



ELLIPSES

The Universe

in a Musical

by

David Quang Pham

WORKING TITLE PLAYWRIGHTS

THANK YOU

Name	Role
Andrea Ghez Ed Loh	Professors of Galaxies
Janelle Lawrence	Operatic/Musical Mentor
Kristin Idaszak	Science Playwriting Mentor
Abby Holland	Originated Singer of Triangulum
Lau'rie Roach Bryan Montemayor Imani Vaughn-Jones Isake Akanke Kate Jacoby Daniela Cobb Lee Osorio Parris Sarter Mary Lynn Owen Jeff Hathcoat	Monday Night Development Workshops Readers
Laurel Anderson Barb Carboy	Observers



DEVELOPMENT

Date	Type	Site	Specifics
2017	Idea	Michigan State	AST 308 Galaxies and Cosmology by Ed Loh
2020 8-15	Writing	Working Title Playwrights	Addae Moon's Master Class, "Generating Story Idea"
2020 10-5	Reading "Bounce"	Working Title Playwrights	Monday Night Critique Sessions
2020 12-7	Reading "In-Depth"	Working Title Playwrights	Monday Night Critique Sessions

SYNOPSIS

An astrophysics epic, ELLIPSES centers on a family of Galaxies undoing the Big Bang, after a member sets it off. This coming-of-age musical follows a teenager and their dog running away from home. SPT0615-JD and Gravity, their tidal force, journey away from the center of our Universe. The story explores the Big Crunch Theory and Hubble's Law, which states that Galaxies must distance from the center. It is not unlike a human being, as we want to get out and explore. The analogy is expressed through these cosmic personifications. The set has a dome home to represent the center, the stage is space, and the fourth wall is the edge. The Universe is told through the human experience.

The teenage Galaxies begin their routine by staring out to the edge ("[Bounce](#)"). They are called to supper by their parent. Singularity nurtures them and their tidal dogs, but a child is missing at the table ("[Crunch](#)"). JD is still looking out. They just want to go to the edge of the Universe ("[Cutting Edge](#)"). However, Singularity speaks of its perils and sends them to bed ("[Fixed Stars](#)"). Letting JD out of bed, Triangulum outlines their family values ("[Anomaly is Everything](#)"). Eager for a voyage anyways, JD finds Singularity's Big Bang Taser stashed under the family's rug. JD deems the fabric of spacetime to be just as sturdy ("[Zilch](#)"). Later, Singularity assesses each of their child's black-hole hearts ("[Luminous](#)"). With this being the final straw, JD strikes their parent with the Big Bang Taser. In the chaos, Gravity discreetly picks up Singularity's dislodged eye. Then, JD flees with Gravity to the edge, but the edge keeps distancing from them. It is like a rolled-up rug that JD keeps rolling away ("[Big Bang](#)").

Heartbroken, Singularity kicks out their children ("[Depth](#)") and has them spend an eternity trying to roll back the edge. The siblings blame one another for kickstarting the Universe ("[Superheated](#)"). In their isolation, Milky Way speaks to their Solar System ("[Warp, Waves, and Wrinkles](#)"). Elsewhere, JD and Gravity are on an adventure ("[Verse](#)"). Others try to quit and go home ("[Time is Relative](#)"). But they face Singularity's attack dogs, who ensure that no siblings merge ("[Spaghetti Horizon](#)"). Triangulum, Andromeda, and Milky Way band together but keep their distance ("[Globular](#)"). Soon, the Solar System develops into a swelling. Despite Triangulum's objections, Andromeda



comes to the aid of Milky Way. Before the dogs could pounce, Milky Way emits flares of light that scare them off ("[Fabric](#)").

A trillion years pass, and JD and Gravity are still traversing space. They find time to play fetch, which goes on for far too long and Gravity catches on JD's fugue. Through a stellar speech, Gravity explains that the point of return is far-fetched ("[Far-Fetched](#)").

From the center, Singularity observes their children through a telescope ("[Point](#)"). The edge is on the cosmic horizon.

In the following act, most siblings have clustered together ("[Bounce Back](#)"). They reach JD and Gravity ("[Accretion](#)"), and take them in. As they rest together, Gravity reveals that they have been holding Singularity's eye. Singularity's backstory is that they ran away from their own Universe ("[Heat Death](#)"). JD decides to continue as their parent had ("[Eccentricity](#)"). Upset by this choice, Triangulum breaks JD's monocular ("[The Scope of Things](#)"). Gravity distracts them by signaling the dogs to their location. In the frenzy, JD and Gravity race to the edge. Soon, Singularity calls off the dogs ("[Big Rip](#)"). The siblings make their way home ("[It's About Spacetime](#)").

