROPLATE.

(TECHNICIANS encircle QUARK.)

I'M FINISHED WITH ALL
THESE MAGNETS
AND ALL OF ITS
FACTORY.

ELECTROPLATE.
ELECTROPLATE.
ELECTROPLATE.
ELECTROPLATE.

(ATOM yields.)

**ATOM** (cont.)

I WILL TAKE THAT JOB

OFFERED

UP BY BOSON

ELECTRODEPOSITION.

STAY CONDUCTIVE,
QUARK.

TECHNICIANS (cont.)

ELECTROFORM.

ELECTROFORM.

ELECTROFORM.

ELECTROFORM.

ELECTROFORM.

ELECTROFORM.

ELECTROFOAMING.

(*Melding away.*)

21. REMANENCE

(*QUARK detects the emptiness.*)

QUARK

THERE'S NOTHING TO FERRO—

CAREER TO IRON OUT.

I CAN'T EVEN MAKE SENSE.

LOST MAGNETIC FIELD.

ALL I AM, REMANENCE.

I JUST BREAK COMPASSES.

MAGNETISM WILL KILL.

THIS FIELD'S REPULSIVE

TO MY OWN EXISTENCE, WHICH SHOULD, NEVER BE REMEMBERED?

(*Heading to the magnets littering the ground.*

She hesitantly picks up the magnets. She returns to the desk.)

ARE MY FUNDAMENTAL PRINCIPLES TO BRING GRAVITATION?

A DIRE SITUATION BASED ON STRONG, WEAK INTERACTIONS?

(*Observing the magnets. She puts together a single magnet. She slams the magnet on the desk.*)

[The desk splits. Each side repels each other. Packets disperse out and flutter about.]

QUARK (cont.)

WHAT I WAS, REMANENCE.
I'LL BREAK ALL COMPASSES.
MAGNETS ARE NOT FOR ME.

(Pulling the tacks off the particle board.
She tosses each of the tacks onto the
ground.)

PARTICLE'S MY SOUL!

(QUARK sits. She grabs the magnet. She tries
to magnetize the distant tacks.)

22. PREON

(LEPTON tiptoes in.)

(QUARK hides the magnet. She pays no
attention to LEPTON.)

LEPTON

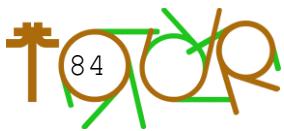
YOU HAVE REACHED THE MASS POINT.
PRINCIPLE OF UNCERTAINTY.
COLLECT YOUR PARADOX.
SCATTER YOUR PLOTS.

(Organizing QUARK's space.)

КАНДИДАТ НАУК (kandidat nauk)?
WHAT'S IT THAT YOU FEAR? OH.

(Opening QUARK's hand. She notes the magnet.)

THESE ATTRACTING MAGNETS
REPEL YOUR SPIRIT,



84

(LEPTON slides the tacks to QUARK.)

LEPTON (cont.)

WERE IN PARTICLES.

I WILL PRAY ON.

(QUARK riles herself up.)

QUARK

MY MODEL HAS ITS STANDARDS. I'LL NOT CONFLATE POINTLIKE PARTICLES LIKE THESE DIPOLES IN MAGNETIZATION. MY ELEMENTARY MINDSET KNOWS PSEUDO PHYSICS. I'M PART FRAUD. THIS IS THE END, THIS EXPERIMENT. MY BEING CANNOT TAKE THIS. DON'T HAVE THE PHYSICS. MY BRAIN WAVES TRANSVERSED.

(LEPTON looks through the desk.)

DYING BY POLARIZATION. MY EXISTENCE ONLY REPELS.

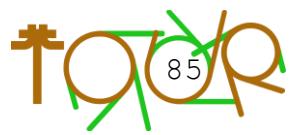
(LEPTON pulls out a lightbulb and wires. She separates the magnets.)

I REALLY DON'T KNOW HOW YOU FIND POINTLESS MATTERS SO SENTIMENTAL.

(LEPTON performs the experiment.)

LEPTON

I'M MENTAL, SPEAKING YOUR LANGUAGE. JUST TRYING OUR CLASSIC PROJECTS. POINT PARTICLE'S HYPOTHESIS. POINT OF YOUR LIFE'S TO THEORIZ, PERHAPS PREON? JUST HAVE A BELIEF. POSITRON TO 'LECTRON, DON'T BE ANTIMATTER ON ME NOW. JUST LIGHTEN UP, BE BRIGHTER COMRADE.



QUARK

TRY TO INITIATE CONDUCTION.
MY TEMPERAMENT'S TO BE SHUNNED.
PASSION'S NOT FOR SIMPLETONS.

LEPTON

PREON.

(QUARK takes over the experiment.)

QUARK

STELLAR USAGE OF PREON.
BUT THERE'S NO FAITH IN PREON.
NOT A MATTER THAT'S PREON.

(Finishing the experiment.)

ИДИ ТЫ В БАНЮ (idi v'banyu) !

LEPTON

IT'S YOU WHO NEEDS TO GET LOST.
LET ME LIVE IN PARADOX.
PUPIL, GO ON. QUIT...

(QUARK slides the magnets towards the light bulb.)

[The light bulb lights up.]

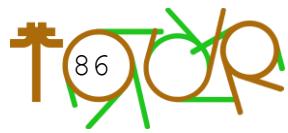
BEING A ХУЙ (hooey). QUARK, P H D.

QUARK

PRAISE BE.

LEPTON

PREON.



[*The space brightens.*]

(*QUARK intimately hold her gaze.*)

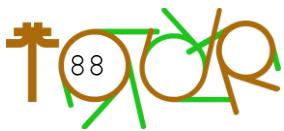
(*LEPTON anxiously meets QUARK's gaze.*)

(*QUARK distances the magnets away from the light bulb.*)

[*Blackout.*]

End of Act

ACT II



23. MOLE

[Accelerator]

(*QUARK wanders in. She pops around.*)

(*BOSON enters. He moves along, without noticing QUARK.*)

(*LEPTON rushes in, carrying papers. She playfully smacks QUARK with the papers. She rushes out.*)

(*TECHNICIANS remain absent.*)

TECHNICIANS

WE HAVE MOLES.

CIRCLE YET TO BE A SPHERE.

LET'S CONTINUE THE TOUR.

(*ATOM tardily arrives. They eye QUARK.*)

(*QUARK wins the staredown with ATOM.*)

24. ELEMENTARY PARTICLE

(*ATOM progressively smiles.*)

ATOM

STARTING OFF ELEMENTARY.

ORBITALS, YOU FIT IN SO MANY.

LET US ACCELERATE!

JOIN US ON THIS CIRCUIT TOUR.

