

WEBVTT

NOTE duration:"01:13:15"

NOTE recognizability:0.849

NOTE language:en-us

NOTE Confidence: 0.844481075625

00:00:00.000 --> 00:00:01.930 Doctor Ledoux his work is

NOTE Confidence: 0.844481075625

00:00:01.930 --> 00:00:04.429 focused on focuses on the brain

NOTE Confidence: 0.844481075625

00:00:04.429 --> 00:00:06.889 mechanisms of memory and emotion.

NOTE Confidence: 0.844481075625

00:00:06.890 --> 00:00:08.222 He is author of several books

NOTE Confidence: 0.844481075625

00:00:08.222 --> 00:00:09.110 including the emotional brain,

NOTE Confidence: 0.844481075625

00:00:09.110 --> 00:00:10.238 the synaptic self, anxious,

NOTE Confidence: 0.844481075625

00:00:10.238 --> 00:00:11.366 and most recently the

NOTE Confidence: 0.844481075625

00:00:11.366 --> 00:00:12.676 deep History of Ourselves,

NOTE Confidence: 0.844481075625

00:00:12.676 --> 00:00:14.720 the 4 billion year story of

NOTE Confidence: 0.844481075625

00:00:14.720 --> 00:00:16.390 how we got conscious brains.

NOTE Confidence: 0.844481075625

00:00:16.390 --> 00:00:18.125 Doctor Ladue has received numerous

NOTE Confidence: 0.844481075625

00:00:18.125 --> 00:00:20.220 awards including the William James Award,

NOTE Confidence: 0.844481075625

00:00:20.220 --> 00:00:22.710 the American Psychological

NOTE Confidence: 0.844481075625

00:00:22.710 --> 00:00:24.294 side from Excuse Me,
NOTE Confidence: 0.844481075625

00:00:24.294 --> 00:00:26.004 the Association for Psychological Science,
NOTE Confidence: 0.844481075625

00:00:26.010 --> 00:00:28.355 the Karl Spencer Lashley Award from the
NOTE Confidence: 0.844481075625

00:00:28.355 --> 00:00:30.277 American Psychological Philosophical Society.
NOTE Confidence: 0.844481075625

00:00:30.277 --> 00:00:32.612 The fission international prize in
NOTE Confidence: 0.844481075625

00:00:32.612 --> 00:00:35.020 cognitive science and many others.
NOTE Confidence: 0.844481075625

00:00:35.020 --> 00:00:37.512 Doctor Do is the fellow of the
NOTE Confidence: 0.844481075625

00:00:37.512 --> 00:00:39.938 American Academy of Arts and Sciences,
NOTE Confidence: 0.844481075625

00:00:39.940 --> 00:00:41.338 the New York Academy of Sciences,
NOTE Confidence: 0.844481075625

00:00:41.340 --> 00:00:42.790 the American Association for
NOTE Confidence: 0.844481075625

00:00:42.790 --> 00:00:43.720 Advancement of Science.
NOTE Confidence: 0.844481075625

00:00:43.720 --> 00:00:45.085 And he is a member of the
NOTE Confidence: 0.844481075625

00:00:45.085 --> 00:00:46.400 National Academy of Sciences,
NOTE Confidence: 0.844481075625

00:00:46.400 --> 00:00:51.089 and he's also a lead singer of the amyloids.
NOTE Confidence: 0.844481075625

00:00:51.090 --> 00:00:52.802 And I think this is the he is
NOTE Confidence: 0.844481075625

00:00:52.802 --> 00:00:54.482 the first actual rock star we've

NOTE Confidence: 0.844481075625

00:00:54.482 --> 00:00:56.646 had give rounds to the center.

NOTE Confidence: 0.844481075625

00:00:56.646 --> 00:00:57.841 So without further ado,

NOTE Confidence: 0.844481075625

00:00:57.841 --> 00:00:59.126 I give you Doctor Ladon.

NOTE Confidence: 0.92338616

00:01:04.950 --> 00:01:07.740 Thank you very much. Yeah.

NOTE Confidence: 0.92338616

00:01:07.740 --> 00:01:11.400 So the amygdaloid ads, you know, we.

NOTE Confidence: 0.92338616

00:01:11.400 --> 00:01:12.720 Play around every now and then,

NOTE Confidence: 0.92338616

00:01:12.720 --> 00:01:15.200 but during COVID we haven't had many chances,

NOTE Confidence: 0.92338616

00:01:15.200 --> 00:01:17.620 but hopefully we'll start again.

NOTE Confidence: 0.92338616

00:01:17.620 --> 00:01:19.444 So today I'm going to talk about what

NOTE Confidence: 0.92338616

00:01:19.444 --> 00:01:21.450 happened to the middle and middle disorders.

NOTE Confidence: 0.878025289310345

00:01:23.580 --> 00:01:26.523 So I'm going to start with kind of giving

NOTE Confidence: 0.878025289310345

00:01:26.523 --> 00:01:29.679 you a bookmark of something that happened

NOTE Confidence: 0.878025289310345

00:01:29.679 --> 00:01:32.852 and bookmarked this topic by talking about

NOTE Confidence: 0.878025289310345

00:01:32.852 --> 00:01:35.775 something that happened in 1917 and 2018.

NOTE Confidence: 0.878025289310345

00:01:35.775 --> 00:01:38.935 So in 1917, Freud said there's no question

NOTE Confidence: 0.878025289310345

00:01:38.935 --> 00:01:42.389 that the problem with anxiety is a Riddle

NOTE Confidence: 0.878025289310345

00:01:42.389 --> 00:01:45.479 whose solution would bound to throw a

NOTE Confidence: 0.878025289310345

00:01:45.479 --> 00:01:48.077 floodlight on our whole mental existence.

NOTE Confidence: 0.878025289310345

00:01:48.080 --> 00:01:50.912 And in 2018, my colleague Michael

NOTE Confidence: 0.878025289310345

00:01:50.912 --> 00:01:53.540 Fanselow and his student Zachary.

NOTE Confidence: 0.878025289310345

00:01:53.540 --> 00:01:56.078 Pennington said, returning to an emphasis

NOTE Confidence: 0.878025289310345

00:01:56.078 --> 00:01:57.770 on subjective mental experience.

NOTE Confidence: 0.878025289310345

00:01:57.770 --> 00:02:00.031 Something I had been arguing for would

NOTE Confidence: 0.878025289310345

00:02:00.031 --> 00:02:02.862 put us back well over a century to what

NOTE Confidence: 0.878025289310345

00:02:02.862 --> 00:02:05.349 was truly the dark ages of psychiatry.

NOTE Confidence: 0.878025289310345

00:02:05.350 --> 00:02:07.030 So that's what I want to talk about,

NOTE Confidence: 0.878025289310345

00:02:07.030 --> 00:02:09.214 what's going on in the middle

NOTE Confidence: 0.878025289310345

00:02:09.214 --> 00:02:10.670 of these two events.

NOTE Confidence: 0.878025289310345

00:02:10.670 --> 00:02:12.506 So here's a very short story,

NOTE Confidence: 0.878025289310345

00:02:12.510 --> 00:02:14.766 a version of this story and

NOTE Confidence: 0.878025289310345

00:02:14.766 --> 00:02:16.270 of course behaviorist bands,

NOTE Confidence: 0.878025289310345
00:02:16.270 --> 00:02:17.938 mental States and psychology.
NOTE Confidence: 0.878025289310345
00:02:17.938 --> 00:02:20.023 In the early 20th century,
NOTE Confidence: 0.878025289310345
00:02:20.030 --> 00:02:21.810 the mental approach of psychoanalysis
NOTE Confidence: 0.878025289310345
00:02:21.810 --> 00:02:23.930 was uninfluenced by all of this,
NOTE Confidence: 0.878025289310345
00:02:23.930 --> 00:02:26.528 by behaviorism and thrived in Europe.
NOTE Confidence: 0.878025289310345
00:02:26.530 --> 00:02:28.770 And then before and during World War Two,
NOTE Confidence: 0.878025289310345
00:02:28.770 --> 00:02:31.025 psychoanalyst mini Jewish fled to
NOTE Confidence: 0.878025289310345
00:02:31.025 --> 00:02:33.568 London and the Americas, at the time
NOTE Confidence: 0.878025289310345
00:02:33.568 --> 00:02:35.044 the medical model of mental illness,
NOTE Confidence: 0.878025289310345
00:02:35.050 --> 00:02:36.582 using medications to treat.
NOTE Confidence: 0.878025289310345
00:02:36.582 --> 00:02:38.880 Fighting disease states was emerging to
NOTE Confidence: 0.878025289310345
00:02:38.946 --> 00:02:41.176 help psychiatry become more scientific.
NOTE Confidence: 0.878025289310345
00:02:41.180 --> 00:02:43.679 That is, less priority and less objective.
NOTE Confidence: 0.878025289310345
00:02:43.680 --> 00:02:44.768 But instead of distancing
NOTE Confidence: 0.878025289310345
00:02:44.768 --> 00:02:45.856 the feel from Freud,
NOTE Confidence: 0.878025289310345

00:02:45.860 --> 00:02:47.756 subjective experience was
NOTE Confidence: 0.878025289310345

00:02:47.756 --> 00:02:49.020 generally marginalized.
NOTE Confidence: 0.878025289310345

00:02:49.020 --> 00:02:50.785 Some success has resulted from
NOTE Confidence: 0.878025289310345

00:02:50.785 --> 00:02:52.197 clinical studies of medications,
NOTE Confidence: 0.878025289310345

00:02:52.200 --> 00:02:54.760 but often from incidental findings.
NOTE Confidence: 0.878025289310345

00:02:54.760 --> 00:02:56.734 To improve the efficiency of drug discovery,
NOTE Confidence: 0.878025289310345

00:02:56.740 --> 00:02:58.765 pharmaceutical companies hired behaviors to
NOTE Confidence: 0.878025289310345

00:02:58.765 --> 00:03:01.280 test new medicinal treatments in animals.
NOTE Confidence: 0.878025289310345

00:03:01.280 --> 00:03:03.266 The assumption was that mental states
NOTE Confidence: 0.878025289310345

00:03:03.266 --> 00:03:05.271 are quaint fictions, and the changing
NOTE Confidence: 0.878025289310345

00:03:05.271 --> 00:03:06.956 behavior will make any lingering.
NOTE Confidence: 0.878025289310345

00:03:06.960 --> 00:03:07.974 Problem disappear.
NOTE Confidence: 0.878025289310345

00:03:07.974 --> 00:03:10.509 And that was the essence
NOTE Confidence: 0.878025289310345

00:03:10.509 --> 00:03:12.890 of the fanselow argument.
NOTE Confidence: 0.878025289310345

00:03:12.890 --> 00:03:16.130 Now few few efficacious agents
NOTE Confidence: 0.878025289310345

00:03:16.130 --> 00:03:18.543 were discovered the after 50

NOTE Confidence: 0.878025289310345
00:03:18.543 --> 00:03:20.027 years of disappointing results,
NOTE Confidence: 0.878025289310345
00:03:20.030 --> 00:03:22.150 big forma began reducing funding
NOTE Confidence: 0.878025289310345
00:03:22.150 --> 00:03:23.846 to find new treatments.
NOTE Confidence: 0.878025289310345
00:03:23.850 --> 00:03:25.234 But researchers and universities
NOTE Confidence: 0.878025289310345
00:03:25.234 --> 00:03:27.310 equipped with better and better T
NOTE Confidence: 0.878025289310345
00:03:27.364 --> 00:03:29.169 techniques like optogenetics and all
NOTE Confidence: 0.878025289310345
00:03:29.169 --> 00:03:31.366 sorts of genetic tools persisted in
NOTE Confidence: 0.878025289310345
00:03:31.366 --> 00:03:33.346 studies using animal behavior to try
NOTE Confidence: 0.878025289310345
00:03:33.346 --> 00:03:35.321 and discover treatments for mental suffering.
NOTE Confidence: 0.878025289310345
00:03:35.321 --> 00:03:36.956 Assuming that the magic bullet
NOTE Confidence: 0.878025289310345
00:03:36.956 --> 00:03:38.969 bullet was just waiting to be found.
NOTE Confidence: 0.878025289310345
00:03:38.970 --> 00:03:41.125 It still doesn't exist in
NOTE Confidence: 0.878025289310345
00:03:41.125 --> 00:03:42.418 Mill suffering continues.
NOTE Confidence: 0.878025289310345
00:03:42.420 --> 00:03:44.022 So the conclusion of all this
NOTE Confidence: 0.878025289310345
00:03:44.022 --> 00:03:45.680 is that people often seek help,
NOTE Confidence: 0.878025289310345

00:03:45.680 --> 00:03:47.600 the help of therapists because they
NOTE Confidence: 0.878025289310345

00:03:47.600 --> 00:03:49.733 feel bad subjectively drugs based on
NOTE Confidence: 0.878025289310345

00:03:49.733 --> 00:03:51.718 animal behavior appropriate for changing
NOTE Confidence: 0.878025289310345

00:03:51.718 --> 00:03:53.420 behavioral and physiological symptoms,
NOTE Confidence: 0.878025289310345

00:03:53.420 --> 00:03:56.136 but not for treating troubling mental states.
NOTE Confidence: 0.878025289310345

00:03:56.140 --> 00:03:58.040 If every change is avoidance
NOTE Confidence: 0.878025289310345

00:03:58.040 --> 00:03:59.180 and physiological arousal,
NOTE Confidence: 0.878025289310345

00:03:59.180 --> 00:04:00.528 but doesn't help with
NOTE Confidence: 0.878025289310345

00:04:00.528 --> 00:04:01.539 the subjective symptoms,
NOTE Confidence: 0.878025289310345

00:04:01.540 --> 00:04:04.074 the patient will continue to suffer mentally.
NOTE Confidence: 0.878025289310345

00:04:04.080 --> 00:04:06.173 This doesn't mean that Troy was completely
NOTE Confidence: 0.878025289310345

00:04:06.173 --> 00:04:08.188 right and behaviors were completely wrong.
NOTE Confidence: 0.878025289310345

00:04:08.190 --> 00:04:09.922 Subjective and objective symptoms
NOTE Confidence: 0.878025289310345

00:04:09.922 --> 00:04:11.654 must both be treated,
NOTE Confidence: 0.878025289310345

00:04:11.660 --> 00:04:12.636 but they depend on.
NOTE Confidence: 0.878025289310345

00:04:12.636 --> 00:04:13.856 Different brain circuits and have

NOTE Confidence: 0.878025289310345

00:04:13.856 --> 00:04:15.501 to be treated separately now if you

NOTE Confidence: 0.878025289310345

00:04:15.501 --> 00:04:17.110 need to go anywhere or leave early,

NOTE Confidence: 0.878025289310345

00:04:17.110 --> 00:04:19.833 now would be a time because I've

NOTE Confidence: 0.878025289310345

00:04:19.833 --> 00:04:21.949 summarized everything I'm going to say.