An eternity passes, and JD is lost more than ever without their monocular. Gravity believes that one can overcome the parallax with their supermassive heart ("[Parallax](#)"). In that spirit, the edge unveils. Surrounded by spectacles reminding them of family, JD decides to head back, taking the edge with them ("[Tangent](#)"). JD tries to give back Singularity's eye when they return, but they do not forgive JD. After giving Gravity one last hug, JD jumps off the edge ("[Dot Dot Dot](#)"). In these millennia of grief, the siblings hold each other close ("[*](#)"). Singularity chooses to take in their eye, restoring their depth perception. Singularity looks beyond. JD is amongst their own family. To the eye of the beholder, it is an ellipse full of Galaxies. JD has found their center ("[Hearts in the Right Place](#)").

All of a sudden in JD's honor, Gravity returns with a wolfpack. The Galaxies and the tidal forces end time in this epic showdown ("[The Spaghettification of Zenith](#)"). When all is lost, Singularity and their Galaxies pray at their table in the center of our Universe as the tidal forces consume them ("[Big Crunch](#)"). In the darkness, a bang is seen and heard again ("[Big Bounce](#)").

Nothing is anomaly like family. Nothing is everything.



CHARACTER BREAKDOWN

○ Androgyny and Astronomy ○

Character	Nature	Identity
<u>SPT0615-JD</u> The distant galactic sibling who believes in “nothing.” JD wants to be at the edge of the Universe.	Embryonic Galaxy	Young Adult
<u>SINGULARITY</u> The relativistically impossible guardian. Singularity wants to keep their Universe intact.	Super Infinite Black Hole	Adult
<u>GRAVITY</u> A tidal dog. Gravity wants to ground the wide-open space.	Tidal Force	Any
<u>TRIANGULUM</u> The jingoistic galactic sibling. Triangulum wants to be the role model.	Spiral Galaxy	Teenager
<u>ANDROMEDA</u> The naval galactic sibling. Andromeda wants to find the pearl in this universal oyster.	Spiral Galaxy	Teenager
<u>MILKY WAY</u> The aimless galactic sibling. Milky Way wants to make themselves useful.	Barred Spiral Galaxy	Preadolescent
<u>WHIRLPOOL</u> The anaerobic galactic sibling. Whirlpool wants to spiral into risk control.	Grand-Design Spiral Galaxy	Teenager
<u>CARTWHEEL</u> The aerobic galactic sibling. Cartwheel wants to earn their rings.	Ring Galaxy	Teenager

Ensembles		
<u>TIDALS</u>	<u>SOLAR SYSTEMS</u>	<u>MULTIPLICITIES</u>
	Sun (Singularity)	1 or A-Ω
	Earth (ensemble)	2
	Jupiter (Whirlpool)	
	Saturn (Cartwheel)	
	Uranus (Triangulum)	
	Eris (JD)	
	Oort Cloud (Andromeda)	

BRIGHT IDEA

<u>ABELL 2261</u>	Elliptical Galaxy	Onlooker
An anomalous galactic sweetheart, beyond the edge of the Universe. “Abell” is the stage name of JD’s performer’s literal loved one in the audience. Their heart is not a supermassive black hole, much like Multiplicities.		



TIDALS

Tidals are tidal forces personified as canines. Over the course of the story, the dogs evolve into wolves.

The barks and woofs of Tidals are uttered by barking: "Force." Their howls are uttered by howling: "Fall." Singularity and most Galaxies cannot converse with the Tidals. Along JD's and Gravity's voyage to the edge of the Universe, JD eventually understands the tidal language.

SOLAR SYSTEMS

Solar Systems are celestial bodies that speak to Milky Way when they wander the Universe alone. They are like imaginary friends, before these planetary friends physically come to life as puppets and dancers. During the first act, they speak for several billion years (quarter-hour staging time) before the Sun becomes a red giant (swelling). Any set of cast members may voice our general Solar System. The principal casts are marked in parentheses for convenient doubling.

MULTIPLICITIES

Multiplicities are Singularity's parental figures from their native universe. They are like Galaxies except they have no supermassive black holes for their hearts. They are personified as law enforcers from another universe, where the laws of physics are different and someone with a black-hole heart, like Singularity, is an anomaly. In "Heat Death," Multiplicities cry out for Singularity, after Singularity runs away from home (the center of their own Universe). They do not make an appearance but may be represented as silhouettes when Singularity is in front of the stage. Each Multiplicity are alphabetized to mean that at least two performers portray them, as long as they switch back and forth in the lines.

