



...ate different
en (green), and
ter layer of cool
texture, the
texture of parallel
of helium, with a

1
00:00:04,390 --> 00:00:03,350
for whatever reason it feels great to

2
00:00:06,389 --> 00:00:04,400
touch it

3
00:00:07,349 --> 00:00:06,399
um i don't know how it how it really

4
00:00:09,750 --> 00:00:07,359
looks

5
00:00:12,230 --> 00:00:09,760
um but it feels

6
00:00:18,390 --> 00:00:12,240
like oh this is what i thought a nebula

7
00:00:23,830 --> 00:00:21,670
i was born with congenital cataracts

8
00:00:25,269 --> 00:00:23,840
so what that means is that i had a

9
00:00:27,990 --> 00:00:25,279
opaque

10
00:00:29,029 --> 00:00:28,000
film over both of my eyes when i was

11
00:00:31,429 --> 00:00:29,039
born

12
00:00:33,750 --> 00:00:31,439
what that resulted in is very blurry

13
00:00:36,389 --> 00:00:33,760

vision

14

00:00:39,590 --> 00:00:36,399

blurry images i don't have any sense of

15

00:00:41,590 --> 00:00:39,600

detail as a blind child

16

00:00:45,590 --> 00:00:41,600

there weren't a lot of

17

00:00:46,470 --> 00:00:45,600

accessible materials readily available

18

00:00:51,110 --> 00:00:46,480

to

19

00:00:54,310 --> 00:00:51,120

interested in science

20

00:00:55,590 --> 00:00:54,320

it was something that we would take

21

00:00:58,150 --> 00:00:55,600

styrofoam

22

00:01:00,869 --> 00:00:58,160

balls or cups and kind of make the

23

00:01:03,110 --> 00:01:00,879

planets and you know very rudimentary

24

00:01:05,910 --> 00:01:03,120

you know concept of what the planets

25

00:01:07,910 --> 00:01:05,920

look like but when it came to looking at

26

00:01:10,870 --> 00:01:07,920

an image from a textbook

27

00:01:13,109 --> 00:01:10,880

that was something that was very

28

00:01:15,510 --> 00:01:13,119

i was i didn't have access to

29

00:01:17,590 --> 00:01:15,520

all of these were words and concepts i

30

00:01:19,350 --> 00:01:17,600

couldn't physically

31

00:01:21,830 --> 00:01:19,360

grasp on my own

32

00:01:24,950 --> 00:01:21,840

um to experience it for myself

33

00:01:26,950 --> 00:01:24,960

as a blind student you're wondering can

34

00:01:28,149 --> 00:01:26,960

i get justice excited about it as

35

00:01:31,590 --> 00:01:28,159

everyone else

36

00:01:32,789 --> 00:01:31,600

this book is entitled touch the universe

37

00:01:36,390 --> 00:01:32,799

a nasa

38

00:01:37,910 --> 00:01:36,400

braille book of astronomy

39

00:01:39,670 --> 00:01:37,920

by

40

00:01:41,590 --> 00:01:39,680

noreen grice

41

00:01:42,710 --> 00:01:41,600

which took

42

00:01:45,109 --> 00:01:42,720

hubble

43

00:01:46,630 --> 00:01:45,119

and the images that came from humble

44

00:01:47,670 --> 00:01:46,640

and created

45

00:02:35,430 --> 00:01:47,680

a

46

00:02:37,270 --> 00:02:35,440

grey red spot

47

00:02:40,309 --> 00:02:37,280

and so

48

00:02:41,110 --> 00:02:40,319

with touch i can actually tell it's not

49

00:03:10,149 --> 00:02:41,120

a

50

00:03:11,750 --> 00:03:10,159

within the center of it

51
00:03:15,110 --> 00:03:11,760
and

52
00:03:16,949 --> 00:03:15,120
almost just like a number eight

53
00:03:21,910 --> 00:03:16,959
it's expanded out

54
00:03:23,990 --> 00:03:21,920
from its uh hemisphere again as as a um

55
00:03:25,110 --> 00:03:24,000
as a young kid and you hear the word

56
00:03:26,070 --> 00:03:25,120
nebula

57
00:03:28,149 --> 00:03:26,080
um

58
00:03:30,949 --> 00:03:28,159
it's kind of equated to nebulous and you

59
00:03:33,430 --> 00:03:30,959
think oh there's there's chaos there's

60
00:03:34,949 --> 00:03:33,440
it's it's just a bunch of stars

61
00:03:37,190 --> 00:03:34,959
but to see

62
00:03:39,589 --> 00:03:37,200
through this image that a nebula can

63
00:03:42,869 --> 00:03:39,599

have a certain order to it

64

00:03:44,869 --> 00:03:42,879

um a beautiful order to it then this

65

00:03:46,789 --> 00:03:44,879

hourglass nebula

66

00:03:48,630 --> 00:03:46,799

shows that that's that's what indeed

67

00:03:49,509 --> 00:03:48,640

what it looks like

68

00:03:52,710 --> 00:03:49,519

just

69

00:03:55,190 --> 00:03:52,720

almost like our milky way it actually

70

00:03:56,710 --> 00:03:55,200

spirals out with

71

00:04:02,149 --> 00:03:56,720

almost

72

00:04:04,710 --> 00:04:02,159

that that spiral out it

73

00:04:06,869 --> 00:04:04,720

and it's it's it's almost like you you

74

00:04:09,190 --> 00:04:06,879

want to grab it and almost spin it and

75

00:04:11,190 --> 00:04:09,200

that's actually what the galaxy is doing

76

00:04:13,030 --> 00:04:11,200

is is spinning

77

00:04:16,870 --> 00:04:13,040

um so

78

00:04:19,270 --> 00:04:16,880

um it's it's it's kind of cool

79

00:04:21,830 --> 00:04:19,280

it either feels almost like a spider

80

00:04:24,790 --> 00:04:21,840

with legs but you know that it's it's a

81

00:04:27,270 --> 00:04:24,800

galaxy in space i felt like i was back

82

00:04:30,469 --> 00:04:27,280

in you know fifth or sixth grade and

83

00:04:32,629 --> 00:04:30,479

reliving that experience of the launch

84

00:04:35,830 --> 00:04:32,639

of hubble and actually getting a chance

85

00:04:37,670 --> 00:04:35,840

to say hey now i have this access now i

86

00:04:38,710 --> 00:04:37,680

can experience this excitement for

87

00:04:40,629 --> 00:04:38,720

myself

88

00:04:42,150 --> 00:04:40,639

it kind of you know made me feel like a

89

00:04:45,030 --> 00:04:42,160

kid again

90

00:04:47,189 --> 00:04:45,040

to be able to say oh this is what a star

91

00:04:49,030 --> 00:04:47,199

looks like or this is what a telescope

92

00:04:49,909 --> 00:04:49,040

or this is what our planets look like