NOTE Confidence: 0.878025289310345

00:04:21.950 --> 00:04:23.870 But let's get into the details.

NOTE Confidence: 0.878025289310345

00:04:23.870 --> 00:04:25.540 So I want to use the science of fear to

NOTE Confidence: 0.878025289310345

00:04:25.590 --> 00:04:27.438 illustrate what I see as the problems here.

NOTE Confidence: 0.853114345

00:04:27.440 --> 00:04:29.608 And I'm not a psychiatrist or a clinician,

NOTE Confidence: 0.853114345

00:04:29.610 --> 00:04:31.696 so in some ways I have no

NOTE Confidence: 0.853114345

00:04:31.696 --> 00:04:32.970 business talking about this.

NOTE Confidence: 0.853114345

00:04:32.970 --> 00:04:34.937 But I'm talking about it from the

NOTE Confidence: 0.853114345

00:04:34.937 --> 00:04:36.336 perspective of someone who studied

NOTE Confidence: 0.853114345

00:04:36.336 --> 00:04:38.272 the brain for decades, many decades,

NOTE Confidence: 0.853114345

00:04:38.272 --> 00:04:41.540 and I'm just going to add my perspective

NOTE Confidence: 0.853114345

00:04:41.540 --> 00:04:44.515 on what I think might be useful.

NOTE Confidence: 0.853114345

00:04:44.520 --> 00:04:46.140 Doesn't mean it's completely correct,
NOTE Confidence: 0.853114345

00:04:46.140 --> 00:04:48.170 but I hope it's useful.
NOTE Confidence: 0.853114345

00:04:48.170 --> 00:04:51.010 So why is she screaming?
NOTE Confidence: 0.853114345

00:04:51.010 --> 00:04:53.010 Well, the obvious answer is.
NOTE Confidence: 0.913711258888889

00:04:55.500 --> 00:04:59.064 OK, so now everything is out of whack here.
NOTE Confidence: 0.913711258888889

00:04:59.070 --> 00:05:00.750 OK, I obviously answered that too.
NOTE Confidence: 0.913711258888889

00:05:00.750 --> 00:05:02.064 Why she's screaming is that she's
NOTE Confidence: 0.913711258888889

00:05:02.064 --> 00:05:03.590 afraid I have two monitors here.
NOTE Confidence: 0.913711258888889

00:05:03.590 --> 00:05:06.580 They're not quite sync, right?
NOTE Confidence: 0.913711258888889

00:05:06.580 --> 00:05:08.880 So, but the question is,
NOTE Confidence: 0.913711258888889

00:05:08.880 --> 00:05:11.976 is her fear the cause of her screen?
NOTE Confidence: 0.913711258888889

00:05:11.980 --> 00:05:13.525 And that is the fundamental
NOTE Confidence: 0.913711258888889

00:05:13.525 --> 00:05:15.440 topic I want to address here.
NOTE Confidence: 0.913711258888889

00:05:15.440 --> 00:05:17.920 So the main theme of this lecture is
NOTE Confidence: 0.913711258888889

00:05:17.920 --> 00:05:20.100 that conflation of subjective experience,
NOTE Confidence: 0.913711258888889

00:05:20.100 --> 00:05:22.100 the subjective experience of fear,

NOTE Confidence: 0.913711258888889

00:05:22.100 --> 00:05:23.725 with behavioral and physiological correlates

NOTE Confidence: 0.913711258888889

00:05:23.725 --> 00:05:26.658 of fear has led to the false premise that

NOTE Confidence: 0.913711258888889

00:05:26.658 --> 00:05:28.542 if the objective response are treated,

NOTE Confidence: 0.913711258888889

00:05:28.550 --> 00:05:31.457 the mental part will come along for the ride.

NOTE Confidence: 0.913711258888889

00:05:31.460 --> 00:05:34.208 So it's a it's a truism, really.

NOTE Confidence: 0.913711258888889

00:05:34.208 --> 00:05:36.512 You know that the mental health is first

NOTE Confidence: 0.913711258888889

00:05:36.512 --> 00:05:38.517 and foremost about a healthy mind.

NOTE Confidence: 0.913711258888889

00:05:38.520 --> 00:05:40.137 If we don't have a healthy mind,

NOTE Confidence: 0.913711258888889

00:05:40.140 --> 00:05:42.762 it doesn't matter if our body

NOTE Confidence: 0.913711258888889

00:05:42.762 --> 00:05:44.073 is responding properly.

NOTE Confidence: 0.913711258888889

00:05:44.080 --> 00:05:45.856 So I want to talk about all this

NOTE Confidence: 0.913711258888889

00:05:45.856 --> 00:05:47.952 through my 40 year adventure in

NOTE Confidence: 0.913711258888889

00:05:47.952 --> 00:05:49.149 studying emotional consciousness.

NOTE Confidence: 0.913711258888889

00:05:49.150 --> 00:05:52.744 And this goes back to my PhD thesis in 1978,

NOTE Confidence: 0.913711258888889

00:05:52.744 --> 00:05:55.168 which I studied conscious and unconscious

NOTE Confidence: 0.913711258888889

00:05:55.168 --> 00:05:57.329 processing and split brain patients.
NOTE Confidence: 0.913711258888889

00:05:57.330 --> 00:05:59.290 So that's me on the left and that's
NOTE Confidence: 0.913711258888889

00:05:59.290 --> 00:06:00.948 like the zanaga on the right.
NOTE Confidence: 0.913711258888889

00:06:00.950 --> 00:06:03.140 My mentor.
NOTE Confidence: 0.913711258888889

00:06:03.140 --> 00:06:05.570 We did a lot of studies
NOTE Confidence: 0.913711258888889

00:06:05.570 --> 00:06:07.392 that that were you know,
NOTE Confidence: 0.913711258888889

00:06:07.392 --> 00:06:09.499 Mike had been involved in the early
NOTE Confidence: 0.913711258888889

00:06:09.499 --> 00:06:11.676 days of Split brain research in the
NOTE Confidence: 0.913711258888889

00:06:11.676 --> 00:06:13.927 60s at Caltech with Rogers Barrett and
NOTE Confidence: 0.913711258888889

00:06:13.927 --> 00:06:16.209 all the basic kind of findings were
NOTE Confidence: 0.913711258888889

00:06:16.210 --> 00:06:19.810 uncovered at that point about you know the.
NOTE Confidence: 0.913711258888889

00:06:19.810 --> 00:06:21.316 The If you put information in
NOTE Confidence: 0.913711258888889

00:06:21.316 --> 00:06:22.069 the right hemisphere,
NOTE Confidence: 0.913711258888889

00:06:22.070 --> 00:06:24.110 the left hand can pull it out of a bag,
NOTE Confidence: 0.913711258888889

00:06:24.110 --> 00:06:26.710 but the right can hand can't hand it,
NOTE Confidence: 0.913711258888889

00:06:26.710 --> 00:06:27.466 the right can't,

NOTE Confidence: 0.913711258888889

00:06:27.466 --> 00:06:29.709 right hand can't pull it out of the bag,

NOTE Confidence: 0.913711258888889

00:06:29.710 --> 00:06:30.586 and so on.

NOTE Confidence: 0.913711258888889

00:06:30.586 --> 00:06:33.574 But what we wanted to do was ask more

NOTE Confidence: 0.913711258888889

00:06:33.574 --> 00:06:36.178 fundamental questions about what does it

NOTE Confidence: 0.913711258888889

00:06:36.178 --> 00:06:39.850 mean for the actual living human being,

NOTE Confidence: 0.913711258888889

00:06:39.850 --> 00:06:41.936 not just for what are the implications

NOTE Confidence: 0.913711258888889

00:06:41.936 --> 00:06:43.609 for understanding split brain patients?

NOTE Confidence: 0.913711258888889

00:06:43.610 --> 00:06:46.891 What does it mean for our middle existence

NOTE Confidence: 0.913711258888889

00:06:46.891 --> 00:06:50.617 that we can do these dissociations?

NOTE Confidence: 0.913711258888889

00:06:50.620 --> 00:06:51.619 Split brain patients.

NOTE Confidence: 0.913711258888889

00:06:51.619 --> 00:06:53.950 So we did this one study that

NOTE Confidence: 0.913711258888889

00:06:54.025 --> 00:06:56.113 got a lot of a lot of attention.

NOTE Confidence: 0.913711258888889

00:06:56.120 --> 00:06:57.098 So the patient,

NOTE Confidence: 0.913711258888889

00:06:57.098 --> 00:06:59.054 you know as you probably know

NOTE Confidence: 0.913711258888889

00:06:59.054 --> 00:07:01.117 the and split brain patients,

NOTE Confidence: 0.913711258888889

00:07:01.120 --> 00:07:03.982 the two hemispheres are separated by
NOTE Confidence: 0.913711258888889

00:07:03.982 --> 00:07:06.391 cutting the connections between them
NOTE Confidence: 0.913711258888889

00:07:06.391 --> 00:07:08.965 in an effort to relieve intractable
NOTE Confidence: 0.913711258888889

00:07:08.965 --> 00:07:11.688 epilepsy and in these patients.
NOTE Confidence: 0.913711258888889

00:07:11.688 --> 00:07:13.976 Left the left hemisphere,
NOTE Confidence: 0.913711258888889

00:07:13.980 --> 00:07:15.630 typically, as in most people,
NOTE Confidence: 0.913711258888889

00:07:15.630 --> 00:07:17.315 has the ability to speak
NOTE Confidence: 0.913711258888889

00:07:17.315 --> 00:07:18.326 and comprehend language,
NOTE Confidence: 0.913711258888889

00:07:18.330 --> 00:07:20.590 and the right hemisphere has
NOTE Confidence: 0.913711258888889

00:07:20.590 --> 00:07:22.398 much more limited capacities.
NOTE Confidence: 0.913711258888889

00:07:22.400 --> 00:07:25.396 Doesn't have all of the human equipment,
NOTE Confidence: 0.913711258888889

00:07:25.400 --> 00:07:27.605 lacking significant amounts
NOTE Confidence: 0.913711258888889

00:07:27.605 --> 00:07:29.810 of language there.
NOTE Confidence: 0.913711258888889

00:07:29.810 --> 00:07:32.760 So we had what we did was we put a
NOTE Confidence: 0.913711258888889

00:07:32.853 --> 00:07:35.808 stimulus into the left hemisphere.
NOTE Confidence: 0.913711258888889

00:07:35.810 --> 00:07:37.567 In other words, the right visual feel,

NOTE Confidence: 0.913711258888889
00:07:37.570 --> 00:07:41.690 the chicken claw goes to the left hemisphere.
NOTE Confidence: 0.913711258888889
00:07:41.690 --> 00:07:44.372 Left visual field goes to the
NOTE Confidence: 0.913711258888889
00:07:44.372 --> 00:07:45.266 right hemisphere.
NOTE Confidence: 0.913711258888889
00:07:45.270 --> 00:07:47.270 Just the way the visual system is organized.
NOTE Confidence: 0.913711258888889
00:07:47.270 --> 00:07:50.476 If you flash stimulate to the right.
NOTE Confidence: 0.913711258888889
00:07:50.480 --> 00:07:52.034 Right it goes to the left hemisphere,
NOTE Confidence: 0.913711258888889
00:07:52.040 --> 00:07:53.685 flush to the left it goes to
NOTE Confidence: 0.913711258888889
00:07:53.685 --> 00:07:54.734 the right and so.
NOTE Confidence: 0.913711258888889
00:07:54.734 --> 00:07:56.110 The left hand immediately
NOTE Confidence: 0.913711258888889
00:07:56.110 --> 00:07:57.830 pops out and points to
NOTE Confidence: 0.85475278368421
00:07:57.905 --> 00:08:00.686 a shovel in the right hand to the chicken.
NOTE Confidence: 0.85475278368421
00:08:00.690 --> 00:08:03.050 So we ask the patient, why did you do that?
NOTE Confidence: 0.85475278368421
00:08:03.050 --> 00:08:04.952 Now we're talking to the left
NOTE Confidence: 0.85475278368421
00:08:04.952 --> 00:08:06.569 hemisphere because only the left
NOTE Confidence: 0.85475278368421
00:08:06.569 --> 00:08:08.285 hemisphere can talk back to us.
NOTE Confidence: 0.85475278368421

00:08:08.290 --> 00:08:10.170 So the left Timbers left,
NOTE Confidence: 0.85475278368421

00:08:10.170 --> 00:08:14.312 left Hemisphere says. Well, I saw.
NOTE Confidence: 0.85475278368421

00:08:14.312 --> 00:08:17.250 I saw chicken claw, so I picked a chicken.
NOTE Confidence: 0.85475278368421

00:08:17.250 --> 00:08:18.720 And you need a shovel to
NOTE Confidence: 0.85475278368421

00:08:18.720 --> 00:08:20.030 clean out the chicken shed.
NOTE Confidence: 0.85475278368421

00:08:20.030 --> 00:08:22.950 So the left hemisphere had no idea why
NOTE Confidence: 0.85475278368421

00:08:22.950 --> 00:08:26.167 the left hand had pointed to the shovel,
NOTE Confidence: 0.85475278368421

00:08:26.170 --> 00:08:28.610 but it spun a narrative, a tale,
NOTE Confidence: 0.85475278368421

00:08:28.610 --> 00:08:31.730 a story that made its behavior makes sense.
NOTE Confidence: 0.85475278368421

00:08:31.730 --> 00:08:35.429 So what we concluded from all this was that.
NOTE Confidence: 0.85475278368421

00:08:35.430 --> 00:08:37.590 You know, our conscious minds typically
NOTE Confidence: 0.85475278368421

00:08:37.590 --> 00:08:39.690 believe that we have free will,
NOTE Confidence: 0.85475278368421

00:08:39.690 --> 00:08:40.380 that, you know,
NOTE Confidence: 0.85475278368421

00:08:40.380 --> 00:08:41.990 we're in charge of our body and
NOTE Confidence: 0.85475278368421

00:08:42.048 --> 00:08:43.812 it's very disturbing if your body
NOTE Confidence: 0.85475278368421

00:08:43.812 --> 00:08:45.277 is producing behaviors all the

NOTE Confidence: 0.85475278368421

00:08:45.277 --> 00:08:46.908 time that you aren't in charge of.