MUSICAL NUMBERS

♪ #	Page	Title	Characters	◦Present but unvocal
1.	13	Bounce	JD TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
2.	16	Crunch	SINGULARITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL JD GRAVITY tidals	
3.	22	Cutting Edge	JD GRAVITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL SINGULARITY	
4.	29	Fixed Stars	SINGULARITY ANDROMEDA JD TRIANGULUM MILKY WAY WHIRLPOOL CARTWHEEL	
5.	35	Anomaly is Everything	TRIANGULUM JD	
6.	38	Zilch	JD GRAVITY tidals	
7.	43	Luminous	SINGULARITY JD TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
8.	45	Big Bang	JD SINGULARITY GRAVITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL tidals	
9.	51	Depth	SINGULARITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL tidals	
10.	60	Superheated	WHIRLPOOL TRIANGULUM CARTWHEEL ANDROMEDA MILKY WAY	
11.	65	Verse	JD GRAVITY	
12.	73	Warp, Waves, and Wrinkles	MILKY WAY solar systems	
13.	82	Time is Relative	WHIRLPOOL CARTWHEEL	
14.	93	Spaghetti Horizon	SINGULARITY WHIRLPOOL CARTWHEEL tidals	
15.	100	Globular	ANDROMEDA TRIANGULUM	
16.	108	Far-Fetched	GRAVITY JD	
17.	116	Fabric	TRIANGULUM ANDROMEDA MILKY WAY tidals	
18.	119	Point	SINGULARITY multiplicity tidals	
19.	123	Bounce Back	TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
20.	133	Accretion	JD GRAVITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
21.	144	Heat Death	SINGULARITY multiplicities tidals GRAVITY	
22.	159	Eccentricity	JD GRAVITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
23.	163	The Scope of Things	TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL JD GRAVITY	



♯	Page	Title	Characters	◦Present but unvocal
24.	170	Big Rip	ANDROMEDA MILKY WAY SINGULARITY tidals TRIANGULUM WHIRLPOOL CARTWHEEL	
25.	179	Parallax	GRAVITY JD	
26.	183	Tangent	JD GRAVITY	
27.	189	It's About Spacetime	SINGULARITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
28.	198	Dot Dot Dot	JD SINGULARITY GRAVITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL	
29.	205	*	WHIRLPOOL ANDROMEDA MILKY WAY CARTWHEEL TRIANGULUM SINGULARITY	
30.	207	Hearts in the Right Place	JD SINGULARITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL multiplicities	
31.	208	(The Spaghettification of) Zenith	GRAVITY SINGULARITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL tidals	
32.	215	Big Crunch	SINGULARITY TRIANGULUM ANDROMEDA MILKY WAY WHIRLPOOL CARTWHEEL tidals	
33.	218	Big Bounce	COMPANY	
		Able	ABELL	

MUSICAL CHARACTERIZATIONS

JD| “The edge of the Universe” is sung: The(D3-5) edge(B2-4) of(A2-4) the(F#2-4) u(G2-4)-ni(F#2-4)-verse(F#2-4→D2-4)

SINGULARITY| The hums are the longing melodies in “Heat Death”:
D3-5 B2-4 C#3-5 G#2-4 E2-4 F#2-4 G#2-4 F#2-4

TRIANGULUM| Associative Instruments: Triangle, Handbell

MILKY WAY| Associative Instrument: Cowbell (may be attached to Milky Way’s physicality or personality)

CARTWHEEL| Associative Instruments: Jingle Ring Tambourine, Jingle Bell

ABELL| Leitmotif from “Able” whenever Abell is focused upon. “Able” is in the second phrase in “Hearts in the Right Place.”

SCENES

Act	Page	Location	SET props
Ii	13	The Center of the Universe	DOME HOME RUG(dark) SEATS(7) TABLE balls balm Big Bang Taser dishes knapsack monoculars(2) snow globe whoopie cushion
Iii	65	The Fabric of Spacetime	FIELD EQUATIONS (including $v = H_0 D$, $\Delta t = (\Delta t_0) / \sqrt{1 - v^2 / c^2}$) balm knapsack magnolia flowers(2) monoculars
Iiii	88	The Center of the Universe	DOME HOME RUG(dark) SEATS(6) TABLE Big Bang Taser snow globe(smashed)
Iiv	96	The Fabric of Spacetime	balls balm knapsack monoculars
Iv	119	The Center of the Universe	DOME HOME SEATS(1) TABLE RUG(dark) snow globe telescope
IIIi	123	The Fabric of Spacetime	balls knapsack
IIii	144	Singularity's Past Universe	DOME HOME Big Bang Taser fabric(dark)
IIiii	154	The Fabric of Spacetime	FIELD EQUATIONS (including $d = 1 / p$) balls domes(5) knapsack monoculars(2)
IIiv	183	The Edge of the Universe	balls(2)
IIV	188	The Center of the Universe	DOME HOME RUG(dark) SEATS(6) TABLE Big Bang Taser
III	218	A Fresh Universe	DOME HOME RUG(dark) SEATS(6) TABLE snow globe