(*QUARK remains unmoved.*)

(*ATOM puzzledly stops in their tracks.*)

QUARK

A LITTLE LATE.
ATOM.
YOU VERY LIKELY HAVE NO CONCEPT.
SPACETIME.
YOU HAVE NO IDEA. OUR CONNECTION,
ATOM.
THERE'S NOTHING AT ALL TO QUANTIZE, ATOM.
IT'S BEEN A WHILE.
ATOM.
YOU NO LONGER HOLD ANY COMTEMPT?
REMORSE?
YOU HAVE AN IDEA, MISDIRECTIONS,
ATOM,
THAT I HAD TO GO THROUGH ALONE, ATOM?

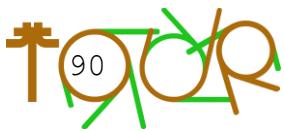
ATOM

QUARK.
YOU DID NOT HIT ROCK BOTTOM.
YOU'VE BEEN ON TOP OF YOUR GAME.
YOU'RE CHARMING.
CAN'T UNDERCUT STRANGENESS.
YOU SHOULD REMAIN UPPITY.
YOU'RE HOME, NOT DOWN IN THE DUMPS.
STAY CHARMING,
AND ALWAYS BE STRANGE.

(*QUARK sees through ATOM.*)

QUARK

SO GLAD WE CROSSED
EACH OTHER.
A SMALLER WORLD AND I'D BE UP IN
YOUR CLOUD



QUARK (cont.)

OF NEGATIVITY, 'LECTRIC LIKE,
IT HERE?
POLARITY BEYOND YOUR MAGNET FACTORY.

(ATOM *is taken aback.*)

QUARK

I'LL HIT ATOMIC
BOTTOMS.
I'M GAME TO TOP IT ALL
OFF.
STOP FLATTERING.
I CAN LIVE WITH ALL
THAT.
I'M DONE WITH YOUR
UPWARD TREND.
SO DONE, GET DOWN TO
MY LEV—

ATOM

YOU DID NOT HIT ROCK
BOTTOM.
YOU'VE BEEN ON TOP OF
YOUR GAME.
YOU'RE CHARMING.
CAN'T UNDERCUT
STRANGENESS.
YOU SHOULD REMAIN
UPPITY.
YOU'RE HOME, NOT DOWN
IN THE DUMPS.

(ATOM *kneels.*)

THIS IS STRANGE,
AND NEVER CHARMING.

STAY CHARMING.
AND ALWAYS BE STRANGE.

(ATOM *stands up.*)

QUARK

NOT SYNCHROTRONS.
CIRCLE.
ACCELERATOR. A WINDING LOOP.
IT'S STRANGE.
GODLY PARTICLES, WORLD'S RUN BY ONE.
BOSON
AND HIS GADGETS: ALL THESE ATOM SMASHERS.

(ATOM *distances.*)

QUARK (cont.)

I'M JUST BEING
RANDOM.
IT'S REALLY HARD TO NOT INFLUENCE
YOUR FIELD.
I'M FUNDAMENTAL.

(*Twirling her finger around her head.*)

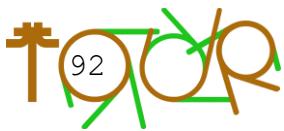
I COME AROUND,
ATOM,
TO ACCELERATE, SCATTER TOURS.
NOWHERE BUT UP.
BOTTOM.
TOP.
DOWN.
STRANGE.
CHARM.
STANDARD MODEL.
IT'S UP.
BOTTOM.
TOP.
DOWN.
STRANGE.
CHARM.

(LEPTON enters. She happily addresses ATOM.)

THE STANDARD MODEL.

(ATOM pushes LEPTON into QUARK.)

(LEPTON collides into QUARK. She falls with
QUARK.)



ATOM

ACCELERATOR.

(Directing out.)

QUARK

EXCELLENCE.

ATOM

QUARK, LEPTON, BOSON.

QUARK

NOTHING BUT...

ATOM

ELEMENTARY.

DOWN, UP, BOTTOM, TOP, CHARM, STRANGE.

QUARK

THAT IS ME.

ATOM

QUARK, LEPTON, BOSON.

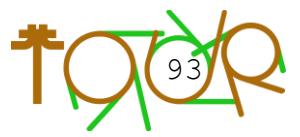
QUARK

NOTHING BUT...

ATOM

ELEMENTARY.

TAU, MUON, 'LECTRON.



QUARK

ON HER MIND.

(Motioning towards LEPTON.)

ATOM

QUARK, LEPTON, BOSON.

QUARK

NOTHING BUT...

ATOM

ELEMENTARY.

GLUON, PHOTON, W, Z, HIGGS.

QUARK

I'M READY.

ATOM

QUARK, LEPTON, BOSON.

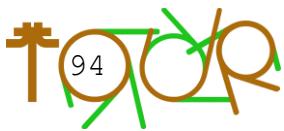
QUARK

ALL THINGS ARE...

ATOM

ELEMENTARY PARTS.

(Leaving.)



25. BRING THE CONDUCTIVITY

(*LEPTON helps QUARK up.*)

LEPTON

Я ПОДЪЕМ ТЫ. (ya pod"jóm ty.)
I CARRY INTRINSIC, CURRENT NEWS,
SOON BINDING.
YOU'LL SET BOSON ON A COLLISION
COURSE WITH WORK.
HOLD FERMION, FOR HE'LL FEEL ELECTROWEAK.
BRING THE CONDUCTIVITY.

QUARK

IDEALS COME SO FAR.
MATTERS,
THEY COME TO ME.
THANK YOU.

LEPTON

YOU DOCTORATES...

(*QUARK points out the hypocrisy.*)

THERE IS NOTHING UNCONDUCIVE AS
SENTIMENTS.

(*Growing lighthearted.*)

SPARK 'NOTHER ANGLE BEYOND OUR UNDERSTANDING.
MEANWHILE, FOR MOVEMENT OF THIS LAB,
I SHALL
BRING THE CONDUCTIVITY!

(*Moving about.*)

26. MASS CHARGE SPIN

(ATOM leads BOSON into the space.)

(BOSON stops in his tracks.)

BOSON

DID NOT EXPECT YOU'LL BE
THE PROSPECTIVE TECHNICIAN TO
MASS CHARGE SPIN.

(QUARK and BOSON take two to tango.)

UNDER MY LIGHT, SO YOU REALLY CAN'T
MASS CHARGE SPIN IT.
INFLUENCE SO MASSIVE,
YOU LACK THE CHARGE,
ONLY HALF SPIN,
MASS CHARGE SPIN
THE QUANTUM ENTANGLEMENT—

LEPTON

I WILL FLUX OUT WITH HER.
MASS CHARGE SPIN THIS.