NOTE Confidence: 0.85475278368421

00:08:46.910 --> 00:08:49.444 So in order to protect mental unity,

NOTE Confidence: 0.85475278368421

00:08:49.450 --> 00:08:52.047 our idea was that the human brain

NOTE Confidence: 0.85475278368421

00:08:52.047 --> 00:08:54.244 developed some kind of capacity

NOTE Confidence: 0.85475278368421

00:08:54.244 --> 00:08:55.756 for explaining behavior.

NOTE Confidence: 0.85475278368421

00:08:55.760 --> 00:08:56.864 So you, you know,

NOTE Confidence: 0.85475278368421

00:08:56.864 --> 00:08:58.906 you say something stupid in a conversation

NOTE Confidence: 0.85475278368421

00:08:58.906 --> 00:09:01.167 or in a fight with your spouse,

NOTE Confidence: 0.85475278368421

00:09:01.170 --> 00:09:02.334 and you regret it.

NOTE Confidence: 0.85475278368421

00:09:02.334 --> 00:09:04.380 And so you, you might at the moment say,

NOTE Confidence: 0.85475278368421

00:09:04.380 --> 00:09:06.256 I'm sorry, I should have said that.

NOTE Confidence: 0.85475278368421

00:09:06.260 --> 00:09:08.114 Or you might become very defensive

NOTE Confidence: 0.85475278368421

00:09:08.114 --> 00:09:10.548 and and try to compensate for it.

NOTE Confidence: 0.85475278368421

00:09:10.550 --> 00:09:13.342 But in each case you're getting a new

NOTE Confidence: 0.85475278368421

00:09:13.342 --> 00:09:15.508 narrative of the of what you did.

NOTE Confidence: 0.85475278368421

00:09:15.510 --> 00:09:18.436 So Mike was a good friend of
NOTE Confidence: 0.85475278368421

00:09:18.436 --> 00:09:19.864 Leon Festinger's at the time.
NOTE Confidence: 0.85475278368421

00:09:19.864 --> 00:09:21.370 And so we've interpreted all this
NOTE Confidence: 0.85475278368421

00:09:21.419 --> 00:09:22.849 in terms of cognitive dissonance,
NOTE Confidence: 0.85475278368421

00:09:22.850 --> 00:09:24.083 that it's disturbing.
NOTE Confidence: 0.85475278368421

00:09:24.083 --> 00:09:25.727 It's it's dissonance inducing
NOTE Confidence: 0.85475278368421

00:09:25.727 --> 00:09:27.820 for your behavior to be produced
NOTE Confidence: 0.85475278368421

00:09:27.820 --> 00:09:29.410 in a way that you aren't.
NOTE Confidence: 0.85475278368421

00:09:29.410 --> 00:09:31.306 You don't think you're in charge of you,
NOTE Confidence: 0.85475278368421

00:09:31.310 --> 00:09:32.790 not that your body did,
NOTE Confidence: 0.85475278368421

00:09:32.790 --> 00:09:36.360 but you consciously didn't do and that.
NOTE Confidence: 0.85475278368421

00:09:36.360 --> 00:09:37.860 When we spend these narratives,
NOTE Confidence: 0.85475278368421

00:09:37.860 --> 00:09:39.720 that's a dissonance reducing
NOTE Confidence: 0.85475278368421

00:09:39.720 --> 00:09:41.870 kind of activity, so.
NOTE Confidence: 0.803685789230769

00:09:45.580 --> 00:09:47.778 That night we would these these patients
NOTE Confidence: 0.803685789230769

00:09:47.778 --> 00:09:50.299 were all at Dartmouth Medical School.

NOTE Confidence: 0.803685789230769

00:09:50.300 --> 00:09:52.991 They operate on the Dartmouth and lived up in

NOTE Confidence: 0.803685789230769

00:09:52.991 --> 00:09:55.408 the rural areas of Vermont, New Hampshire.

NOTE Confidence: 0.803685789230769

00:09:55.408 --> 00:09:58.737 And so we drive up to and then we have

NOTE Confidence: 0.803685789230769

00:09:58.737 --> 00:10:01.848 this kind of yellow or pink was orange van

NOTE Confidence: 0.803685789230769

00:10:01.848 --> 00:10:04.557 that we pulled a camper trailer behind.

NOTE Confidence: 0.803685789230769

00:10:04.560 --> 00:10:06.567 We'd set up a testing lab and and so

NOTE Confidence: 0.803685789230769

00:10:06.567 --> 00:10:08.863 we then we go hang out at the bar and

NOTE Confidence: 0.803685789230769

00:10:08.863 --> 00:10:10.696 talk about what we had discovered

NOTE Confidence: 0.803685789230769

00:10:10.696 --> 00:10:13.910 or or observed during the day.

NOTE Confidence: 0.803685789230769

00:10:13.910 --> 00:10:16.269 And we talked about how emotion systems

NOTE Confidence: 0.803685789230769

00:10:16.269 --> 00:10:19.013 might be the kinds of systems that

NOTE Confidence: 0.803685789230769

00:10:19.013 --> 00:10:21.088 would generate behaviors that demand

NOTE Confidence: 0.803685789230769

00:10:21.088 --> 00:10:23.564 these dissonance reducing narratives.

NOTE Confidence: 0.803685789230769

00:10:23.564 --> 00:10:27.182 So at that point, Mike said,

NOTE Confidence: 0.803685789230769

00:10:27.182 --> 00:10:28.988 you know, there's not much research

NOTE Confidence: 0.803685789230769

00:10:28.988 --> 00:10:30.230 on emotion these days.
NOTE Confidence: 0.803685789230769

00:10:30.230 --> 00:10:32.810 I said, well, yeah, OK, maybe I'll try that.
NOTE Confidence: 0.803685789230769

00:10:32.810 --> 00:10:35.802 And so I decided that, you know, I did,
NOTE Confidence: 0.803685789230769

00:10:35.802 --> 00:10:37.702 I wasn't going to have split brain patients
NOTE Confidence: 0.803685789230769

00:10:37.702 --> 00:10:39.726 to work with after I left Mikes Lab.
NOTE Confidence: 0.803685789230769

00:10:39.730 --> 00:10:41.264 I mean that was his thing, not mine.
NOTE Confidence: 0.803685789230769

00:10:41.264 --> 00:10:42.958 And so I had to find something
NOTE Confidence: 0.803685789230769

00:10:42.958 --> 00:10:44.605 else to do and I decided that.
NOTE Confidence: 0.803685789230769

00:10:44.610 --> 00:10:47.280 But I would work on.
NOTE Confidence: 0.803685789230769

00:10:47.280 --> 00:10:49.320 Was the study of.
NOTE Confidence: 0.77296943

00:10:51.400 --> 00:10:54.280 How these what might be, how these
NOTE Confidence: 0.77296943

00:10:54.280 --> 00:10:55.830 emotions systems might be generated,
NOTE Confidence: 0.77296943

00:10:55.830 --> 00:10:58.314 these kinds of behavioral and physiological
NOTE Confidence: 0.77296943

00:10:58.314 --> 00:11:00.867 responses that might demand this kind
NOTE Confidence: 0.77296943

00:11:00.867 --> 00:11:02.539 of dissonance reduction activity.
NOTE Confidence: 0.77296943

00:11:02.540 --> 00:11:05.148 So before I did any research I have

NOTE Confidence: 0.77296943

00:11:05.148 --> 00:11:07.665 Mike asked me to write a chapter for

NOTE Confidence: 0.77296943

00:11:07.665 --> 00:11:11.021 this book he was editing and so I wrote

NOTE Confidence: 0.77296943

00:11:11.021 --> 00:11:13.111 this generated this hypothesis based

NOTE Confidence: 0.77296943

00:11:13.120 --> 00:11:14.975 on our split brain research about what

NOTE Confidence: 0.77296943

00:11:14.975 --> 00:11:16.678 how emotion might work in the brain.

NOTE Confidence: 0.77296943

00:11:16.680 --> 00:11:18.678 So we have an emotional stimulus

NOTE Confidence: 0.77296943

00:11:18.680 --> 00:11:21.340 goes to a sensory system.

NOTE Confidence: 0.77296943

00:11:21.340 --> 00:11:23.608 The sensory system feeds into the brain.

NOTE Confidence: 0.77296943

00:11:23.610 --> 00:11:25.962 It goes to cortical circuits to

NOTE Confidence: 0.77296943

00:11:25.962 --> 00:11:27.530 generate these conscious feelings

NOTE Confidence: 0.77296943

00:11:27.599 --> 00:11:29.169 that we have the emotions,

NOTE Confidence: 0.77296943

00:11:29.170 --> 00:11:32.488 but it goes to subcortical areas to

NOTE Confidence: 0.77296943

00:11:32.490 --> 00:11:33.930 automatically produce the responses.

NOTE Confidence: 0.77296943

00:11:33.930 --> 00:11:36.610 Just as in the split brain patient,

NOTE Confidence: 0.77296943

00:11:36.610 --> 00:11:39.035 you've got these automatic responses

NOTE Confidence: 0.77296943

00:11:39.035 --> 00:11:40.490 being generated unconsciously.
NOTE Confidence: 0.77296943

00:11:40.490 --> 00:11:42.954 And then because it's disturbing to you
NOTE Confidence: 0.77296943

00:11:42.954 --> 00:11:45.090 for these behaviors to be coming out,
NOTE Confidence: 0.77296943

00:11:45.090 --> 00:11:47.622 you generate a narrative or conscious
NOTE Confidence: 0.77296943

00:11:47.622 --> 00:11:49.310 interpretation that becomes the
NOTE Confidence: 0.77296943

00:11:49.378 --> 00:11:50.908 basis of the feeling now.
NOTE Confidence: 0.77296943

00:11:50.910 --> 00:11:53.177 It was all kind of very poorly
NOTE Confidence: 0.77296943

00:11:53.177 --> 00:11:54.836 conceived at the time because it was,
NOTE Confidence: 0.77296943

00:11:54.840 --> 00:11:56.880 you know, I was just making it up.
NOTE Confidence: 0.77296943

00:11:56.880 --> 00:11:59.911 But this has guided my whole set
NOTE Confidence: 0.77296943

00:11:59.911 --> 00:12:02.930 of research and and all my books
NOTE Confidence: 0.77296943

00:12:02.930 --> 00:12:05.366 and so forth over the years.
NOTE Confidence: 0.77296943

00:12:05.370 --> 00:12:07.898 So the idea was that fear was a
NOTE Confidence: 0.77296943

00:12:07.898 --> 00:12:09.329 cognitive interpretation or narration,
NOTE Confidence: 0.77296943

00:12:09.330 --> 00:12:12.100 and the the innate emotional
NOTE Confidence: 0.77296943

00:12:12.100 --> 00:12:14.316 behaviors and physiological responses

NOTE Confidence: 0.77296943

00:12:14.316 --> 00:12:17.088 that that come along for the ride

NOTE Confidence: 0.77296943

00:12:17.088 --> 00:12:18.986 are a different thing altogether.

NOTE Confidence: 0.77296943

00:12:18.986 --> 00:12:22.478 So I turned to rats to do all of this,

NOTE Confidence: 0.77296943

00:12:22.480 --> 00:12:23.992 to understand these circuits

NOTE Confidence: 0.77296943

00:12:23.992 --> 00:12:26.260 that might demand these kinds of

NOTE Confidence: 0.77296943

00:12:26.260 --> 00:12:29.760 narrative inducing just dissonance,

NOTE Confidence: 0.77296943

00:12:29.760 --> 00:12:31.510 reducing narratives.

NOTE Confidence: 0.77296943

00:12:31.510 --> 00:12:33.280 And I used the procedure called

NOTE Confidence: 0.77296943

00:12:33.280 --> 00:12:34.460 Pavlovian fear conditioning as

NOTE Confidence: 0.77296943

00:12:34.511 --> 00:12:35.936 a model of emotional behavior.

NOTE Confidence: 0.77296943

00:12:35.940 --> 00:12:37.944 And I would that's called fear

NOTE Confidence: 0.77296943

00:12:37.944 --> 00:12:39.280 conditioning because that's been

NOTE Confidence: 0.77296943

00:12:39.335 --> 00:12:40.979 the assumption of how it works.

