THE NOTHING THAT IS

Libretto adapted by Libby Larsen

PART ONE: LOGOS

Baritone:
In the beginning there was logos and logos was with God and logos was God.¹

Chorus:
Chora, Yavat-tavat
Bindu, Psephos,
Theta, Theca,
Teca, Sipos,
Sipocelentis,
Sifra, Sifr, . . .

Speaker One:
The world of appearances may or may not be real, or both may be real and may not be real—or may be indescribable; or may be real and indescribable, or unreal and indescribable; or in the end may be real and unreal and indescribable.

Speaker Two:

Nihil, Null,
Nihte, Nulla figura
Sûnya, Kha,
Akàsa, Zefiro,
Zeviro, Zero,
Zypher, Ziffer,
Aught, Naught.

Speaker One:
void
sky
space

Speaker Two:

Sky...ákàsa et Omnium.
Sky... nulla et Omnium.
Logos...et Omnium.
Viya dambar âkàsa sûnya
yama rama veda.
Akàsa et Omnium.
Nulla et Omnium.
Deus et Omnium

Sky.⁴
Atmosphere.
Space.
Void.
Primordial couple.
Rama.
Veda.

Zero.
Zero.
Zero.
Zero.
Three.
Four.

Chorus:
Luna. Deus et Omnium.
One minus one plus one...

¹In reading this libretto, note that horizontally aligned texts will be heard either simultaneously or sequentially.
²Logos, Greek for word and ratio.
³John 1:1.
⁴Translated by Kristen McQuillin from Lokavibhaga, an Indian cosmology treatise from 458 AD.
⁵Adapted from John F. Kennedy, Address at Rice University, September 12, 1962.
PART TWO: TO ZERO

Chorus:
Time, like an ever-rolling stream,
Bears all its sons away;
They fly, forgotten, as a dream
Dies at the op’ning day.

<table>
<thead>
<tr>
<th>Chorus:</th>
<th>Speaker One:</th>
<th>Speaker Two:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Luna. Deus et Omnium.</em></td>
<td>T minus 08:05:00</td>
<td>Launch Vehicle Propellant Loading.</td>
</tr>
<tr>
<td><em>One minus one plus one...</em></td>
<td>T minus 07:15:07</td>
<td>T minus 06:30:00</td>
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</tbody>
</table>

Life, like a vain amusement, flies,
A fable or a song;
By swift degrees our nature dies,
Nor can our joys be long.

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<tbody>
<tr>
<td><em>Luna. Deus et Omnium.</em></td>
<td>All three men breathing.</td>
<td>T minus 02:00:00</td>
<td>Mission Control Center/Spacecraft command checks.</td>
</tr>
<tr>
<td><em>One minus one plus one...</em></td>
<td>T minus 01:55:00</td>
<td>T minus 01:51:00</td>
<td>Abort advisory system checks.</td>
</tr>
</tbody>
</table>

Our souls would learn the heav’nly art
T’improve the hours we have,
That we may act the wiser part,
And live beyond the grave.⁶

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| Thy wonders to thy servants show,
make thy own work complete: | T minus 00:43:00 | Retract Apollo access arm to standby position. |
| then shall our souls thy glory know,
and own thy love was great. | T minus 00:42:00 | Arm launch escape system. |
| | T minus 00:40:00 | Final launch vehicle range safety checks. |
| | T minus 00:30:00 | Launch vehicle power transfer test |
| | T minus 00:20:00 | Shut down LM operational instrumentation. |
| | T minus 00:15:00 | Spacecraft to internal power. |
| | T minus 00:06:00 | Space vehicle final status checks. |
| | T minus 00:05:30 | Arm destruct system. |
| | T minus 00:05:00 | Apollo access arm fully retracted. |
| | T minus 00:03:07 | Firing command (automatic sequence). |

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⁶Psalm 90, metrical version by Isaac Watts.
⁷Text from *Project: Apollo 13, Ex Luna, Scientia, From the Moon, Knowledge*; compiled by Anthony W. Haukap.
PART THREE: PURE ZERO

Baritone:
We start, then, with nothing, pure zero. But this is not the nothing of negation. For not means other than, and other is merely a synonym of . . . second. As such it implies a first; while the present pure zero is before every first. The world of appearances may or may not be real, . . . The nothing of negation is the nothing of death, which comes second to, or after, everything. But this pure zero is the nothing of not being born . . . no thing, no compulsion, no law. As such, pure zero is boundless, boundless possibility.8

Chorus:
One plus one minus one. . . Luna. . .
…no thing, no compulsion, no law.
Boundless freedom, boundless.

Chorus:
00:05:32
Lovell:
00:05:37
CapCom:
00:08:18
00:08:38

8Text from Charles S. Peirce, *Logic of Events* (1898), adapted by Libby Larsen.
PART FOUR: AD ASTRA PER ASPERO

Baritone:
And new philosophy calls all in doubt, the
element of fire is quite put out; the sun is
lost, and the earth, and no man’s wit can well
direct him where to look for it—’tis all in
pieces, all coherence gone; all just supply,
and all relation: prince, subject, father,
son are things forgot. 9

Speaker One:  Speaker Two:
Haise:    “Right now Jack, I am looking out the right
window and it’s pretty dark, but there are
about a thousand false stars out here, it’s
hard to discern what is real and not real.”