(Coming between QUARK and BOSON.)

(BOSON loses his footing.)

BOSON

ELEMENTARY...
ELEMENTARY...
ELEMENTARY...
ELEMENTARY...
THAT IS YOU, LEPTON.
YOU SUPERVISOR.

BOSON (cont.)

YOU OVERSEER.
YOU ARE A TRAITOR.

(*LEPTON extends her hand to ATOM.*)

YOU ARE STILL OUR PRIDE.

(*ATOM comes to QUARK's defense.*)

(*BOSON submits.*)

ATOMIC NUMBERS.
ATOMIC NUMBERS.
ATOMIC NUMBERS.
THE WAY YOU LIKE IT.

(*ATOM quickly comes to BOSON's side.*)

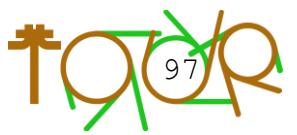
MASS CHARGE SPIN OFF.
MASS CHARGE SPIN IN.
MASS CHARGE SPIN, YEAH...
MASS CHARGE SPIN YOUR WAY.

(*Opening up the Accelerator.*)

27. QUANTUM

[*The collider horizontally lies with no ends or openings in sight. The diameter of the tunnel is wider than any person's height.*]

(*TECHNICIANS mass charge spin out.*)



TECHNICIANS

QUANTUM ON!

TECHNICIANS

HADRON ON!

TECHNICIAN

ACCELERATE!

(*LEPTON and QUARK run around.*)

(*BOSON disappointedly heads towards the collider.*)

(*ATOM roams about.*)

TECHNICIAN

ACCELERATE!

TECHNICIAN

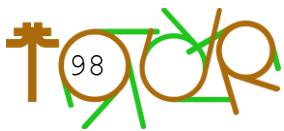
ACCELERATE!

TECHNICIAN

ACCELERATE!

TECHNICIAN

ACCELERATE!



TECHNICIAN

ACCELERATE !

TECHNICIAN

ACCELERATE !

(TECHNICIANS collide with one another.)

(LEPTON and QUARK stop by the collider.)

LEPTON

ACCELERATE !
ACCELERATE !
ACCELERATE !
ACCELERATE !
ACCELERATE !
ACCELERATE !
ACCELERATE !

(Tapping QUARK.)

QUARK

ACCELERATE !

LEPTON

TECHNICIANS

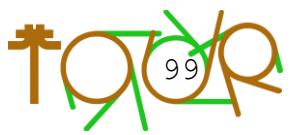
ACCELERATE !

ATOM

ALL'S ATOM SMASHING!

TECHNICIAN

LARGE HADRON COLLIDER !



TECHNICIAN

SEE THE QUANTUM WORLD!

TECHNICIAN

LARGE HADRON COLLIDER!

TECHNICIAN

FEEL THE QUANTUM WORLD!

TECHNICIAN

LARGE HADRON COLLIDER!

TECHNICIAN

BE THE QUANTUM WORLD!

TECHNICIAN

LARGE HADRON COLLIDER!

LEPTON

ACCELERATE!

ACCELERATE!

ACCELERATE!

LEPTON

ACCELERATE!

ACCELERATE!

ACCELERATE!

ACCELERATE!

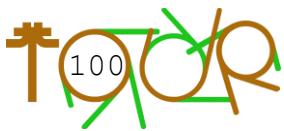
ACCELERATE!

TECHNICIANS

HADRON.

HADRON.

LARGE HADRON.



ATOM

POSITRON? 'LECTRON?

TECHNICIAN

LARGE HADRON COLLIDER!

TECHNICIAN

ALL SUBJECTS, TAKE YOUR PICK!

TECHNICIAN

LARGE HADRON COLLIDER!

TECHNICIAN

PICK UP THE QUANTUM BITS!

TECHNICIAN

LARGE HADRON COLLIDER!

TECHNICIAN

NOTHING IS MYOPIC!

TECHNICIAN

LARGE HADRON COLLIDER!

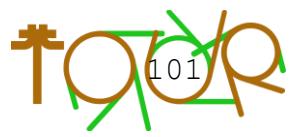
QUARK

THIRTY, LEPTON.

'LECTRON VOLTS.

WE CAN SHOOT TWINS.

PROTON BEAMS.



LEPTON

YOU BRING YOUR LAWS
OF PHYSICS
TO FORM YOUR OWN THEORIES.

ATOM

THEORIES!

LEPTON

HADRON ON.
HADRON ON.
ACCELERATE.

TECHNICIANS

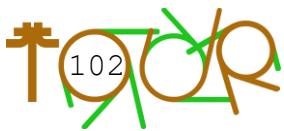
HADRON ON?!
ACCELERATE.
HADRON ON.
ACCELERATE.
ACCELERATE.

(QUARK, LEPTON, and TECHNICIANS get closer together.)

ACCELERATE.
ACCELERATE.
ACCELERATE.
ACCELERATE.

LEPTON

LARGE
HARDRON
COL-



LEPTON

LID—
ING!
PARTICLES!

TECHNICIANS

ACCELERATE
TWIN PROTON BEAMS.

(*Expanding.*)

(*LEPTON grabs ahold of ATOM.*)

(*QUARK, LEPTON, ATOM, and TECHNICIANS clump together.*)

QUARK

WHO MAKES THE UNIVERSE?

LEPTON

ATOM

TECHNICIANS

QUARK!

(*TECHNICIANS accidentally push out ATOM to rally around QUARK.*)

28. FUSION

(*QUARK, LEPTON, and TECHNICIANS converse.*)

(*ATOM looks on.*)

ATOM

WHERE IS THE FUSION? EFFUSION.
JUST CONFUSION. DIFFUSION, WHERE'S IT?

(*Looking upon BOSON.*)

DON'T GO NUCLEAR.
IT IS CLEAR.

(ATOM heads to BOSON.)

ATOM (cont.)

BOSON.

WE HAVE THE VISION. REVISIT.

IRON IT OUT. OXYGEN. CARBON.

WE'RE IN THE CLEAR.

(BOSON try to distance from ATOM.)

REFUSION.

(Grabbing ahold of BOSON.)

FUSION WITH ME.

(BOSON and ATOM fusion dance.)

JUST FUSION.

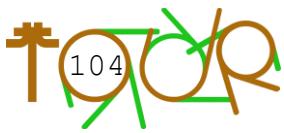
(LEPTON head to BOSON and ATOM. She splits BOSON and ATOM.)

LET US GO NUCLEAR FUSION.

(LEPTON directs BOSON to QUARK. She accompanies ATOM out.)