NOTE Confidence: 0.77296943

00:12:40.980 --> 00:12:41.644 I mean,

NOTE Confidence: 0.77296943

00:12:41.644 --> 00:12:44.300 the behaviors got rid of mental state terms,

NOTE Confidence: 0.77296943

00:12:44.300 --> 00:12:45.248 sort of mental states,
NOTE Confidence: 0.77296943

00:12:45.248 --> 00:12:46.670 but they didn't get rid of
NOTE Confidence: 0.77296943

00:12:46.720 --> 00:12:47.638 mental state terms.
NOTE Confidence: 0.77296943

00:12:47.640 --> 00:12:49.830 So fear became the relationship
NOTE Confidence: 0.77296943

00:12:49.830 --> 00:12:52.810 between a stimulus and a response.
NOTE Confidence: 0.77296943

00:12:52.810 --> 00:12:54.538 It was just a functional relationship.
NOTE Confidence: 0.77296943

00:12:54.540 --> 00:12:57.697 It had nothing to do with subjectivity
NOTE Confidence: 0.77296943

00:12:57.700 --> 00:12:59.398 but the rest of the world.
NOTE Confidence: 0.77296943

00:12:59.400 --> 00:13:00.660 When you call something fear,
NOTE Confidence: 0.77296943

00:13:00.660 --> 00:13:02.630 thinks you're talking about the
NOTE Confidence: 0.77296943

00:13:02.630 --> 00:13:04.206 subjective experience of fear.
NOTE Confidence: 0.77296943

00:13:04.210 --> 00:13:06.730 So that was a bit of a problem.
NOTE Confidence: 0.77296943

00:13:06.730 --> 00:13:07.942 So but this,
NOTE Confidence: 0.77296943

00:13:07.942 --> 00:13:10.366 this was an appealing procedure technically,
NOTE Confidence: 0.77296943

00:13:10.370 --> 00:13:13.286 because you take a simple stimulus
NOTE Confidence: 0.77296943

00:13:13.290 --> 00:13:16.100 that generates a very reliable

NOTE Confidence: 0.77296943

00:13:16.100 --> 00:13:18.348 stereotyped response that occurs

NOTE Confidence: 0.77296943

00:13:18.348 --> 00:13:21.465 in every rat that you tested in,

NOTE Confidence: 0.77296943

00:13:21.470 --> 00:13:24.039 and it's kind of ideal for tracing

NOTE Confidence: 0.77296943

00:13:24.039 --> 00:13:26.330 circuits from sensory to motor neurons,

NOTE Confidence: 0.77296943

00:13:26.330 --> 00:13:28.646 which had been done in invertebrates.

NOTE Confidence: 0.77296943

00:13:28.650 --> 00:13:30.848 Eric Candell and others were doing that,

NOTE Confidence: 0.77296943

00:13:30.850 --> 00:13:34.050 but it wasn't really commonly.

NOTE Confidence: 0.77296943

00:13:34.050 --> 00:13:35.514 Pursued in invertebrates in

NOTE Confidence: 0.77296943

00:13:35.514 --> 00:13:37.344 mammals because it was thought

NOTE Confidence: 0.77296943

00:13:37.344 --> 00:13:39.519 that the brain was too complicated.

NOTE Confidence: 0.77296943

00:13:39.520 --> 00:13:40.321 But you know,

NOTE Confidence: 0.77296943

00:13:40.321 --> 00:13:41.923 if you have a good stimulus

NOTE Confidence: 0.77296943

00:13:41.923 --> 00:13:43.198 and a good response,

NOTE Confidence: 0.77296943

00:13:43.200 --> 00:13:44.943 then you can go a long way

NOTE Confidence: 0.77296943

00:13:44.943 --> 00:13:46.299 with this kind of stuff.

NOTE Confidence: 0.77296943

00:13:46.300 --> 00:13:47.293 So I had,
NOTE Confidence: 0.77296943

00:13:47.293 --> 00:13:50.174 I wrote this NIH NIMH application to study
NOTE Confidence: 0.77296943

00:13:50.174 --> 00:13:53.078 the Neuropathways of Motion was rejected.
NOTE Confidence: 0.77296943

00:13:53.080 --> 00:13:53.626 Why?
NOTE Confidence: 0.77296943

00:13:53.626 --> 00:13:55.810 Because emotion is not
NOTE Confidence: 0.77296943

00:13:55.810 --> 00:13:57.448 a neuroscientific term,
NOTE Confidence: 0.77296943

00:13:57.450 --> 00:13:58.998 not neuroscientific topic.
NOTE Confidence: 0.77296943

00:13:58.998 --> 00:14:00.432 This was 1986,
NOTE Confidence: 0.77296943

00:14:00.432 --> 00:14:03.648 and it was the behaviors were still very,
NOTE Confidence: 0.88991139

00:14:03.650 --> 00:14:06.070 very strongly dominating in neuroscience,
NOTE Confidence: 0.88991139

00:14:06.070 --> 00:14:09.886 as they are today, and in many ways.
NOTE Confidence: 0.88991139

00:14:09.890 --> 00:14:12.564 So I changed the title to emotional
NOTE Confidence: 0.88991139

00:14:12.564 --> 00:14:14.470 conditioning and got the brand,
NOTE Confidence: 0.88991139

00:14:14.470 --> 00:14:16.048 but one of the reviewers said,
NOTE Confidence: 0.88991139

00:14:16.050 --> 00:14:17.370 well you're studying Pavlovian
NOTE Confidence: 0.88991139

00:14:17.370 --> 00:14:19.020 conditioning and you don't have

NOTE Confidence: 0.88991139

00:14:19.020 --> 00:14:20.947 a non associative control group.

NOTE Confidence: 0.88991139

00:14:20.950 --> 00:14:22.434 So I put the control group in.

NOTE Confidence: 0.88991139

00:14:22.440 --> 00:14:24.984 That's what it took to get the grant, so.

NOTE Confidence: 0.88991139

00:14:24.984 --> 00:14:28.710 You know pretty quickly we we were able to

NOTE Confidence: 0.88991139

00:14:28.805 --> 00:14:32.675 make a lot of progress by we I mean people,

NOTE Confidence: 0.88991139

00:14:32.680 --> 00:14:34.680 three or four people who were doing this.

NOTE Confidence: 0.88991139

00:14:34.680 --> 00:14:37.290 Mike Davis who was at Yale at the time

NOTE Confidence: 0.88991139

00:14:37.290 --> 00:14:39.936 was was there right at the beginning.

NOTE Confidence: 0.88991139

00:14:39.940 --> 00:14:43.108 I remember this society for neuroscience

NOTE Confidence: 0.88991139

00:14:43.108 --> 00:14:47.268 meeting in 19 must have been 868586 and

NOTE Confidence: 0.88991139

00:14:47.268 --> 00:14:51.348 it was me Mike Davis from Yale and Bruce

NOTE Confidence: 0.88991139

00:14:51.348 --> 00:14:53.160 Cap from the University of Vermont.

NOTE Confidence: 0.88991139

00:14:53.160 --> 00:14:55.169 And we were the only three people

NOTE Confidence: 0.88991139

00:14:55.169 --> 00:14:56.739 doing fear conditioning in the brain.

NOTE Confidence: 0.88991139

00:14:56.740 --> 00:14:59.098 The Society for Neuroscience and for

NOTE Confidence: 0.88991139

00:14:59.098 --> 00:15:02.151 the for quite some time we were the
NOTE Confidence: 0.88991139

00:15:02.151 --> 00:15:04.690 main people driving this kind of work.
NOTE Confidence: 0.88991139

00:15:04.690 --> 00:15:07.126 A bit later fans slow and some
NOTE Confidence: 0.88991139

00:15:07.126 --> 00:15:08.170 others got involved.
NOTE Confidence: 0.88991139

00:15:08.170 --> 00:15:09.610 And that the, you know,
NOTE Confidence: 0.88991139

00:15:09.610 --> 00:15:12.338 within a few years the the core people
NOTE Confidence: 0.88991139

00:15:12.338 --> 00:15:14.816 who were doing this had generated
NOTE Confidence: 0.88991139

00:15:14.816 --> 00:15:17.390 a pretty good understanding of how
NOTE Confidence: 0.88991139

00:15:17.463 --> 00:15:19.788 information gets into the brain,
NOTE Confidence: 0.88991139

00:15:19.790 --> 00:15:21.932 how it comes out of the brain
NOTE Confidence: 0.88991139

00:15:21.932 --> 00:15:23.710 and what's in the middle.
NOTE Confidence: 0.88991139

00:15:23.710 --> 00:15:25.645 And what was in the middle was the amygdala.
NOTE Confidence: 0.88991139

00:15:25.650 --> 00:15:26.830 It's not like we were.
NOTE Confidence: 0.88991139

00:15:26.830 --> 00:15:28.542 Looking for the amygdala,
NOTE Confidence: 0.88991139

00:15:28.542 --> 00:15:31.110 but the stimulus took us there
NOTE Confidence: 0.88991139

00:15:31.191 --> 00:15:33.405 and the response took us out.

NOTE Confidence: 0.88991139

00:15:33.410 --> 00:15:35.990 So, you know, so a lot,

NOTE Confidence: 0.88991139

00:15:35.990 --> 00:15:38.303 a lot was already known in terms of what,

NOTE Confidence: 0.88991139

00:15:38.310 --> 00:15:40.190 in other words, the what.

NOTE Confidence: 0.88991139

00:15:40.190 --> 00:15:40.541 Behaviorally,

NOTE Confidence: 0.88991139

00:15:40.541 --> 00:15:42.647 about all the principles were what

NOTE Confidence: 0.88991139

00:15:42.647 --> 00:15:44.678 we were able to do was connect

NOTE Confidence: 0.88991139

00:15:44.678 --> 00:15:46.808 all of the dots in the brain to

NOTE Confidence: 0.88991139

00:15:46.808 --> 00:15:48.188 put the circuitry together,

NOTE Confidence: 0.88991139

00:15:48.190 --> 00:15:50.272 and then all these molecule genes

NOTE Confidence: 0.88991139

00:15:50.272 --> 00:15:52.110 and molecules on the right.

NOTE Confidence: 0.88991139

00:15:52.110 --> 00:15:55.386 All of them have been identified both

NOTE Confidence: 0.88991139

00:15:55.386 --> 00:15:58.090 in invertebrates and in vertebrates,

NOTE Confidence: 0.88991139

00:15:58.090 --> 00:16:00.748 as being important in the plasticity.

NOTE Confidence: 0.88991139

00:16:00.750 --> 00:16:03.158 So the top part of that is

NOTE Confidence: 0.88991139

00:16:03.158 --> 00:16:04.546 a presynaptic neuron, say,

NOTE Confidence: 0.88991139

00:16:04.546 --> 00:16:06.326 coming from the auditory system,
NOTE Confidence: 0.88991139

00:16:06.330 --> 00:16:08.563 and the bottom part is a postsynaptic
NOTE Confidence: 0.88991139

00:16:08.563 --> 00:16:10.460 neuron in the amygdala that.
NOTE Confidence: 0.88991139

00:16:10.460 --> 00:16:12.630 And then then the molecules and the
NOTE Confidence: 0.88991139

00:16:12.630 --> 00:16:14.941 pre and post synaptic neuron are
NOTE Confidence: 0.88991139

00:16:14.941 --> 00:16:17.136 being are interacting to generate
NOTE Confidence: 0.88991139

00:16:17.136 --> 00:16:19.604 the plasticity that will allow the
NOTE Confidence: 0.88991139

00:16:19.604 --> 00:16:21.890 conditioned stimulus now to get through
NOTE Confidence: 0.88991139

00:16:21.890 --> 00:16:24.776 the amygdala and produce the responses.
NOTE Confidence: 0.88991139

00:16:24.780 --> 00:16:25.884 So this all happened,
NOTE Confidence: 0.88991139

00:16:25.884 --> 00:16:29.180 you know, by the end of.
NOTE Confidence: 0.88991139

00:16:29.180 --> 00:16:30.174 The 1990s,
NOTE Confidence: 0.88991139

00:16:30.174 --> 00:16:33.156 all of this was basically known.
NOTE Confidence: 0.88991139

00:16:33.160 --> 00:16:34.240 So it was like, you know,
NOTE Confidence: 0.88991139

00:16:34.240 --> 00:16:36.796 10 or 15 years it took to do this,
NOTE Confidence: 0.88991139

00:16:36.800 --> 00:16:39.098 but that that's a pretty quick

NOTE Confidence: 0.88991139

00:16:39.100 --> 00:16:41.356 schedule for this kind of work.

NOTE Confidence: 0.88991139

00:16:41.360 --> 00:16:42.060 So anyway.

NOTE Confidence: 0.88991139

00:16:42.060 --> 00:16:44.160 I never stopped thinking about and

NOTE Confidence: 0.88991139

00:16:44.160 --> 00:16:46.350 writing about emotional consciousness.

NOTE Confidence: 0.88991139

00:16:46.350 --> 00:16:47.886 So in the emotional brain I've

NOTE Confidence: 0.88991139

00:16:47.886 --> 00:16:49.270 talked about working memory and

NOTE Confidence: 0.88991139

00:16:49.270 --> 00:16:50.815 emotional consciousness and epic self.

NOTE Confidence: 0.88991139

00:16:50.820 --> 00:16:52.830 Still on working memory and anxious,

NOTE Confidence: 0.88991139

00:16:52.830 --> 00:16:54.726 I've kind of shifted to the

NOTE Confidence: 0.88991139

00:16:54.726 --> 00:16:55.674 global workspace theory.

NOTE Confidence: 0.88991139

00:16:55.680 --> 00:16:57.198 And then finally in the deep

NOTE Confidence: 0.88991139

00:16:57.198 --> 00:16:57.957 history of ourselves,

NOTE Confidence: 0.88991139

00:16:57.960 --> 00:17:00.132 I'd come across the higher order

NOTE Confidence: 0.88991139

00:17:00.132 --> 00:17:01.580 theory of emotional consciousness.

