



CLIPS

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MICROBIOLOGY & IMMUNOLOGY



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1
00:00:04,070 --> 00:00:02,149
what do you think it would be likely

2
00:00:06,230 --> 00:00:04,080
another intelligent species could look

3
00:00:07,349 --> 00:00:06,240
like or are the possibilities just too

4
00:00:12,070 --> 00:00:07,359
infinite

5
00:00:14,789 --> 00:00:12,080
i mean take any animal in our ocean

6
00:00:17,029 --> 00:00:14,799
uh and uh you know

7
00:00:18,550 --> 00:00:17,039
basically give it a reason for creating

8
00:00:20,070 --> 00:00:18,560
a society

9
00:00:22,550 --> 00:00:20,080
and uh

10
00:00:26,470 --> 00:00:22,560
or have an oral history

11
00:00:28,950 --> 00:00:26,480
uh that it can pass to its children

12
00:00:31,589 --> 00:00:28,960
um and

13
00:00:33,990 --> 00:00:31,599

you know and so therefore time

14

00:00:37,030 --> 00:00:34,000

doesn't become a limitation in terms of

15

00:00:38,950 --> 00:00:37,040

achievement levels that can be um

16

00:00:41,110 --> 00:00:38,960

obtained attained

17

00:00:42,709 --> 00:00:41,120

uh and and you can create an

18

00:00:46,069 --> 00:00:42,719

intelligence i mean you know we all look

19

00:00:47,190 --> 00:00:46,079

at at octopuses as probably one of the

20

00:00:49,190 --> 00:00:47,200

most

21

00:00:51,110 --> 00:00:49,200

interesting next

22

00:00:52,709 --> 00:00:51,120

intelligences on the planet i mean

23

00:00:53,990 --> 00:00:52,719

obviously other than the cetaceans the

24

00:00:57,270 --> 00:00:54,000

cetaceans are

25

00:01:00,310 --> 00:00:57,280

are you know dolphins and whales are

26

00:01:02,630 --> 00:01:00,320

obviously intelligent

27

00:01:03,750 --> 00:01:02,640

elephants are intelligent

28

00:01:08,149 --> 00:01:03,760

uh

29

00:01:10,149 --> 00:01:08,159

anymore because

30

00:01:13,270 --> 00:01:10,159

you know of that damn movie my my

31

00:01:15,350 --> 00:01:13,280

octopus friend or whatever

32

00:01:16,630 --> 00:01:15,360

you know um

33

00:01:18,390 --> 00:01:16,640

it's uh

34

00:01:20,469 --> 00:01:18,400

and here you have a distributed nervous

35

00:01:21,910 --> 00:01:20,479

system in the

36

00:01:24,149 --> 00:01:21,920

in the octopus it doesn't have a central

37

00:01:27,749 --> 00:01:24,159

brain like we do it has distributed

38

00:01:31,350 --> 00:01:27,759

nervous systems so you know what kind of

39

00:01:34,069 --> 00:01:31,360

intelligence would evolve out of that

40

00:01:36,069 --> 00:01:34,079

something that would have what how many

41

00:01:36,789 --> 00:01:36,079

tentacles do most octopus have i don't

42

00:01:39,510 --> 00:01:36,799

know

43

00:01:41,590 --> 00:01:39,520

uh but they have basically let's say 10

44

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

sub-brains in addition to their main

45

00:01:43,510 --> 00:01:42,720

brain

46

00:01:45,270 --> 00:01:43,520

so

47

00:01:47,109 --> 00:01:45,280

you know as that

48

00:01:48,789 --> 00:01:47,119

as an intelligence like that began to

49

00:01:50,389 --> 00:01:48,799

evolve you could imagine different of

50

00:01:53,270 --> 00:01:50,399

those sub-brains taking on different

51
00:01:56,310 --> 00:01:53,280
functions like our brain has what are

52
00:01:59,670 --> 00:01:56,320
called nuclei within them those are all

53
00:02:01,830 --> 00:01:59,680
condensed regions of neural interactions

54
00:02:03,190 --> 00:02:01,840
little circuitries that carry out

55
00:02:04,709 --> 00:02:03,200
different functions one is a memory

56
00:02:07,030 --> 00:02:04,719
system another is

57
00:02:08,469 --> 00:02:07,040
fear another is computation another is

58
00:02:09,990 --> 00:02:08,479
where you think your consciousness

59
00:02:12,150 --> 00:02:10,000
resides

60
00:02:14,150 --> 00:02:12,160
um

61
00:02:16,869 --> 00:02:14,160
would an octopus have a distributed

62
00:02:18,630 --> 00:02:16,879
consciousness around all of those

63
00:02:20,150 --> 00:02:18,640

sub-brains