29. SYNCHROTRON

(Time freezes as BOSON slowly heads to QUARK and TECHNICIANS. He looks on at the collider. He grows overly sentimental.)



(TECHNICIANS *frozenly remain unsurprised.*)

BOSON

THE SYNCHROTRON...

(*Feeling both fervent and displeased.*)

YOUR LIVES HAVE ACCELERATED
BELOW MY THOUGHTS.
'LOW MY WILDEST DREAMS...
I CANNOT STRESS THIS ENOUGH.
WELCOME TO THE ORIENTATION, QUARK...
DON'T TOUCH ANYTHING AT ALL, YOU HEAR ME? SYNC UP.

(TECHNICIANS *open the collider.*)

DEMONSTRATE HER WORK. SYNCHROTRON.

(*BOSON sprints into the collider.*)

TECHNICIANS

CIRCULATE WITHIN THIS VESSEL.
IN THE END, WE'LL HAVE A NICE RUN.

(*BOSON returns, holding out a bright, hearty object.*)

(TECHNICIANS *promptly jog into the collider.*)

BOSON

LET MAGNET GUIDE YOU.
LET MAGNET FLOW THROUGH.

(TECHNICIANS return, carrying unpleasant discoveries.)

TECHNICIANS

LET MAGNET GUIDE YOU.
LET MAGNET FLOW THROUGH.

(QUARK slowly enters the collider.)

(BOSON tries to be supportive.)

BOSON

MATTERS ARE TREASURE.
I'VE UNEARTHED TOO MUCH.

(Selfishly smirking.)

(QUARK returns, unearthing a colourful treasure.)

QUARK

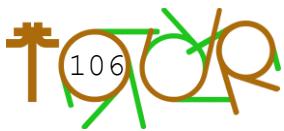
THE SYNCHROTRON...
ALL OF YOU JUST NEED TO SLOW DOWN.
HAVE TIME TO THINK.
FORCE SOME HOPE INSIDE.
AND I'LL RELEASE YOUR PRESSURE.

(Handing the colourful treasure to TECHNICIANS.)

(BOSON swipes away the colourful treasure.)

BOSON

LET MAGNET GUIDE YOU.
LET MAGNET FLOW THROUGH.
IT DOES NOT MATTER.
I'VE UNEARTHED...



(*QUARK immediately takes out another colourful treasure from the collider.*)

BOSON (cont.)

SYNC UP!

TECHNICIANS

ZIP IT!

QUARK

TOOLS LIKE YOURS HAVE MANY APPLICATIONS UNDER DIFFERENT FIELDS LIKE OURS
BUT YOU USE IT TO DEVIATE THE PARTICLES FROM THEIR PATHS AND EMIT LIGHT,
THEREBY THE POTENTIAL SPEED OF BEAMS ARE CUT SHORT,
WASTING OUR TIME
AND SYNCHROTRON'S.
PERHAPS, LETTING YOUR SUBORDINATES WORK AS LONG AS YOU DO WILL CHANGE MATTERS.
LET THESE TECHNICIANS JOIN IN ON THE ENTIRE SYSTEM OF BEAM LINES.
TECHNICIANS, RADIATE, SHOW US THE INVISIBLE, PHYSICAL WORLD.
DO SYNCHROTRON.

(*TECHNICIANS uncover abundant objects.*)

BOSON

RECALL ME DEFUNDING THE DESERTRON?

(*QUARK uncovers sand in the collider. She hurls sand at BOSON.*)

BOSON (cont.)

WELL, SEEMS LIKE YOU HAVE MOVED ON AND ARE UP FOR STATES,
GROUNDED, YOU'RE IN CHARGE.
NOW SYNC UP WITH THE SYNCHROTRON.

(*Marching off.*)

30. HYPERCHARGE

(*QUARK gather TECHNICIANS. She sends each TECHNICIAN into the collider.*)

(*Each TECHNICIAN run around the edge of the space, even beyond into the outer space or the audience. They may uncover various objects and when they do, they place them with QUARK.*)

TECHNICIANS

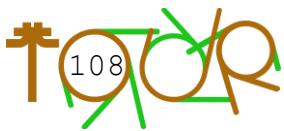
HYPERCHARGE!
HYPER! HYPER!
HYPERCHARGE!
HYPER! HYPER!

(*LEPTON arrives with paperwork and pens. She hands some papers and a pen to QUARK.*)

LEPTON

HOW DOES IT FEEL TO BE IN HYPERCHARGE?
HOW DOES IT FEEL TO BE IN HYPERSPACE, ALL?!

(*LEPTON and QUARK sketch each uncovered object.*)



TECHNICIANS

HYPERCHARGED!
HYPED UP! HYPED UP!
HYPERCHARGED!
HYPED UP! HYPED UP!

LEPTON

THIS SENSATION HAS MADE ME FEEL SO CHARGED!
I AM TRULY NOTHING BUT HYPERACTIVE!

(ATOM arrives.)

(TECHNICIANS acknowledge ATOM's presence
when passing by ATOM.)

(ATOM watches as TECHNICIANS move on to
QUARK.)

ATOM

STRONG INTERACTIONS ARE WHY THE ACCELERATOR RUNS.
STRONG INTERACTIONS ARE WHY NO ATTENTION IS PAID TO...

(Mitioning towards themself.)

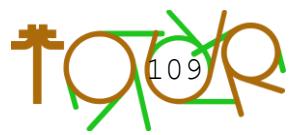
(LEPTON excitedly moves towards ATOM.)

THERE ARE ORBITALS.
OUT THERE FOR ME.

LEPTON

AGREED.

(Orbiting ATOM.)



ATOM

LESS NEGATIVITY IN MY LIFE, PLEASE.

(Joining a group of TECHNICIANS.)

(LEPTON unexcitedly returns to QUARK. She returns to sketching.)

(QUARK watches as LEPTON's quality of sketches diminishes.)

LEPTON

I AM NOTHING BUT WEAK INTERACTIONS.
HOW DOES IT FEEL TO BE SO HYPERSENSITIVE?

TECHNICIANS

UNDERCHARGED!
PIPE DOWN. PIPE DOWN.
UNDERCHARGED.
HYPELESS. HYPELESS.

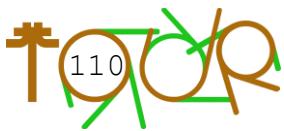
(TECHNICIANS close the entry of the collider.
They depart.)

31. ISOSPIN

(BOSON enters. He takes the paperwork from QUARK and LEPTON.)

BOSON

THERE IS NO WAY TO SPIN THIS.
I NEED TO EIGENSTATE THE
OBVIOUS LEADERSHIP HERE.
YOU PUT HYPER IN THE CHARGE.