NOTE Confidence: 0.88991139

00:17:01.580 --> 00:17:02.955 And that's what I've kind

NOTE Confidence: 0.88991139

00:17:02.955 --> 00:17:04.330 of adopted and will say
NOTE Confidence: 0.867082627058823

00:17:04.392 --> 00:17:06.359 a little bit about towards the end,
NOTE Confidence: 0.867082627058823

00:17:06.360 --> 00:17:09.231 if there's time. So.
NOTE Confidence: 0.867082627058823

00:17:09.231 --> 00:17:11.757 Plugging the the anatomy that I've
NOTE Confidence: 0.867082627058823

00:17:11.757 --> 00:17:14.272 just described to you into the
NOTE Confidence: 0.867082627058823

00:17:14.272 --> 00:17:16.624 original model from the early 80s,
NOTE Confidence: 0.867082627058823

00:17:16.630 --> 00:17:18.246 what we see is that we've got a,
NOTE Confidence: 0.867082627058823

00:17:18.250 --> 00:17:19.273 you know, the,
NOTE Confidence: 0.867082627058823

00:17:19.273 --> 00:17:20.978 it's still the cognitive interpretation,
NOTE Confidence: 0.867082627058823

00:17:20.980 --> 00:17:23.092 but now I'm adding the prefrontal
NOTE Confidence: 0.867082627058823

00:17:23.092 --> 00:17:25.150 cortex into there and freezing.
NOTE Confidence: 0.867082627058823

00:17:25.150 --> 00:17:27.313 We can now add the amygdala and
NOTE Confidence: 0.867082627058823

00:17:27.313 --> 00:17:28.809 periaqueductal Gray and so forth.
NOTE Confidence: 0.867082627058823

00:17:28.810 --> 00:17:30.952 So it, you know, it's useful to have a
NOTE Confidence: 0.867082627058823

00:17:30.952 --> 00:17:33.187 kind of conceptual model when you start,
NOTE Confidence: 0.867082627058823

00:17:33.190 --> 00:17:34.690 but you have to be willing to throw it away.

NOTE Confidence: 0.867082627058823

00:17:34.690 --> 00:17:36.013 But I was fortunate that I didn't

NOTE Confidence: 0.867082627058823

00:17:36.013 --> 00:17:36.949 have to throw it away.

NOTE Confidence: 0.867082627058823

00:17:36.950 --> 00:17:39.120 It seemed to kind of fill in.

NOTE Confidence: 0.867082627058823

00:17:39.120 --> 00:17:41.910 So, but one of the things that I was

NOTE Confidence: 0.867082627058823

00:17:41.910 --> 00:17:44.086 explicit about was the difference

NOTE Confidence: 0.867082627058823

00:17:44.086 --> 00:17:46.774 between explicit fear and implicit fear.

NOTE Confidence: 0.867082627058823

00:17:46.780 --> 00:17:49.265 So I'd always talked about the amygdala

NOTE Confidence: 0.867082627058823

00:17:49.265 --> 00:17:52.067 as as being an implicit fear center.

NOTE Confidence: 0.867082627058823

00:17:52.070 --> 00:17:53.482 Everybody was talking about

NOTE Confidence: 0.867082627058823

00:17:53.482 --> 00:17:54.894 the amygdala fear center.

NOTE Confidence: 0.867082627058823

00:17:54.900 --> 00:17:57.546 But I wanted to make it clear that the

NOTE Confidence: 0.867082627058823

00:17:57.546 --> 00:17:59.715 amygdala was implicit or unconsciously

NOTE Confidence: 0.867082627058823

00:17:59.715 --> 00:18:01.975 detecting and responding to danger,

NOTE Confidence: 0.867082627058823

00:18:01.980 --> 00:18:03.620 and that the conscious experience

NOTE Confidence: 0.867082627058823

00:18:03.620 --> 00:18:05.260 of fear was the cortical

NOTE Confidence: 0.867082627058823

00:18:05.321 --> 00:18:07.355 interpretation of what was going on.
NOTE Confidence: 0.867082627058823

00:18:07.360 --> 00:18:08.311 But that distinction.
NOTE Confidence: 0.867082627058823

00:18:08.311 --> 00:18:11.337 Did not hold up the way it did in
NOTE Confidence: 0.867082627058823

00:18:11.337 --> 00:18:13.187 memory research where it implicit
NOTE Confidence: 0.867082627058823

00:18:13.187 --> 00:18:15.419 and explicit is widely accepted.
NOTE Confidence: 0.867082627058823

00:18:15.420 --> 00:18:18.116 But you really don't hear a lot about
NOTE Confidence: 0.867082627058823

00:18:18.116 --> 00:18:20.100 this distinction in the emotion feel,
NOTE Confidence: 0.867082627058823

00:18:20.100 --> 00:18:22.879 especially not in terms of the amygdala
NOTE Confidence: 0.867082627058823

00:18:22.879 --> 00:18:25.119 and its so-called role and fear.
NOTE Confidence: 0.867082627058823

00:18:25.120 --> 00:18:25.770 So.
NOTE Confidence: 0.866275677142857

00:18:27.990 --> 00:18:29.194 This is what I already showed you,
NOTE Confidence: 0.866275677142857

00:18:29.200 --> 00:18:31.650 but what I want to emphasize is
NOTE Confidence: 0.866275677142857

00:18:31.650 --> 00:18:33.610 this amygdala fear center idea.
NOTE Confidence: 0.866275677142857

00:18:33.610 --> 00:18:37.360 I mean the the as I said the the implicit
NOTE Confidence: 0.866275677142857

00:18:37.457 --> 00:18:41.117 explicit extinction didn't catch on and.
NOTE Confidence: 0.866275677142857

00:18:41.120 --> 00:18:42.700 Everyone was talking about the

NOTE Confidence: 0.866275677142857
00:18:42.700 --> 00:18:44.280 amygdala being involved in fear.
NOTE Confidence: 0.866275677142857
00:18:44.280 --> 00:18:46.140 I'd be introduced in lectures as
NOTE Confidence: 0.866275677142857
00:18:46.140 --> 00:18:47.666 having discovered how feelings of
NOTE Confidence: 0.866275677142857
00:18:47.666 --> 00:18:49.058 fear come out of the amygdala,
NOTE Confidence: 0.866275677142857
00:18:49.060 --> 00:18:51.237 and that's not what I ever really,
NOTE Confidence: 0.866275677142857
00:18:51.240 --> 00:18:53.877 you know, I probably wasn't as clear as I
NOTE Confidence: 0.866275677142857
00:18:53.877 --> 00:18:56.840 am today about what I I thought back then,
NOTE Confidence: 0.866275677142857
00:18:56.840 --> 00:18:58.450 but because my books were a little
NOTE Confidence: 0.866275677142857
00:18:58.450 --> 00:19:00.481 kind of sketchy, sometimes I'd talk
NOTE Confidence: 0.866275677142857
00:19:00.481 --> 00:19:02.716 about fear without being clear.
NOTE Confidence: 0.866275677142857
00:19:02.720 --> 00:19:05.597 But you know that at some point,
NOTE Confidence: 0.866275677142857
00:19:05.600 --> 00:19:08.551 like in 2012 or so, I said, OK,
NOTE Confidence: 0.866275677142857
00:19:08.551 --> 00:19:11.053 I really need to make myself.
NOTE Confidence: 0.866275677142857
00:19:11.060 --> 00:19:13.748 Clear and say what I'm talking about.
NOTE Confidence: 0.866275677142857
00:19:13.750 --> 00:19:17.138 So I wrote this article in Neuron
NOTE Confidence: 0.866275677142857

00:19:17.138 --> 00:19:20.089 called rethinking the emotional brain.
NOTE Confidence: 0.866275677142857

00:19:20.090 --> 00:19:21.218 But before I get to that,
NOTE Confidence: 0.866275677142857

00:19:21.220 --> 00:19:23.369 what's wrong with the amygdala fear center?
NOTE Confidence: 0.866275677142857

00:19:23.370 --> 00:19:25.182 Well, first of all,
NOTE Confidence: 0.866275677142857

00:19:25.182 --> 00:19:26.541 behavioral physiological responses
NOTE Confidence: 0.866275677142857

00:19:26.541 --> 00:19:28.485 don't always correlate strongly
NOTE Confidence: 0.866275677142857

00:19:28.485 --> 00:19:30.557 with subjectively experienced fear,
NOTE Confidence: 0.866275677142857

00:19:30.560 --> 00:19:31.295 and they should,
NOTE Confidence: 0.866275677142857

00:19:31.295 --> 00:19:32.765 if they're all products of fear
NOTE Confidence: 0.866275677142857

00:19:32.765 --> 00:19:34.938 in the amygdala, mean Peter Lang,
NOTE Confidence: 0.866275677142857

00:19:34.938 --> 00:19:35.770 you know,
NOTE Confidence: 0.866275677142857

00:19:35.770 --> 00:19:37.980 involved in anxiety research from
NOTE Confidence: 0.866275677142857

00:19:37.980 --> 00:19:40.969 from decades ago in the late 60s,
NOTE Confidence: 0.866275677142857

00:19:40.970 --> 00:19:44.072 made this point that the behavioral
NOTE Confidence: 0.866275677142857

00:19:44.072 --> 00:19:46.140 and physiological responses don't
NOTE Confidence: 0.866275677142857

00:19:46.220 --> 00:19:49.070 always correlate with subjective fear.

NOTE Confidence: 0.866275677142857
00:19:49.070 --> 00:19:51.566 And #2 non consciously processed threats,
NOTE Confidence: 0.866275677142857
00:19:51.570 --> 00:19:54.906 for example if you subliminally present
NOTE Confidence: 0.866275677142857
00:19:54.906 --> 00:19:57.379 stimuli like with visual masking,
NOTE Confidence: 0.866275677142857
00:19:57.379 --> 00:20:00.097 or if you're starting a patient
NOTE Confidence: 0.866275677142857
00:20:00.097 --> 00:20:01.509 with blind side.
NOTE Confidence: 0.866275677142857
00:20:01.510 --> 00:20:02.884 Stimulus will go into the brain
NOTE Confidence: 0.866275677142857
00:20:02.884 --> 00:20:04.654 and for your image, the brain,
NOTE Confidence: 0.866275677142857
00:20:04.654 --> 00:20:06.789 the amygdala will be activated.
NOTE Confidence: 0.866275677142857
00:20:06.790 --> 00:20:09.670 The responses will be generated.
NOTE Confidence: 0.866275677142857
00:20:09.670 --> 00:20:11.580 But the person or patient,
NOTE Confidence: 0.866275677142857
00:20:11.580 --> 00:20:13.212 depending on the situation,
NOTE Confidence: 0.866275677142857
00:20:13.212 --> 00:20:16.739 will not report any fear and not even be
NOTE Confidence: 0.866275677142857
00:20:16.739 --> 00:20:19.450 able to tell you what the stimulus was.
NOTE Confidence: 0.866275677142857
00:20:19.450 --> 00:20:20.910 So if the amygdala,
NOTE Confidence: 0.866275677142857
00:20:20.910 --> 00:20:23.100 if the person is not experiencing
NOTE Confidence: 0.866275677142857

00:20:23.173 --> 00:20:24.689 fear but the amygdala,
NOTE Confidence: 0.866275677142857

00:20:24.690 --> 00:20:27.468 is active in generating these responses,
NOTE Confidence: 0.866275677142857

00:20:27.470 --> 00:20:30.350 fear is not the source of those responses.
NOTE Confidence: 0.866275677142857

00:20:30.350 --> 00:20:31.358 It's a separate thing.
NOTE Confidence: 0.866275677142857

00:20:31.358 --> 00:20:33.219 And damage to the amygdala can interfere
NOTE Confidence: 0.866275677142857

00:20:33.219 --> 00:20:35.284 with the ability of threats to elicit
NOTE Confidence: 0.866275677142857

00:20:35.284 --> 00:20:37.070 behavioral and physiological responses,
NOTE Confidence: 0.866275677142857

00:20:37.070 --> 00:20:38.502 but doesn't necessarily eliminate
NOTE Confidence: 0.866275677142857

00:20:38.502 --> 00:20:40.650 the feeling of fear it should,
NOTE Confidence: 0.866275677142857

00:20:40.650 --> 00:20:43.474 if that's where the fear is coming from.
NOTE Confidence: 0.866275677142857

00:20:43.480 --> 00:20:45.466 So you know, neuroscientists can explain
NOTE Confidence: 0.866275677142857

00:20:45.466 --> 00:20:47.339 fear conditioning in terms of system,
NOTE Confidence: 0.866275677142857

00:20:47.340 --> 00:20:49.060 cells, synapses and molecules.
NOTE Confidence: 0.866275677142857

00:20:49.060 --> 00:20:50.780 This logic works fine.
NOTE Confidence: 0.866275677142857

00:20:50.780 --> 00:20:53.300 And invertebrates like ephesia or
NOTE Confidence: 0.866275677142857

00:20:53.300 --> 00:20:56.432 flies and so on. And vertebrates,

NOTE Confidence: 0.866275677142857
00:20:56.432 --> 00:20:58.471 so mammals, humans, everybody.
NOTE Confidence: 0.866275677142857
00:20:58.471 --> 00:21:01.810 No need to call upon concepts such as fear.
NOTE Confidence: 0.866275677142857
00:21:01.810 --> 00:21:02.700 All you need is heavy.
NOTE Confidence: 0.866275677142857
00:21:02.700 --> 00:21:05.796 And plasticity like CS is a weak stimulus.
NOTE Confidence: 0.866275677142857
00:21:05.800 --> 00:21:08.350 the US is a strong stimulus.
NOTE Confidence: 0.866275677142857
00:21:08.350 --> 00:21:08.978 They come.
NOTE Confidence: 0.866275677142857
00:21:08.978 --> 00:21:10.548 The two stimuli come together
NOTE Confidence: 0.866275677142857
00:21:10.548 --> 00:21:12.309 on neurons in the amygdala.
NOTE Confidence: 0.866275677142857
00:21:12.310 --> 00:21:14.434 The strong stimulus causes a change
NOTE Confidence: 0.866275677142857
00:21:14.434 --> 00:21:16.739 in the neuron that allows the
NOTE Confidence: 0.866275677142857
00:21:16.739 --> 00:21:18.774 weak stimulus to be synaptically
NOTE Confidence: 0.866275677142857
00:21:18.774 --> 00:21:20.750 connected with the same neuron,
NOTE Confidence: 0.866275677142857
00:21:20.750 --> 00:21:23.375 and this weak stimulus can then go
NOTE Confidence: 0.866275677142857
00:21:23.375 --> 00:21:26.136 into the brain and more effectively
NOTE Confidence: 0.866275677142857
00:21:26.136 --> 00:21:28.446 activate those neurons to produce
NOTE Confidence: 0.866275677142857