THE CENTER OF THE UNIVERSE

Pre-Big Bang & Big Bounce

~~~~~  
back curtains

UPSTAGE

~~~~~  
side curtain (DOME HOME) side curtain

DOWNSTAGE

DOWNSTAGE

FOURTH WALL

Post-Big Bang

~~~~~  
side curtain ( DOME HOME ) side curtain

UPSTAGE

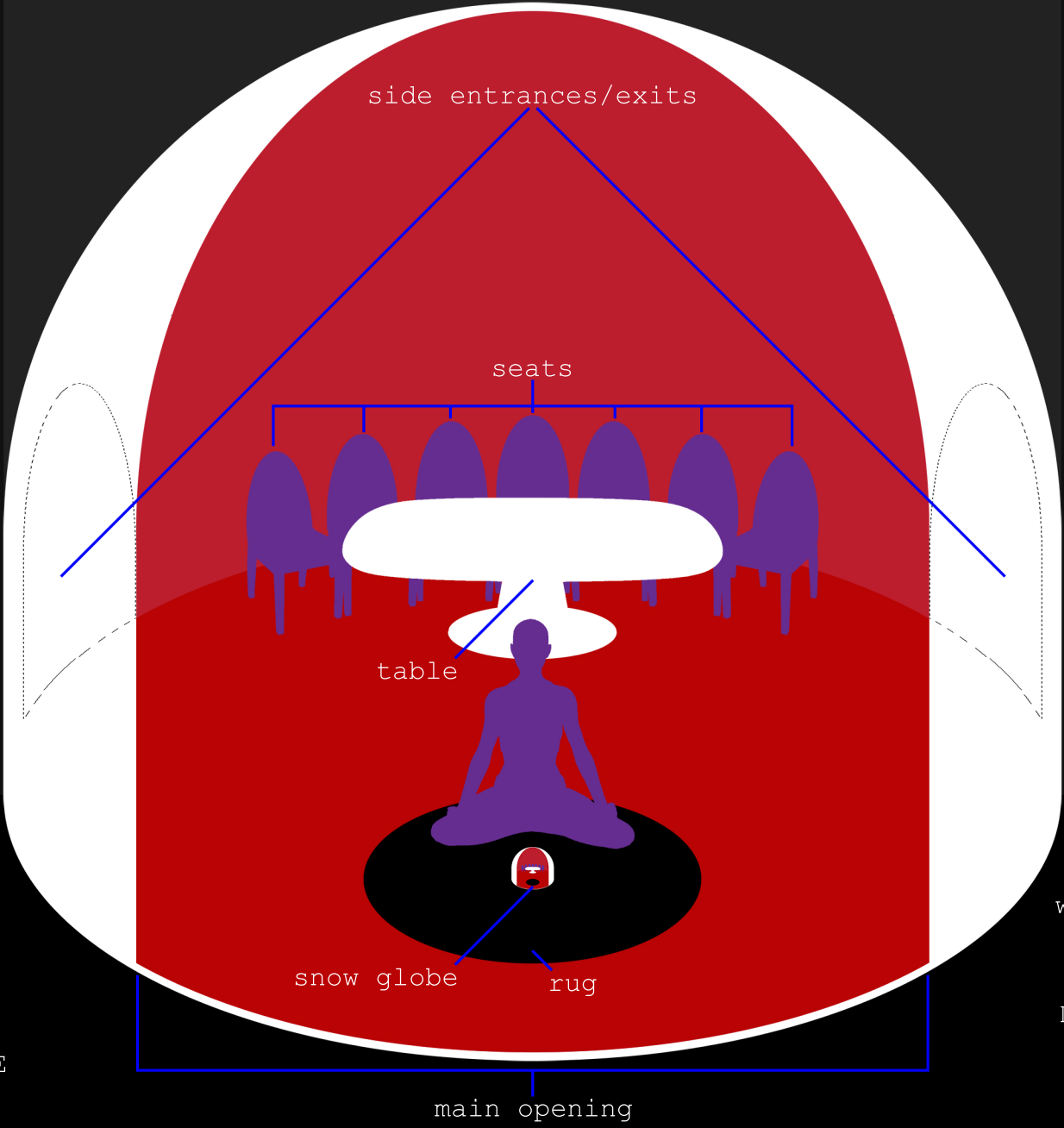
UPSTAGE

DOWNSTAGE

DOWNSTAGE

FOURTH WALL

DOME HOME





# ACT I