Baritone:
The world of appearances may be real
or not real.

Speaker Two:  Speaker One:
Lovell:    “We’re just not able to see the stars at all.”

Baritone:
The world of appearances may be real or not real.

Speaker One: CapCom:
CapCom: “Jim when you can see some stars, if you can recognize constellations, please let us know.”

01 Alpheratz 02 Diphda
03 Navi 04 Achernar
05 Polaris 06 Acamar
07 Menkar 10 Mirfak
11 Aldebaran 12 Rigel
13 Capella 14 Canopus
15 Sirius 16 Procyon
17 Regor 20 Dnocs
21 Alphard 22 Regulus
23 Denebola 24 Gienah
25 Acrux 26 Spica
27 Alkaid 30 Menkent
31 Arcturus 32 Alphecca
33 Antares 34 Atria
35 Rasalhague 36 Vega
37 Nunki 40 Altair
41 Dabih 42 Peacock
43 Deneb 44 Enif
45 Fomalhaut 46 Sun
47 Earth 50 Moon

Chorus:
Terra non est centra mundi. Ad astra per aspero.

Baritone:
The world of appearances may be real and not real.

Chorus:
Terra non est centra mundi. Ad astra per aspero.

Christopher Kraft: “Well I guess we should start out by saying we have a serious problem in the command and service module. We appear to have some kind of accident.”

Sig Sjoberg: “The first milestone, more or less the survival now is to go to the backside of the moon to come back.”

Christopher Kraft: “I would say that this is as serious a situation as we’ve ever had in manned space flight.”

Chorus and Baritone:
How long, O Lord, shall I complain, Like one that seeks his God in vain?
Canst thou thy face for ever hide, And I still pray, and be denied?

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10 Translation: “The Earth is not the center of the world.”
11 Translation: “A rough road leads to the stars.”
**Speaker One:**

Flight:

“Guidance. Okay?”

Guidance:

“We’re good, Flight.”

Flight:

“Control. Okay?”

Control:

“We’re okay, Flight.”

Telmu:

“We’re go, Flight.”

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**Chorus and Baritone:**

Shall I forever be forgot,
As one whom thou regardest not
Still shall my soul thine absence mourn,
And still despair of thy return?

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**Speaker One:**

CapCom:

“Hey, guys, this is Deke. Just wanted to let you know we’re gonna get you back. Everything’s looking good. We think you guys are in good shape all the way around. Why don’t you quit worrying and get some sleep?”

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**Chorus and Baritone:**

How long shall my poor troubled breast
Be with these anxious thoughts oppressed?
And Satan, my malicious foe,
Rejoice to see me sunk so low?

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**Speaker One:**

Lovell:

“Houston, Aquarius.”

CapCom:

“Go ahead Aquarius.”

Lovell:

“Ah, Vance, we got to realize we got to establish a work-rest cycle up here… we got to get some people to sleep.”

CapCom:

“We should be ready to go in about five minutes. That’s all I can say.”

Lovell:

“Okay.”

Lovell:

“I’d say we’ve gone a hell of a long time without any sleep. We got to start thinking about getting the crew back to sleep again because, a … I… I didn’t get any sleep last night at all.”

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**Chorus and Baritone:**

Hear, Lord, and grant me quick relief,
Before my death conclude my grief:
If thou withhold thy heav’nly light,
I sleep in everlasting night.
Speaker Two:
What we want, then, is the distance from the observer to the moon. If the position of the observer from the earth is given by the vector $O$, and the position of the moon from the earth is given by the vector $M$, then the displacement of the moon from the observer is given by the vector $D = M - O$. From this, the distance from the observer to the moon can be calculated as the Euclidean norm of the vector $D$. . . .

Baritone:
But I have trusted in thy grace,
And shall again behold thy face.
Whate’er my fears or foes suggest,
Thou art my hope, my joy, my rest;
My heart shall feel thy love, and raise
My voice to songs of praise.\(^\text{13}\)

Chorus:
Theta, Theca,
Teca, Sipos,
Sipocelentis,
Sifra, Sifr,
Nihil, Null,
Nihite, Nulla figura
Sûnya, Kha,
Akasa, Zefiro,
Zefiro, Zero,
Zypher, Ziffer,
Aught, Naught

Speaker One: Speaker Two:

Chorus:
*Luna. Deus et omnium.*
*One minus one plus one.*

Child:
“I know that I am mortal and a creature of the day; but when I search out the massed wheeling circles of the stars, my feet no longer touch the earth but are side by side with Zeus himself, I take my fill of ambrosia, the food of the gods.”\(^\text{14}\)

\(^{12}\)Courtesy M. M. Forbes and A. E. Ismail.
\(^{13}\)Psalm 13, metrical version by Isaac Watts.
\(^{14}\)Text by Claudius Ptolemaeus (Ptolemy).