00:21:28.519 --> 00:21:29.529 the responses.
NOTE Confidence: 0.866275677142857

00:21:29.530 --> 00:21:31.696 And if you have a neuromodulator
NOTE Confidence: 0.866275677142857

00:21:31.696 --> 00:21:33.140 like norepinephrine being triggered
NOTE Confidence: 0.866275677142857

00:21:33.196 --> 00:21:34.788 by the unconditioned stimulus,
NOTE Confidence: 0.866275677142857

00:21:34.790 --> 00:21:38.699 the shockers as we know, as in case.
NOTE Confidence: 0.866275677142857

00:21:38.700 --> 00:21:40.880 Then that neuromodulator will
NOTE Confidence: 0.866275677142857

00:21:40.880 --> 00:21:44.150 potentiate the plasticity and also make
NOTE Confidence: 0.811946395384615

00:21:44.232 --> 00:21:46.050 the responses stronger.
NOTE Confidence: 0.811946395384615

00:21:46.050 --> 00:21:48.006 So it's not that, you know,
NOTE Confidence: 0.811946395384615

00:21:48.010 --> 00:21:50.845 fear is a meaningless concept or construct,
NOTE Confidence: 0.811946395384615

00:21:50.850 --> 00:21:53.076 it's just that it's not what's
NOTE Confidence: 0.811946395384615

00:21:53.076 --> 00:21:55.095 involved in explaining these kinds
NOTE Confidence: 0.811946395384615

00:21:55.095 --> 00:21:56.959 of simple behavioral paradigms.
NOTE Confidence: 0.811946395384615

00:21:56.960 --> 00:22:00.730 So it's and that you know, it doesn't,
NOTE Confidence: 0.811946395384615

00:22:00.730 --> 00:22:03.635 it doesn't help us to over interpret
NOTE Confidence: 0.811946395384615

00:22:03.635 --> 00:22:06.363 what we're talking about or what

NOTE Confidence: 0.811946395384615
00:22:06.363 --> 00:22:09.500 we're seeing for the sake of well,
NOTE Confidence: 0.811946395384615
00:22:09.500 --> 00:22:11.040 I'll talk about that later.
NOTE Confidence: 0.811946395384615
00:22:11.040 --> 00:22:12.582 So I wrote this paper rethinking
NOTE Confidence: 0.811946395384615
00:22:12.582 --> 00:22:13.353 the emotional burden.
NOTE Confidence: 0.811946395384615
00:22:13.360 --> 00:22:14.914 So the basic idea, this is the,
NOTE Confidence: 0.811946395384615
00:22:14.920 --> 00:22:17.074 the classic idea since the stimulus
NOTE Confidence: 0.811946395384615
00:22:17.074 --> 00:22:18.998 activates fear in the amygdala
NOTE Confidence: 0.811946395384615
00:22:18.998 --> 00:22:21.098 and fear controls the behavior.
NOTE Confidence: 0.811946395384615
00:22:21.100 --> 00:22:22.168 And I said, well,
NOTE Confidence: 0.811946395384615
00:22:22.168 --> 00:22:25.020 let's get rid of that and instead talk about.
NOTE Confidence: 0.811946395384615
00:22:25.020 --> 00:22:25.996 What the amygdala does,
NOTE Confidence: 0.811946395384615
00:22:25.996 --> 00:22:27.838 or what's going on in the amygdala
NOTE Confidence: 0.811946395384615
00:22:27.838 --> 00:22:29.458 in these situations of danger,
NOTE Confidence: 0.811946395384615
00:22:29.460 --> 00:22:31.860 is a defensive survival circuit,
NOTE Confidence: 0.811946395384615
00:22:31.860 --> 00:22:35.115 activity set of activities that
NOTE Confidence: 0.811946395384615

00:22:35.115 --> 00:22:37.070 the stimulus will activate,
NOTE Confidence: 0.811946395384615

00:22:37.070 --> 00:22:39.020 either because it's an innate stimulus
NOTE Confidence: 0.811946395384615

00:22:39.020 --> 00:22:41.298 like a snake or something like that,
NOTE Confidence: 0.811946395384615

00:22:41.300 --> 00:22:42.455 or condition stimulus.
NOTE Confidence: 0.811946395384615

00:22:42.455 --> 00:22:45.150 The survival circuit will then be activated
NOTE Confidence: 0.811946395384615

00:22:45.210 --> 00:22:47.720 and behavioral and physiological responses,
NOTE Confidence: 0.811946395384615

00:22:47.720 --> 00:22:49.808 defensive responses that are
NOTE Confidence: 0.811946395384615

00:22:49.808 --> 00:22:52.418 part of your survival activity,
NOTE Confidence: 0.811946395384615

00:22:52.420 --> 00:22:53.404 survival protection,
NOTE Confidence: 0.811946395384615

00:22:53.404 --> 00:22:55.864 and the presence of danger.
NOTE Confidence: 0.811946395384615

00:22:55.870 --> 00:22:57.990 Will be activated automatically
NOTE Confidence: 0.811946395384615

00:22:57.990 --> 00:23:00.640 because these circuits are innate.
NOTE Confidence: 0.811946395384615

00:23:00.640 --> 00:23:03.152 And again, it could be activated by an
NOTE Confidence: 0.811946395384615

00:23:03.152 --> 00:23:05.128 innate stimulus or condition stimulus,
NOTE Confidence: 0.811946395384615

00:23:05.130 --> 00:23:07.385 but the if the responses
NOTE Confidence: 0.811946395384615

00:23:07.385 --> 00:23:09.189 are pretty much innate,

NOTE Confidence: 0.811946395384615

00:23:09.190 --> 00:23:11.092 so you don't need the actual

NOTE Confidence: 0.811946395384615

00:23:11.092 --> 00:23:12.360 subjective experience of fear,

NOTE Confidence: 0.811946395384615

00:23:12.360 --> 00:23:14.341 you just need a circuit that can

NOTE Confidence: 0.811946395384615

00:23:14.341 --> 00:23:16.193 detect and respond to danger. So.

NOTE Confidence: 0.811946395384615

00:23:16.193 --> 00:23:19.257 Why does it matter what we call things?

NOTE Confidence: 0.811946395384615

00:23:19.260 --> 00:23:20.616 Well, there are lots of reasons,

NOTE Confidence: 0.811946395384615

00:23:20.620 --> 00:23:23.380 and I'll just give you 4

NOTE Confidence: 0.811946395384615

00:23:23.380 --> 00:23:25.496 here quotes from four people.

NOTE Confidence: 0.811946395384615

00:23:25.496 --> 00:23:27.742 Francis Bacon in 1620 said scientists

NOTE Confidence: 0.811946395384615

00:23:27.742 --> 00:23:29.746 should be vigilant and guard against

NOTE Confidence: 0.811946395384615

00:23:29.746 --> 00:23:31.520 tacitly granting reality to things.

NOTE Confidence: 0.811946395384615

00:23:31.520 --> 00:23:34.160 Simply cook because we have words for them.

NOTE Confidence: 0.811946395384615

00:23:34.160 --> 00:23:36.036 George Mandler and William Kesson and a

NOTE Confidence: 0.811946395384615

00:23:36.036 --> 00:23:38.018 book called the Language of Psychology.

NOTE Confidence: 0.811946395384615

00:23:38.020 --> 00:23:39.760 It's it's a very interesting book.

NOTE Confidence: 0.811946395384615

00:23:39.760 --> 00:23:42.378 In 1964 the common language is full
NOTE Confidence: 0.811946395384615

00:23:42.378 --> 00:23:43.930 of quasi psychological assertions
NOTE Confidence: 0.811946395384615

00:23:43.930 --> 00:23:46.096 and the language in which these
NOTE Confidence: 0.811946395384615

00:23:46.096 --> 00:23:47.960 are framed is inadequate.
NOTE Confidence: 0.811946395384615

00:23:47.960 --> 00:23:49.880 Jack Block was a personality psychologist
NOTE Confidence: 0.811946395384615

00:23:49.880 --> 00:23:52.290 at the end of his career in 1995.
NOTE Confidence: 0.811946395384615

00:23:52.290 --> 00:23:53.530 He said psychologists have
NOTE Confidence: 0.811946395384615

00:23:53.530 --> 00:23:55.470 tended to be sloppy with words,
NOTE Confidence: 0.811946395384615

00:23:55.470 --> 00:23:57.270 summary labels and shorthand ideas
NOTE Confidence: 0.811946395384615

00:23:57.270 --> 00:23:59.700 come to control the way we think.
NOTE Confidence: 0.811946395384615

00:23:59.700 --> 00:24:02.132 He also said that we should be more
NOTE Confidence: 0.811946395384615

00:24:02.132 --> 00:24:04.288 become more familiar with things
NOTE Confidence: 0.811946395384615

00:24:04.288 --> 00:24:05.764 denotatively and connotatively
NOTE Confidence: 0.811946395384615

00:24:05.764 --> 00:24:07.732 to make ourselves clear,
NOTE Confidence: 0.811946395384615

00:24:07.740 --> 00:24:10.771 and not just use kind of concrete
NOTE Confidence: 0.811946395384615

00:24:10.771 --> 00:24:13.000 bized words that we've passed

NOTE Confidence: 0.811946395384615
00:24:13.000 --> 00:24:15.000 on from generation to generation
NOTE Confidence: 0.811946395384615
00:24:15.000 --> 00:24:17.313 and assume that it's simply that
NOTE Confidence: 0.811946395384615
00:24:17.313 --> 00:24:19.553 the word has the meaning that it
NOTE Confidence: 0.811946395384615
00:24:19.553 --> 00:24:21.680 had 25 or 30 or 100 years ago.
NOTE Confidence: 0.811946395384615
00:24:21.680 --> 00:24:24.753 Melvin Marks there's a semantic day in 1951.
NOTE Confidence: 0.811946395384615
00:24:24.753 --> 00:24:27.218 Marx was a a behaviorist,
NOTE Confidence: 0.811946395384615
00:24:27.220 --> 00:24:31.000 and he's talking about the the behaviorist
NOTE Confidence: 0.811946395384615
00:24:31.000 --> 00:24:34.060 tendency to use these mental state terms,
NOTE Confidence: 0.811946395384615
00:24:34.060 --> 00:24:36.540 like for fear but not to mean fear.
NOTE Confidence: 0.811946395384615
00:24:36.540 --> 00:24:38.934 What they meant was that there's some
NOTE Confidence: 0.811946395384615
00:24:38.934 --> 00:24:41.449 kind of intervening variable that was
NOTE Confidence: 0.811946395384615
00:24:41.449 --> 00:24:43.814 psychological but not necessarily subjective,
NOTE Confidence: 0.811946395384615
00:24:43.820 --> 00:24:45.955 that connected the stimulus and the response,
NOTE Confidence: 0.811946395384615
00:24:45.960 --> 00:24:47.000 but they didn't care about
NOTE Confidence: 0.811946395384615
00:24:47.000 --> 00:24:48.040 what was in the brain.
NOTE Confidence: 0.811946395384615

00:24:48.040 --> 00:24:48.358 But,
NOTE Confidence: 0.811946395384615

00:24:48.358 --> 00:24:49.312 Marks pointed out,
NOTE Confidence: 0.811946395384615

00:24:49.312 --> 00:24:51.220 there's a semantic danger that results
NOTE Confidence: 0.793703551428571

00:24:51.278 --> 00:24:52.458 when a common language.
NOTE Confidence: 0.793703551428571

00:24:52.460 --> 00:24:54.416 Term is used as a scientific
NOTE Confidence: 0.793703551428571

00:24:54.416 --> 00:24:56.340 name for an intervening variable
NOTE Confidence: 0.793703551428571

00:24:56.340 --> 00:24:57.987 or hypothetical construct.
NOTE Confidence: 0.793703551428571

00:24:57.990 --> 00:25:00.135 The variable of construct becomes
NOTE Confidence: 0.793703551428571

00:25:00.135 --> 00:25:01.851 infected with the subjective
NOTE Confidence: 0.793703551428571

00:25:01.851 --> 00:25:03.637 properties of the common meaning.
NOTE Confidence: 0.793703551428571

00:25:03.640 --> 00:25:05.986 So in psychology and neuroscience we
NOTE Confidence: 0.793703551428571

00:25:05.986 --> 00:25:07.550 have unique conceptual challenges.
NOTE Confidence: 0.793703551428571

00:25:07.550 --> 00:25:09.685 So biologists call a family of genes
NOTE Confidence: 0.793703551428571

00:25:09.685 --> 00:25:11.332 hedgehog because of some feature
NOTE Confidence: 0.793703551428571

00:25:11.332 --> 00:25:13.007 physical features of the gene.
NOTE Confidence: 0.793703551428571