QUARK

UM...

LEPTON

YOU HAVE JUST SCALAR AND YOUR STANDARDS
HASN'T A QUIRK.
SHE'S FUNDAMENTAL TO ME AS IS TO YOU,
BOSON.
ATOM.

(Intently looking at ATOM.)

SHE SO SPINS.

(Dispiritingly spinning off.)

BOSON

ISOSPIN STRONGLY.

(Glimpsing where LEPTON exited.)

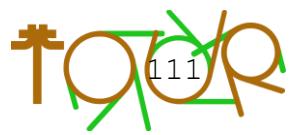
ISOSPIN EFFUSION REALLY.
ISOSPIN ALL THIS.
ISOSPIN CAN'T BELIEVE THIS.
I HAVE PROPOSALS.

(QUARK distances.)

(ATOM taps BOSON.)

OH TAU..
WE CAN REFUND DESERTRON.
SUPERCONDUCTING SUPER THING.
THERE WILL BE A SLEPTON OF CASH.
ISOSPIN CAN'T WAIT.

(QUARK focuses on the collider.)



BOSON (cont.)

ISOSPIN CAN'T BE UP FOR DEBATE.
ISOSPIN CANNOT.

(*Directing ATOM.*)

ISOSPIN YOUR TIME WITH THIS SQUARK.

(*Leaving.*)

(*ATOM leaves.*)

32. SUBATOMIC

(*TECHNICIANS enter. They stand in line by the entry of the collider.*)

TECHNICIAN

WHAT IS YOUR FIRST ORDER SANDWICH? I'M GOING WITH THE ATOMIC.

TECHNICIAN

DEVIATION CALLS FOR MY ORDER TO BE WITH EXTRA PICKLES.

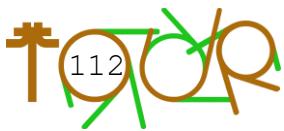
TECHNICIAN

SODIUM CHLORIDE WITH YOUR FRUITS OF LABOUR? YOU ALL MAKE ME SICK.

(*QUARK stands in the back of the line.*)

TECHNICIAN

SICKLE CELLS, IT'S QUARK! GET YOUR PHYSICS UP-DOWN-TOP-BOTTOM-STRANGE-CHARM HERE!



(*QUARK admirably heads to the front of the line.*)

(*ATOM opens the collider from the inside.*)

ATOM

OSCILLATIONS!

WHAT WILL IT BE, SUBTROPICAL?

(*Presenting an empty margarita glass.*)

DO NOT THINK TOO SUBCONSCIOUSLY.

(*Swirling their finger in the glass.*)

CHOOSE A LEVEL, SUBMARINE DOWN?

(*Stowing away the glass.*)

DO NOT BE A SUBORDINATE, QUARK.

TECHNICIAN

SUB IN A PAIN COMPLET.

TECHNICIAN

SUB IN ANY BÁNH MÌ.

TECHNICIAN

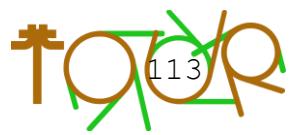
SUB IN A ВКУСНЫЙ (darnitskiy).

TECHNICIAN

SUB IN SOME SORT OF BREAD.

TECHNICIANS

SUBMIT.



QUARK

DON'T THINK IT MATTERS.

I'D LIKE A SUB.

A SUBATOMIC.

ATOM

SUBATOMIC AS IN THE YEAST?

SUBATOMIC AS IN THE CHEESE?

SUBATOMIC WITH ANY WEDGE?

SUBATOMIC'S PICKY, SALID? QUIRK?

TECHNICIAN

SUBTLE IN DISCORDANCE.

TECHNICIAN

SUBTLE MANNERISM.

TECHNICIAN

SUBTLE WITH THOUGHT PROCESS.

TECHNICIANS

SUBTLY LOST HERE LIKE IN

QUANTUM.

QUARK

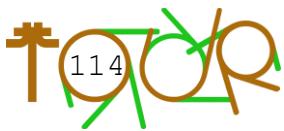
IT'S RATHER BASIC.

I AM A SUB.

A SUBSTITUTION...

ATOM

CLOSING CIRCUIT EARL-



(ATOM closes the entry of the collider.)

ATOM

SORRY. ISOSPIN.

TECHNICIAN

LOOKS LIKE WE GOT SODIUM...

ATOM

SINK TO YOUR LEVEL, SUBATOMIC!

(Getting down with QUARK.)

SINK TO MY LEVEL, SUBATOMIC!

(TECHNICIANS get down with QUARK and ATOM.)

TECHNICIANS

BASIC THAN THE BASIC UNIT.

(Staring at ATOM.)

NO EXCHANGE, FOR WE'LL GET DOWN WITH YOU
A LEVEL!

ATOM

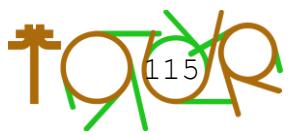
SINK TO HER LEVEL, SUBATOMIC!

(ATOM and TECHNICIANS level themselves.)

SINK TO HER LEVEL!
SINK TO HER LEVEL!
SINK TO THE LEVEL!

TECHNICIANS

SING AT HER LEVEL!



(ATOM adjust themselves.)

ATOM

SUBATOMIC!

33. MESON

[The space brightens.]

(BOSON appears. He dismisses the light.)

[The space dims.]

(TECHNICIANS exit.)

BOSON

I RESIGN. I RESIGN.
I'VE TAKEN IT TOO LIGHTLY, BUT MESON.

(ATOM demonstrates their disapproval.)

ATOM.
I'LL RESIGN. I'LL RESIGN.
I'VE GOT HEAVY NEWS TO DECLARE ABOUT
LEPTON.

ATOM

BOSON, WHERE IS THE LIGHT TRANSMITTED WHEN YOU ARE GONE?
MASONS, BOSON, WHERE ARE THE WAVES' DIRECTIONS WITH NO GUIDANCE?
REASON?



BOSON

I CAN TRUST. I CAN TRUST.
THE MATTER THAT HAS MADE UP EVERYTHING. ATOM.
IT IS YOU.

(*BOSON immediately pivots to QUARK.*)

IT IS QUARK.
YOUR FIRST DUTY AS THE NEW DIRECTOR OF THE—

ATOM

BOZO, THERE'S NOTHING LIGHT TO TAKE FROM THIS MASON'S MIND.
LEPTON, BOSON, WHY NOT PICK THE ELECTRIC DEPOSITION?
TREASON.

