



1
00:00:06,890 --> 00:00:11,360
When I was a little kid I thought I
wanted to be an astronomer. I took a

2
00:00:11,360 --> 00:00:14,240
geology class and there's just something
about having a rock in your hand,

3
00:00:14,240 --> 00:00:17,420
something you could hold and feel. I
thought, you know, we have rocks from

4
00:00:17,420 --> 00:00:22,939
outer space. Maybe I'll study those. I
study meteorites, I love meteorites. It's

5
00:00:22,939 --> 00:00:26,689
like an addiction for me, because I love
exploring the solar system through

6
00:00:26,689 --> 00:00:31,390
understanding these rocks and the places
they come from.

7
00:00:38,829 --> 00:00:44,539
Life on Earth exists on two heat engines.
One is the Sun but the other is the heat

8
00:00:44,539 --> 00:00:49,159
engine below our feet, that drives the
movement of the plates. They drove the

9
00:00:49,159 --> 00:00:53,629
differentiation of the planet. We've
known for two centuries that our core

10
00:00:53,629 --> 00:00:57,530
was made of metal, but we haven't been
able to explore. We can't drill a hole

11
00:00:57,530 --> 00:01:01,940
that deep, we can't explore with any kind
of submersible in the oceans what we've

12
00:01:01,940 --> 00:01:06,159
been looking for for years. Metallic
asteroids are something that's very dense.

13
00:01:06,159 --> 00:01:12,020
Psyche is an asteroid 200 kilometers
across, thought to be metal-rich. Psyche

14
00:01:12,020 --> 00:01:17,810
is our way to explore our own planet.
We have meteorites fall to Earth, some of

15
00:01:17,810 --> 00:01:22,220
them are little tiny pieces, some of them
are the size of cars, but compared to

16
00:01:22,220 --> 00:01:26,380
Psyche they're just tiny little specks
of dust.

17
00:01:29,360 --> 00:01:34,500
When I first started as a graduate
student, we had never visited an asteroid,

18
00:01:34,500 --> 00:01:39,330
not any of them. Asteroids were points of
light in the sky and now they're real

19
00:01:39,330 --> 00:01:45,270
geologic places. They're places we can
visit. More than the awe, more than the

20
00:01:45,270 --> 00:01:51,120
wonder, we have this responsibility to
do this right. And that's why this part

21
00:01:51,120 --> 00:01:54,870
is so important. What we're doing right
now, designing these instruments because

22
00:01:54,870 --> 00:02:00,210
that will determine whether we get the
data that graduate students 10 years, 20

23
00:02:00,210 --> 00:02:04,170
years, 30 years from now, we'll learn
things about this asteroid that we can't