00:25:13.010 --> 00:25:14.612 But no one in biology believes

NOTE Confidence: 0.793703551428571
00:25:14.612 --> 00:25:16.294 the gene has anything to do
NOTE Confidence: 0.793703551428571
00:25:16.294 --> 00:25:17.689 with the animal called Hedgehog.
NOTE Confidence: 0.793703551428571
00:25:17.690 --> 00:25:19.546 But when we use a word like fear,
NOTE Confidence: 0.793703551428571
00:25:19.550 --> 00:25:21.066 there's assumption is subject
NOTE Confidence: 0.793703551428571
00:25:21.066 --> 00:25:22.961 matter is our everyday experience
NOTE Confidence: 0.793703551428571
00:25:22.961 --> 00:25:24.549 of fear when in danger.
NOTE Confidence: 0.793703551428571
00:25:24.550 --> 00:25:26.986 And so again like Mark said,
NOTE Confidence: 0.793703551428571
00:25:26.990 --> 00:25:28.072 the circuits,
NOTE Confidence: 0.793703551428571
00:25:28.072 --> 00:25:31.318 the behaviors get infected with the
NOTE Confidence: 0.793703551428571
00:25:31.318 --> 00:25:34.239 subjective meaning that the word carries.
NOTE Confidence: 0.793703551428571
00:25:34.240 --> 00:25:36.020 So here's some examples of
NOTE Confidence: 0.793703551428571
00:25:36.020 --> 00:25:37.800 where we get into trouble.
NOTE Confidence: 0.793703551428571
00:25:37.800 --> 00:25:40.824 So David Anderson is one of the most
NOTE Confidence: 0.793703551428571
00:25:40.824 --> 00:25:42.438 prominent neurobiologists in the world.
NOTE Confidence: 0.793703551428571
00:25:42.440 --> 00:25:43.349 He studies flies,
NOTE Confidence: 0.793703551428571

00:25:43.349 --> 00:25:44.864 and he's gotten interested in
NOTE Confidence: 0.793703551428571

00:25:44.864 --> 00:25:46.938 in the emotional state of flies.
NOTE Confidence: 0.793703551428571

00:25:46.940 --> 00:25:48.740 And he says an emotional state,
NOTE Confidence: 0.793703551428571

00:25:48.740 --> 00:25:50.370 possibly analogous to fear and
NOTE Confidence: 0.793703551428571

00:25:50.370 --> 00:25:52.000 mammals lies between the threat
NOTE Confidence: 0.793703551428571

00:25:52.056 --> 00:25:53.736 and freezing behavior and flies.
NOTE Confidence: 0.793703551428571

00:25:53.740 --> 00:25:54.895 By studying flies,
NOTE Confidence: 0.793703551428571

00:25:54.895 --> 00:25:56.820 we can learn important things
NOTE Confidence: 0.793703551428571

00:25:56.820 --> 00:25:58.500 about human emotions now.
NOTE Confidence: 0.793703551428571

00:25:58.500 --> 00:26:00.910 Anderson was not talking about
NOTE Confidence: 0.793703551428571

00:26:00.910 --> 00:26:03.920 the subjective experience, but.
NOTE Confidence: 0.793703551428571

00:26:03.920 --> 00:26:04.446 Headlines.
NOTE Confidence: 0.793703551428571

00:26:04.446 --> 00:26:06.550 Flies have feelings, fear,
NOTE Confidence: 0.793703551428571

00:26:06.550 --> 00:26:07.579 and maybe more.
NOTE Confidence: 0.793703551428571

00:26:07.579 --> 00:26:08.951 Flies experience emotions like
NOTE Confidence: 0.793703551428571

00:26:08.951 --> 00:26:10.729 fear and maybe offer insights

NOTE Confidence: 0.793703551428571
00:26:10.729 --> 00:26:12.793 into how the brain makes feelings.
NOTE Confidence: 0.793703551428571
00:26:12.800 --> 00:26:13.194 So,
NOTE Confidence: 0.793703551428571
00:26:13.194 --> 00:26:13.982 you know.
NOTE Confidence: 0.793703551428571
00:26:13.982 --> 00:26:17.271 It's we have to be careful how we
NOTE Confidence: 0.793703551428571
00:26:17.271 --> 00:26:20.330 talk about things because if we use,
NOTE Confidence: 0.793703551428571
00:26:20.330 --> 00:26:21.746 I'm not saying we should never
NOTE Confidence: 0.793703551428571
00:26:21.746 --> 00:26:22.690 use common language terms,
NOTE Confidence: 0.793703551428571
00:26:22.690 --> 00:26:25.260 but we have to be clear what we mean by
NOTE Confidence: 0.793703551428571
00:26:25.330 --> 00:26:27.969 those terms and not over interpret them.
NOTE Confidence: 0.793703551428571
00:26:27.970 --> 00:26:30.376 Because the meaning that you imply
NOTE Confidence: 0.793703551428571
00:26:30.376 --> 00:26:32.716 or think you're implying is not
NOTE Confidence: 0.793703551428571
00:26:32.716 --> 00:26:34.381 necessarily the one that's going
NOTE Confidence: 0.793703551428571
00:26:34.381 --> 00:26:37.150 to go out into the public and these
NOTE Confidence: 0.793703551428571
00:26:37.150 --> 00:26:39.450 ideas go into the public and then
NOTE Confidence: 0.793703551428571
00:26:39.450 --> 00:26:40.950 actually come back into science
NOTE Confidence: 0.793703551428571

00:26:40.950 --> 00:26:42.710 and become part of the science.
NOTE Confidence: 0.793703551428571

00:26:42.710 --> 00:26:45.140 So it's a problem. We have to be clear.
NOTE Confidence: 0.793703551428571

00:26:45.140 --> 00:26:48.245 About what we mean as as Jack Black said,
NOTE Confidence: 0.793703551428571

00:26:48.250 --> 00:26:49.552 Denotatively and Connotatively,
NOTE Confidence: 0.793703551428571

00:26:49.552 --> 00:26:53.119 what do these words that we use to
NOTE Confidence: 0.793703551428571

00:26:53.119 --> 00:26:55.837 describe brain circuits and behaviors mean?
NOTE Confidence: 0.793703551428571

00:26:55.840 --> 00:26:58.160 Here's another one from Louisiana.
NOTE Confidence: 0.793703551428571

00:26:58.160 --> 00:26:59.825 So we call these things
NOTE Confidence: 0.793703551428571

00:26:59.825 --> 00:27:01.157 crawfish rather than crayfish.
NOTE Confidence: 0.793703551428571

00:27:01.160 --> 00:27:02.580 Crawfish treated with a
NOTE Confidence: 0.793703551428571

00:27:02.580 --> 00:27:04.000 benzodiazepine with more exploratory,
NOTE Confidence: 0.793703551428571

00:27:04.000 --> 00:27:06.142 less inhibited in a chamber in
NOTE Confidence: 0.793703551428571

00:27:06.142 --> 00:27:08.000 which they received electric shock.
NOTE Confidence: 0.793703551428571

00:27:08.000 --> 00:27:09.694 I mean, did this belong in science?
NOTE Confidence: 0.793703551428571

00:27:09.700 --> 00:27:10.612 I don't know.
NOTE Confidence: 0.793703551428571

00:27:10.612 --> 00:27:12.740 This is perfectly fine set of findings,

NOTE Confidence: 0.793703551428571
00:27:12.740 --> 00:27:14.438 but it's not that, you know,
NOTE Confidence: 0.793703551428571
00:27:14.440 --> 00:27:17.266 insightful, but why was it published?
NOTE Confidence: 0.793703551428571
00:27:17.270 --> 00:27:17.601 Well,
NOTE Confidence: 0.793703551428571
00:27:17.601 --> 00:27:19.256 science had the headline anxious
NOTE Confidence: 0.793703551428571
00:27:19.256 --> 00:27:21.280 crawfish can be treated like humans.
NOTE Confidence: 0.793703551428571
00:27:21.280 --> 00:27:22.052 York Times,
NOTE Confidence: 0.793703551428571
00:27:22.052 --> 00:27:24.368 even crawfish get anxious and BBC
NOTE Confidence: 0.793703551428571
00:27:24.368 --> 00:27:27.040 crawfish may experience. Of anxiety.
NOTE Confidence: 0.793703551428571
00:27:27.040 --> 00:27:30.340 No more sedate version of that.
NOTE Confidence: 0.793703551428571
00:27:30.340 --> 00:27:33.392 So you know a practical example of
NOTE Confidence: 0.793703551428571
00:27:33.392 --> 00:27:36.662 why words matter if we consider
NOTE Confidence: 0.793703551428571
00:27:36.662 --> 00:27:39.154 anxiety anxiolytic drug development.
NOTE Confidence: 0.793703551428571
00:27:39.160 --> 00:27:41.435 So how do you develop a drug?
NOTE Confidence: 0.793703551428571
00:27:41.440 --> 00:27:42.826 So I handed it this early.
NOTE Confidence: 0.793703551428571
00:27:42.830 --> 00:27:45.458 You take animals and you studied
NOTE Confidence: 0.793703551428571

00:27:45.458 --> 00:27:47.692 their defensive behaviors and you
NOTE Confidence: 0.793703551428571

00:27:47.692 --> 00:27:50.110 assume that they're going to measure
NOTE Confidence: 0.793703551428571

00:27:50.110 --> 00:27:52.739 some brain state of fear or anxiety.
NOTE Confidence: 0.793703551428571

00:27:52.740 --> 00:27:56.118 So a drug that's given to.
NOTE Confidence: 0.793703551428571

00:27:56.120 --> 00:27:58.148 The animal of the drug company
NOTE Confidence: 0.810994270714286

00:27:58.150 --> 00:28:00.532 that alters the defensive behaviors assumed
NOTE Confidence: 0.810994270714286

00:28:00.532 --> 00:28:03.490 to change this brain state of fear anxiety
NOTE Confidence: 0.810994270714286

00:28:03.490 --> 00:28:06.535 by targeting a fear or anxiety circuit.
NOTE Confidence: 0.810994270714286

00:28:06.540 --> 00:28:08.346 And because humans have inherited this
NOTE Confidence: 0.810994270714286

00:28:08.346 --> 00:28:10.080 circuit from the million ancestors,
NOTE Confidence: 0.810994270714286

00:28:10.080 --> 00:28:12.026 giving the drug to humans to change
NOTE Confidence: 0.810994270714286

00:28:12.026 --> 00:28:13.842 the brain state and make people
NOTE Confidence: 0.810994270714286

00:28:13.842 --> 00:28:15.377 feel less fearful or anxious.
NOTE Confidence: 0.810994270714286

00:28:15.380 --> 00:28:18.775 So in 2010, and we really Class
NOTE Confidence: 0.810994270714286

00:28:18.780 --> 00:28:20.410 CEO Glasgow Smith Kline concluded
NOTE Confidence: 0.810994270714286

00:28:20.410 --> 00:28:22.658 that the effort has failed and new

NOTE Confidence: 0.810994270714286
00:28:22.658 --> 00:28:24.350 investments would not be made because
NOTE Confidence: 0.810994270714286
00:28:24.350 --> 00:28:26.437 of the low probability of success.
NOTE Confidence: 0.810994270714286
00:28:26.440 --> 00:28:28.100 Andrew Holmes, a leading researcher,
NOTE Confidence: 0.810994270714286
00:28:28.100 --> 00:28:29.484 reached a similar conclusion.
NOTE Confidence: 0.810994270714286
00:28:29.484 --> 00:28:31.214 These efforts have been disappointing.
NOTE Confidence: 0.810994270714286
00:28:31.220 --> 00:28:32.960 It's promising results with novel
NOTE Confidence: 0.810994270714286
00:28:32.960 --> 00:28:35.180 agents and rodent studies very rarely
NOTE Confidence: 0.810994270714286
00:28:35.180 --> 00:28:37.310 translated into effectiveness in humans.
NOTE Confidence: 0.810994270714286
00:28:37.310 --> 00:28:40.256 Eric Nestler and Steve ***** 2 very
NOTE Confidence: 0.810994270714286
00:28:40.256 --> 00:28:42.350 prominent biological psychiatrist,
NOTE Confidence: 0.810994270714286
00:28:42.350 --> 00:28:44.190 said they echoed the sentiment,
NOTE Confidence: 0.810994270714286
00:28:44.190 --> 00:28:45.955 saying that the molecular targets
NOTE Confidence: 0.810994270714286
00:28:45.955 --> 00:28:47.720 of current major classes of
NOTE Confidence: 0.810994270714286
00:28:47.779 --> 00:28:49.539 psychotherapeutics were all reverse
NOTE Confidence: 0.810994270714286
00:28:49.539 --> 00:28:51.739 engineered and animal studies from
NOTE Confidence: 0.810994270714286

00:28:51.739 --> 00:28:53.626 drugs discovered incidentally prior
NOTE Confidence: 0.810994270714286

00:28:53.626 --> 00:28:55.514 to 1960 by clinical observation.
NOTE Confidence: 0.810994270714286

00:28:55.514 --> 00:28:57.650 So nothing new has really been
NOTE Confidence: 0.810994270714286

00:28:57.719 --> 00:28:59.855 discovered because the same thing has
NOTE Confidence: 0.810994270714286

00:28:59.855 --> 00:29:02.239 been searched for over and over again.
NOTE Confidence: 0.810994270714286

00:29:02.240 --> 00:29:02.944 So yeah,
NOTE Confidence: 0.810994270714286

00:29:02.944 --> 00:29:05.408 the effort continues because of a commitment
NOTE Confidence: 0.810994270714286

00:29:05.408 --> 00:29:08.158 to a poorly conceived set of constructs,
NOTE Confidence: 0.810994270714286

00:29:08.160 --> 00:29:10.452 both psychologically and psychiatrically.
NOTE Confidence: 0.810994270714286

00:29:10.452 --> 00:29:11.598 So psychologically,
NOTE Confidence: 0.810994270714286

00:29:11.600 --> 00:29:13.010 the assumption is that mental states
NOTE Confidence: 0.810994270714286

00:29:13.010 --> 00:29:15.218 of fear can be measured by innate or
NOTE Confidence: 0.810994270714286

00:29:15.218 --> 00:29:17.042 conditioned behaviors in animals and people.
NOTE Confidence: 0.810994270714286

00:29:17.050 --> 00:29:18.760 And you see this not only
NOTE Confidence: 0.810994270714286

00:29:18.760 --> 00:29:19.900 in the animal research,
NOTE Confidence: 0.810994270714286