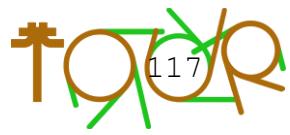
BOSON

SHE'S SOMETHING. NOT ALRIGHT.
SHE HAS LOCKED HERSELF IN THE COLLIDER,
SOMEHOW.
I DON'T KNOW. I DON'T KNOW.
I DON'T KNOW WHAT HAS GOTTEN INTO HER.
OH WELL.
SHE'S WORTHY.

(*Addressing QUARK.*)

YOU'RE WORTHY.
MY WORTH IS BEYOND THIS ACCELERATOR.
QUBITS.
SAVE LEPTON. SAVE LEPTON.
YOU TWO WILL RUN THE LAB LIKE YOU'RE MESON.
GET YOUR TWO.

(*Leaving.*)



34. PION

QUARK

IT SEEMS MY
RESPONISIBILITIES HAVE PILED ON.
AND MY RESPONSE WILL RECONCILE LEPTON.

ATOM

RADIOACTIVE DECAY SURELY WON'T STOP YOU?

QUARK

YOUR TROUBLES WILL SURELY NOT BE PIONS.
YOUR INTERACTION'S NEVER PION.

ATOM

HAVE YOU EXPERIENCED HIGH LEVEL COLLISIONS?

(QUARK looks away.)

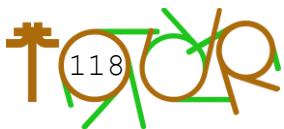
QUARK

LACK OF INTERACTIONS DID PILE ON.
IT ALSO HELPED ME EXILE BOSON.
I'M ALSO DRAWN TO THIS...
PATTERN. FIRST ORDER, ATOM.

(Harnessing the newfound power as she stares down ATOM.)

I FORGIVE YOU.

(Heading to the collider.)



35. DEUTERIUM

ATOM

I AM STABLE AS ANY DEUTERIUM...
PRIMARI— REALLY, OUR INNER PROTONS AND OUR NEUTRONS
ARE PAIRED.
SECONDARY.
I AM WELL-OFF AS AN OLD DEUTERAGONIST.
PRIMARI— REALLY, POSITIVITY, NEUTRALITY ARE PAIRED.
SECONDARY.

(Stably dancing.)

QUARK MAKES UP THE WORLD.
IT'S QUARK, MAKES UP THE WORLD.
JUST BREATHE.

(Taking a breath.)

THERE ARE EIGHT PROTONS.

(Taking a breath.)

THERE ARE EIGHT NEU—
I HATE.
I AM STABLE AS ANY DEUTERIUM...
PRIMARI— REALLY, OUR INNER PROTONS AND OUR NEUTRONS
COMPARE.
SECONDARY.
I AM WELL-OFF AS AN OLD DEUTERAGONIST.
PRIMARI— REALLY, POSITIVITY, NEUTRALITY ARE THEIRS.
SECONDARY.

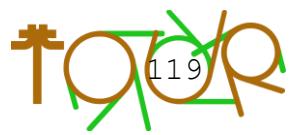
(Hopelessly walking away.)

36. ELECTRON

(QUARK tries to listen in on the collider.)

QUARK

LEPTON.
ELECTRICITY AND CHARGE ARE NOT FLOWING THROUGH.
SUPERVISOR, YOU HAVE BEEN QUITE NEGATIVE.



TECHNICIANS

ELECTRON NEUTRINO. LEPTON!

QUARK

LEPTON.
YOUR DENSITIES ARE BOUNDLESS,
EXCHANGE REPULSION.

(Frustratingly looks away.)

THIS ADVISOR, AGAIN. YOU'RE BACK, SCATTERING!

*(TECHNICIANS enter. They impact one another.
They collapse.)*

TECHNICIANS

ELECTIVE NEUROTIC... LEAP ON!

(QUARK worries.)

QUARK

LEPTON.
PLEASE EFFUSION THE BINDING ENERGY HOLDING YOUR FUSE.
YOU'RE MY COMRADE BECAUSE WITH YOU, I'M POSITIVE.

(LEPTON echoes from within the collider.)

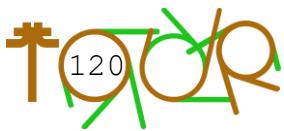
LEPTON

NO. NEGATIVE. NEGATE. I'M IN A BIND. NEGATIVE. ION. I
AM NEGATIVE.

TECHNICIANS

ELECTRON NEUTRINO. LEPTON!

(QUARK stands strong.)



QUARK

ZERO NET ELECTRIC CHARGE.
THAT'S HOW MUCH THERE WILL BE WHEN YOU ARE NOT AROUND
THE COLLIDER.
DO NOT LET YOUR CRIES BE THUNDEROUS WITHOUT THE
STREAMS OF LIGHTNING.
YOU HAVE FALLEN FROM THE COSMOS TO REIN IN THE
PARTICLES.
VALENCE!

TECHNICIANS

YOU IN THE GOLD FOIL
EXPERIMENT,
DENSITY FILLED OUR VOID.
YOU'RE STATIC, ELECTRON,
REIN IN THE CHARGE!

(Prying open the collider.)

LEPTON

HEART.
REACTIVE.
MANY HAVE A LOT TO GAIN. MOSTLY TO LOSE FROM ME.
ATOM...
I HAVEN'T GOT A MENTAL CONFIGURATION.

(TECHNICIANS stand at attention.)

QUARK

NOTHING TO CONFIGURATE.
TAKE INTO ACCOUNT THAT YOU'LL BE OPEN TO OTHER
COLLISIONS.
ATOMIC CLOUDS YOU AND YOU FORGET LIFE'S MORE THAN
IONIZING.
AS ATOM SHOULD DO, I'LL CAPTURE YOU BEFORE YOU EVER
DECAY.
VALID!

(*QUARK tenderly enters the collider.*)

LEPTON

PASS...
THE VALENCE.
NO NEED THE VALIDATION FOR I AM DENSITY.
FREELY,
WE WILL ALWAYS BE FUNDAMENTAL MATTERS.

(*LEPTON reveals herself, outside the collider. She dances across, parallel to the exterior of the collider. She leaves, without noticing QUARK.*)

[A sudden flash of light fills the insides of the collider. Blood may splatter within the inner walls of the collider. An echoing gunshot follows.]

(*TECHNICIANS scatter away.*)

(*QUARK feels the impact. A remarkably colourful attire swiftly clothes her. She collapses.*)

37. POSITRON

(*QUARK lies inside the collider. She tries to budge, but energy has left her. She soon succumbs to her injuries.*)

[*The space brightens.*]

(*BOSON slyly arrives. He curves around to the entry of the collider. He cautiously enters the collider. He examines QUARK. He looks away.*)

(*ATOM hides themself in the collider. They hold onto the operator's control, like a weapon.*)

(*BOSON drags ATOM out.*)

38. FISSION

BOSON

I ENVISIONED THAT THINGS WOULD GO DOWN.
BUT I NEVER ENVISIONED WHAT'S UP.
I ENVISIONED HER RISE TO THE TOP.
YOU DON'T ENVISION ROCK BOTTOM.

ATOM

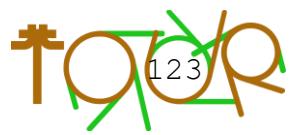
SHE HAD NO CHARM.
OUR CONFIGURATIONS HAVE BEEN JUST STRANGE.
WHAT HAS STILL LINGERED ARE HER FLAVOURS.
FORGET HER LIKE ETHER AS A FAVOUR.
THE WORLD NOW SPINS.

[*A spotlight centers on ATOM.*]

(*ATOM grows instable. They may cry.*)

BOSON

YOU MUST FISSION TO SEE THE WRITING.
THOUGH YOU DESERVE FISSION ON THE WALL.



BOSON (cont.)

YOU MUST FISSION TO KNOW SHE'S NOW LAW.
I HAVE TO FISSION YOU, ATOM.

[*The spotlight intensifies.*]

(*BOSON seizes the control.*)

(*ATOM grows unstable. They may laugh or cry, but they go insane.*)

ATOM

THERE ARE NO LAWS.
SHE HAD SPLIT US WITH RANDOMIZATION.
ALL THAT WAS IS PROBABILITY.
ALL THAT IS LEFT IS INSTABILITY.

(*Trying to crawl away into the collider.*)

THE WORLD NOW SPINS
LIKE THE SUN!

(*In the collider, BOSON smashes ATOM with the control. He splits ATOM.*)

39. PARITY

(*TECHNICIANS march in. They each discretely hold a horseshoe magnet. They encircle BOSON.*)

BOSON

THEY SAW THE LIGHT.
LASTING FISSION.
ATOM IS SPLIT.
CLEAN THE FALLOUT.

BOSON (cont.)

ENSURE SAFETY.
LET'S START OVER.
WHAT ARE YOU STANDING FOR?

(TECHNICIANS whip out their magnets. They point their magnets towards BOSON, like a circular firing squad.)

(BOSON loses control of his body.)

TECHNICIANS

BOSON.
WE HAVE COME TO REPEL
YOUR LIGHT!

BOSON

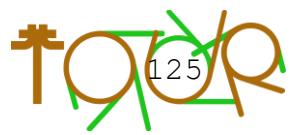
PHOTONS?!
MAGNETIC PHOTON!
I CANNOT BE A PARITY!

(Lowering to his knees.)

TECHNICIANS

BOSON.
NONE OF US WILL ATTRACT
YOUR MIGHT!
ATOM HAD ALWAYS PULLED US TOGETHER.
ATOM WILL HAVE AN EVERLASTING VISION!

(BOSON increasingly chokes.)



BOSON

ALL ARE
GOING AWOL-WOL.
MONOPOLE! IT'S A PARODY!

TECHNICIANS

BOSON.
CAN YOU JUST CONCENTRATE?
YOU MIND?

BOSON

I AM MODELLED BEYOND STANDARDS, BEYOND THIS COLLIDER!
I AM IN GAUGE AND SCALAR, COUPLED WITH LEP-

(Forcibly silenced.)

40. BARYON

(LEPTON makes her presence known from within the entry of the collider. She fearfully inspects an unrecognizable QUARK. She pushes away QUARK. She drags out ATOM's corpse.)

LEPTON

I'VE NO RESULTS IN THESE DAYS GONE.
NO LONGER HAVE SOMEONE PREON.
THIS IS FINAL, OUR LAST HOUR.
BARYON...
THROUGH THE COURSE
OF UNIVERSITY TOUR.
OF ACCELERATED TOUR.
OF UNIVERSAL TOUR.
BARYON...
UNDERNEATH
IS YOUR INNER GOD PARTICLE.
SIX TERRA 'LECTRON VOLTS UNDER.
PARTICULARLY ДЕРЬМО (der'mo).

(*BOSON mutely pleads to LEPTON to stop TECHNICIANS.*)

LEPTON (cont.)

BARYONS...

(*TECHNICIANS cock their magnets.*)

END THE LIGHT.

(*TECHNICIANS twist their magnets.*)

(*BOSON's neck snaps. He dies.*)

[*A darkness suddenly swallows everything but the entry of the collider.*]

(*LEPTON drags ATOM back into the collider.*)

(*TECHNICIANS rush away to escape from the darkness. Those who get caught in the darkness stop in their tracks and perhaps, die. They regrettably drag BOSON into the collider.*)

(*TECHNICIANS drop two magnets by LEPTON*)

(*LEPTON looks on at the darkness dwelling outside. She holds a magnet in each hand. She stares at ATOM. She looks at the space. She angelically waves her arms up and down.*)

LEPTON (cont.)

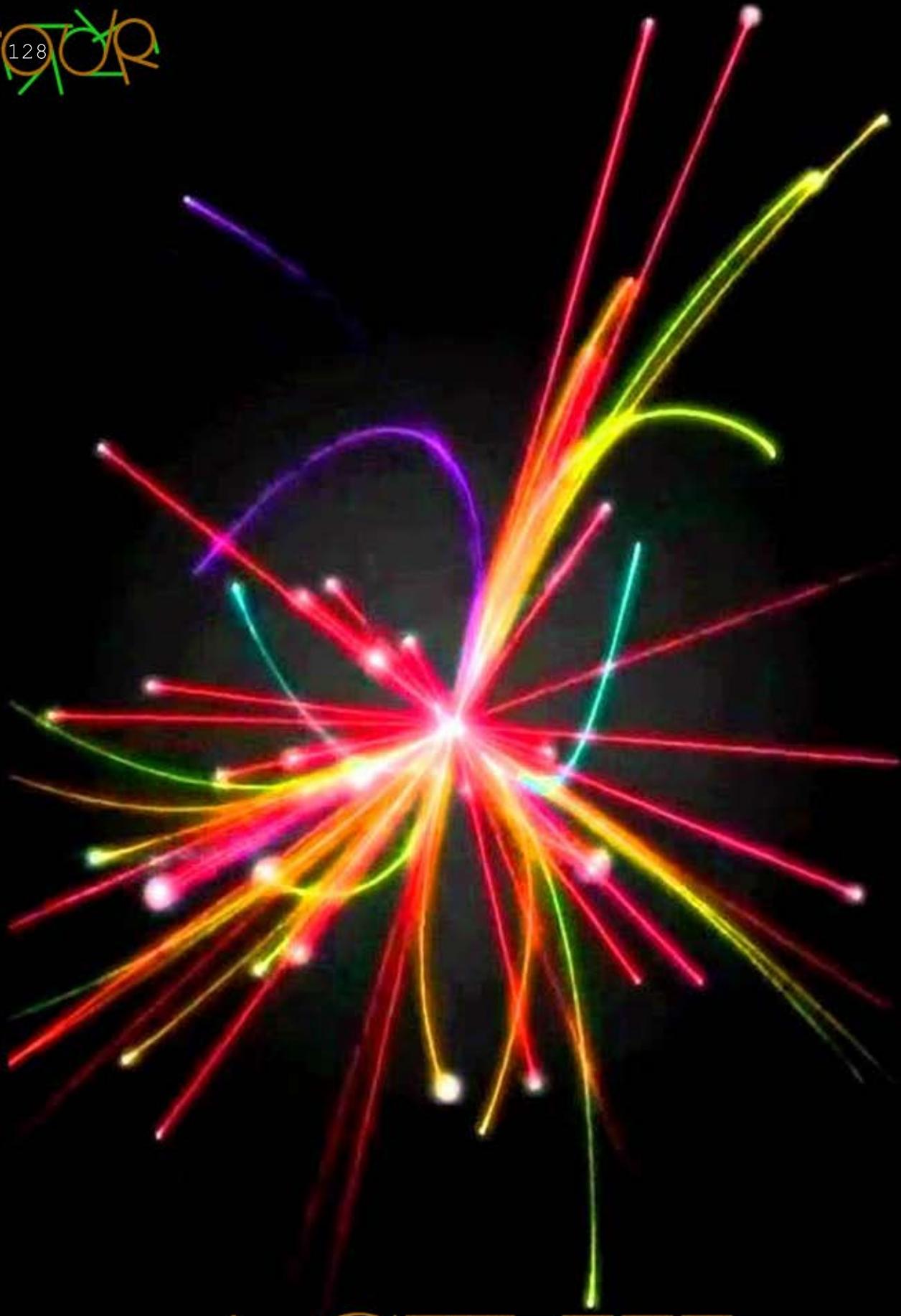
OSCILLATIONS...

(Directing the magnets towards her head.)

[Unnecessary, blood may splatter the inner walls of the collider.]

(LEPTON falls back, dead.)

End of Act -No Intermission-



ACT III

41. DECAY

[*Quantum World*]

(*QUARK is suited as a colourful particle.*)

[*The spotlight follows QUARK.*]

(*PARTICLES flow out from the entry of the collider. They shoulder QUARK. They gently set QUARK on her feet.*)

(*LEPTON is suited as a ghostly particle. She wanders out of the darkness. She spiritedly orbits QUARK.*)

(*BOSON is suited as a godly particle.*)

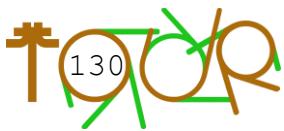
[*The space brightens.*]

(*PARTICLES carry out BOSON from the entry of the collider.*)

(*BOSON proudly gets off of PARTICLES.*)

(*ATOM is suited as a massive particle. They shyly enter from the entry of the collider.*)

(*PARTICLES follow ATOM. They orbit ATOM.*)



42. SUPERSYMMETRY

(*QUARK, LEPTON, BOSON, ATOM, and PARTICLES can only marvel at their supersymmetry.*)

QUARK

LEPTON

BOSON

ATOM

SUPERSYMMETRY.

WE DREAMT TO BE WELL-ROUNDED.

WE'RE ALL A PERFECT SPHERE.

SUPERSYMMETRY.

WE DREAMT TO BE WELL-ROUNDED.

WE'RE ALL A PERFECT SPHERE.

[*Time is stasis.*]

(*ATOM looks at their shadow. They split off.*)

PARTICLEs

SUPERPARTNERS. SUPERPARTNERS.

GIVE OUR ALL TO OUR PARTING GOALS.

SUPERPARTNERS. SUPERPARTNERS.

NO LONGER GROUNDED. LIVE EXCITED STATES.

(*QUARK vanishes.*)

SUPERPARTNERS. SUPERPARTNERS.

GIVE OUR ALL TO OUR PARTING GOALS.

SUPERPARTNERS. SUPERPARTNERS.

OPERATORS. THE WAVE FUNCTIONS.

(*LEPTON scatters away.*)

SUPERPARTNERS. SUPERPARTNERS.

GIVE OUR ALL TO WORLDS OF PHYSICS.

SUPERPARTNERS. SUPERPARTNERS.

PARTICLES (cont.)

CONCLUDES OUR TOUR. SUPERSYMMETRY.

(*Perfectly spinning.*)

BOSON

YOU SPARTICLES.

(*Having enough and leaving.*)

[*Blackout.*]

43. KNOT

(*BOSON arrives, in front of marching PARTICLES.*)

[*Lights up.*]

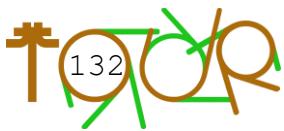
(*BOSON bows.*)

(*LEPTON arrives, orbiting PARTICLES. She bows.*)

(*QUARK arrives with PARTICLES orbiting her. She bows.*)

(*ATOM arrives with PARTICLES orbiting them. They bow.*)

(*PARTICLES merge away from QUARK, LEPTON, BOSON, and ATOM. They bow.*)



(*QUARK, LEPTON, BOSON, and ATOM fuse. They bow.*)

(*Optionally, PARTICLES orbit ORCHESTRA.*)

(*Optionally, QUARK, LEPTON, BOSON, and ATOM pull out CREW.*)

(*Fondly, PARTICLES orbit AUDIENCE MEMBERS, especially those who are socially isolated.*)

Close circuit

DAVID QUANG PHAM

Born in Wyoming, Michigan, David Quang Pham is a science-based musical writer. He is the 2020–2021 Working Title Playwrights Apprentice in Atlanta. A member of Sigma Pi Sigma, Theater Resources Unlimited, ASCAP, and the Dramatists Guild, he attained an astrophysics degree with a minor in theatre at Michigan State University.

His theatrical and astronomical interests manifested as a child, with trips to operas and space camp. In middle and high school, he delved into music theory and played the trombone. The nerdy persona remained, and the artistic talents dwelled into his college years. As he was finishing his bachelor's thesis, his sister informed him that his high school calculus teacher had been annually sharing his musical. During his junior year of high school, he wrote MATHLAND for their winter project. He returned to musical writing on the side of thesis writing. Soon, he uncovered his niche: the world of physics being told through the human experience.

As an artistic scientist, he theorizes that science and art are not two sides of the same coin. Science and art make the coin. He spins it.



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