00:29:19.900 --> 00:29:23.141 but also in human research where you

NOTE Confidence: 0.810994270714286
00:29:23.141 --> 00:29:25.504 show people pictures of, you know,
NOTE Confidence: 0.810994270714286
00:29:25.504 --> 00:29:27.758 snakes or other kinds of threatening stimuli,
NOTE Confidence: 0.810994270714286
00:29:27.760 --> 00:29:31.267 or you show them faces of aggressive
NOTE Confidence: 0.810994270714286
00:29:31.267 --> 00:29:32.269 or fearful.
NOTE Confidence: 0.810994270714286
00:29:32.270 --> 00:29:32.740 People.
NOTE Confidence: 0.810994270714286
00:29:32.740 --> 00:29:35.090 People with expressing fear or
NOTE Confidence: 0.810994270714286
00:29:35.090 --> 00:29:37.510 are aggression in their faces,
NOTE Confidence: 0.810994270714286
00:29:37.510 --> 00:29:39.958 and you're assuming that this is
NOTE Confidence: 0.810994270714286
00:29:39.958 --> 00:29:42.322 activating a fear center in the
NOTE Confidence: 0.810994270714286
00:29:42.322 --> 00:29:44.604 amygdala and that this is going to
NOTE Confidence: 0.810994270714286
00:29:44.610 --> 00:29:47.292 be measurable in by using galvanic
NOTE Confidence: 0.810994270714286
00:29:47.292 --> 00:29:49.889 skin response or something like that.
NOTE Confidence: 0.810994270714286
00:29:49.890 --> 00:29:51.870 But I don't think that's really
NOTE Confidence: 0.810994270714286
00:29:51.870 --> 00:29:52.860 going to help.
NOTE Confidence: 0.810994270714286
00:29:52.860 --> 00:29:53.167 Psychiatrically,
NOTE Confidence: 0.810994270714286

00:29:53.167 --> 00:29:54.702 pathological fear is assumed to
NOTE Confidence: 0.810994270714286

00:29:54.702 --> 00:29:56.744 be a product of a malfunctioning
NOTE Confidence: 0.810994270714286

00:29:56.744 --> 00:29:58.276 genetically wired fear circuit,
NOTE Confidence: 0.810994270714286

00:29:58.280 --> 00:30:00.840 and the delivery of the right chemical to
NOTE Confidence: 0.810994270714286

00:30:00.840 --> 00:30:03.340 this first circuit will fix the problem.
NOTE Confidence: 0.810994270714286

00:30:03.340 --> 00:30:06.436 So here are two scenarios in social anxiety.
NOTE Confidence: 0.810994270714286

00:30:06.440 --> 00:30:07.684 The fear anxiety scenario.
NOTE Confidence: 0.810994270714286

00:30:07.684 --> 00:30:08.928 The medical medication will
NOTE Confidence: 0.810994270714286

00:30:08.928 --> 00:30:10.440 turn off your fear center.
NOTE Confidence: 0.810994270714286

00:30:10.440 --> 00:30:12.968 You'll be able to go to the party
NOTE Confidence: 0.810994270714286

00:30:12.968 --> 00:30:15.460 and not feel afraid or anxious.
NOTE Confidence: 0.810994270714286

00:30:15.460 --> 00:30:17.028 This is what everyone hopes will happen,
NOTE Confidence: 0.810994270714286

00:30:17.030 --> 00:30:18.968 but it's not really what happens.
NOTE Confidence: 0.810994270714286

00:30:18.970 --> 00:30:20.638 The physiological symptom scenario,
NOTE Confidence: 0.810994270714286

00:30:20.638 --> 00:30:22.723 the medication effects systems that
NOTE Confidence: 0.810994270714286

00:30:22.723 --> 00:30:24.694 control behavioral and physiological

NOTE Confidence: 0.810994270714286
00:30:24.694 --> 00:30:26.686 responses and challenging situations,
NOTE Confidence: 0.810994270714286
00:30:26.690 --> 00:30:28.382 we find it easier to go to the party.
NOTE Confidence: 0.810994270714286
00:30:28.390 --> 00:30:30.130 You'll be less avoidant and
NOTE Confidence: 0.810994270714286
00:30:30.130 --> 00:30:31.870 less jittery or less aroused.
NOTE Confidence: 0.810994270714286
00:30:31.870 --> 00:30:33.550 And while you probably still feel anxious,
NOTE Confidence: 0.810994270714286
00:30:33.550 --> 00:30:33.916 I mean,
NOTE Confidence: 0.810994270714286
00:30:33.916 --> 00:30:34.831 you've been anxious all your
NOTE Confidence: 0.810994270714286
00:30:34.831 --> 00:30:35.805 life and you're probably still
NOTE Confidence: 0.810994270714286
00:30:35.805 --> 00:30:36.963 going to be a little anxious.
NOTE Confidence: 0.810994270714286
00:30:36.970 --> 00:30:38.846 You'll be better able to cope with
NOTE Confidence: 0.810994270714286
00:30:38.846 --> 00:30:40.091 the threatening situation and can
NOTE Confidence: 0.810994270714286
00:30:40.091 --> 00:30:41.659 use it as a way to become physically
NOTE Confidence: 0.810994270714286
00:30:41.713 --> 00:30:43.009 more comfortable being there.
NOTE Confidence: 0.810994270714286
00:30:43.010 --> 00:30:43.722 It's not a cure,
NOTE Confidence: 0.810994270714286
00:30:43.722 --> 00:30:44.790 but it might help you cope
NOTE Confidence: 0.810994270714286

00:30:44.833 --> 00:30:45.619 with your symptoms.
NOTE Confidence: 0.810994270714286

00:30:45.620 --> 00:30:46.120 I mean,
NOTE Confidence: 0.810994270714286

00:30:46.120 --> 00:30:47.620 I think you'll have to agree
NOTE Confidence: 0.810994270714286

00:30:47.620 --> 00:30:49.605 that the second one is the more
NOTE Confidence: 0.810994270714286

00:30:49.605 --> 00:30:51.025 reasonable thing to tell the
NOTE Confidence: 0.876227047619048

00:30:51.084 --> 00:30:53.690 patient, because it's more based on what
NOTE Confidence: 0.876227047619048

00:30:53.690 --> 00:30:55.929 the research from the animal animals
NOTE Confidence: 0.876227047619048

00:30:55.929 --> 00:30:58.456 from the animal lab has really told
NOTE Confidence: 0.876227047619048

00:30:58.456 --> 00:31:01.200 us about his behavior and Physiology.
NOTE Confidence: 0.876227047619048

00:31:01.200 --> 00:31:03.348 We can't understand the mental states
NOTE Confidence: 0.876227047619048

00:31:03.348 --> 00:31:05.639 of humans by studying rat behavior.
NOTE Confidence: 0.889009825

00:31:07.680 --> 00:31:09.096 So here we go,
NOTE Confidence: 0.889009825

00:31:09.096 --> 00:31:11.220 back to the defensive survival circuit.
NOTE Confidence: 0.889009825

00:31:11.220 --> 00:31:13.710 The drugs are developed using these
NOTE Confidence: 0.889009825

00:31:13.710 --> 00:31:15.605 defensive survival behaviors, right?
NOTE Confidence: 0.889009825

00:31:15.605 --> 00:31:20.120 So they're based on these survival circuits,

NOTE Confidence: 0.889009825

00:31:20.120 --> 00:31:24.246 but if people are feeling fearful and

NOTE Confidence: 0.889009825

00:31:24.246 --> 00:31:26.378 anxious because they're cognitively

NOTE Confidence: 0.889009825

00:31:26.378 --> 00:31:29.180 interpreting their situations in this way,

NOTE Confidence: 0.889009825

00:31:29.180 --> 00:31:31.812 then you know, it's not surprising that

NOTE Confidence: 0.889009825

00:31:31.812 --> 00:31:34.277 the medications are not working as well.

NOTE Confidence: 0.889009825

00:31:34.280 --> 00:31:36.135 So a typical behaviors account

NOTE Confidence: 0.889009825

00:31:36.135 --> 00:31:38.360 works fine sub cortically like that,

NOTE Confidence: 0.889009825

00:31:38.360 --> 00:31:41.036 but we need something more elaborate,

NOTE Confidence: 0.889009825

00:31:41.040 --> 00:31:43.188 more human like, to understand what's

NOTE Confidence: 0.889009825

00:31:43.188 --> 00:31:47.848 going on in the middle states of people.

NOTE Confidence: 0.889009825

00:31:47.850 --> 00:31:49.705 So, you know, critic might say that,

NOTE Confidence: 0.889009825

00:31:49.710 --> 00:31:51.310 well, some medications used to

NOTE Confidence: 0.889009825

00:31:51.310 --> 00:31:52.910 treat for anxiety sometimes too

NOTE Confidence: 0.889009825

00:31:52.963 --> 00:31:54.767 effective some subjective feelings,

NOTE Confidence: 0.889009825

00:31:54.770 --> 00:31:55.919 for example, benzodiazepines,

NOTE Confidence: 0.889009825

00:31:55.919 --> 00:31:59.070 they often make people feel a little better.

NOTE Confidence: 0.889009825

00:31:59.070 --> 00:32:00.950 But we have to ask whether the effects

NOTE Confidence: 0.889009825

00:32:00.950 --> 00:32:02.516 are truly accounted for by reduction

NOTE Confidence: 0.889009825

00:32:02.516 --> 00:32:04.995 in fear or anxiety or from up by other

NOTE Confidence: 0.889009825

00:32:04.995 --> 00:32:06.729 factors that change the feeling somewhat,

NOTE Confidence: 0.889009825

00:32:06.730 --> 00:32:09.124 but for reason reasons other than

NOTE Confidence: 0.889009825

00:32:09.124 --> 00:32:10.720 specifically affecting fear anxiety.

NOTE Confidence: 0.889009825

00:32:10.720 --> 00:32:12.624 If we're going to find new medications,

NOTE Confidence: 0.889009825

00:32:12.630 --> 00:32:14.500 we've got to, you know,

NOTE Confidence: 0.889009825

00:32:14.500 --> 00:32:17.818 really understand why a medication works.

NOTE Confidence: 0.889009825

00:32:17.820 --> 00:32:18.132 Right.

NOTE Confidence: 0.889009825

00:32:18.132 --> 00:32:19.645 We can't just say, well,

NOTE Confidence: 0.889009825

00:32:19.645 --> 00:32:20.970 and in general it works.

NOTE Confidence: 0.889009825

00:32:20.970 --> 00:32:24.098 We have to know something much more specific.

NOTE Confidence: 0.889009825

00:32:24.100 --> 00:32:25.330 So, you know,

NOTE Confidence: 0.889009825

00:32:25.330 --> 00:32:28.200 here's some reasons why a benzo might

NOTE Confidence: 0.889009825

00:32:28.200 --> 00:32:29.768 make someone feel a little bit of

NOTE Confidence: 0.889009825

00:32:29.768 --> 00:32:31.399 a blunting of emotion in general.

NOTE Confidence: 0.889009825

00:32:31.400 --> 00:32:33.087 A lot of therapists have told me,

NOTE Confidence: 0.889009825

00:32:33.090 --> 00:32:34.107 psychiatrist and psychotherapist

NOTE Confidence: 0.889009825

00:32:34.107 --> 00:32:36.480 have told me that's what they think.

NOTE Confidence: 0.889009825

00:32:36.480 --> 00:32:40.480 Benzos are basically doing #2 indirect

NOTE Confidence: 0.889009825

00:32:40.480 --> 00:32:42.700 effects on feelings caused by reducing

NOTE Confidence: 0.889009825

00:32:42.700 --> 00:32:44.668 feedback from body responses and

NOTE Confidence: 0.889009825

00:32:44.668 --> 00:32:46.618 physiological arousal in the brain.

NOTE Confidence: 0.889009825

00:32:46.620 --> 00:32:48.246 So it's, you know, when you.

NOTE Confidence: 0.889009825

00:32:48.250 --> 00:32:49.878 We're getting all these,

NOTE Confidence: 0.889009825

00:32:49.878 --> 00:32:51.913 these physiological symptoms turned down.

NOTE Confidence: 0.889009825

00:32:51.920 --> 00:32:53.240 That will help a bit.

NOTE Confidence: 0.889009825

00:32:53.240 --> 00:32:54.654 But I think it's kind of like,

NOTE Confidence: 0.889009825

00:32:54.660 --> 00:32:55.182 you know,

NOTE Confidence: 0.889009825

00:32:55.182 --> 00:32:57.009 if you go to a bar restaurant
NOTE Confidence: 0.889009825

00:32:57.009 --> 00:32:58.791 and let's say it's a restaurant
NOTE Confidence: 0.889009825

00:32:58.791 --> 00:33:00.620 and the music is too loud,
NOTE Confidence: 0.889009825

00:33:00.620 --> 00:33:01.760 they're playing some awful heavy
NOTE Confidence: 0.889009825

00:33:01.760 --> 00:33:03.259 metal music and you don't like it,
NOTE Confidence: 0.889009825

00:33:03.260 --> 00:33:05.294 and you ask the waiter to turn it down,
NOTE Confidence: 0.889009825

00:33:05.300 --> 00:33:07.996 they turn the volume down on the song,
NOTE Confidence: 0.889009825

00:33:08.000 --> 00:33:10.040 but it's the same annoying song.
NOTE Confidence: 0.889009825

00:33:10.040 --> 00:33:12.056 It's just not quite as annoying
NOTE Confidence: 0.889009825

00:33:12.056 --> 00:33:13.980 because the volume is lowered.
NOTE Confidence: 0.889009825

00:33:13.980 --> 00:33:16.590 And I think that this can be something that
NOTE Confidence: 0.889009825

00:33:16.590 --> 00:33:19.360 the medications might be really useful for.
NOTE Confidence: 0.889009825

00:33:19.360 --> 00:33:21.870 Lowering the volume and then
NOTE Confidence: 0.889009825

00:33:21.870 --> 00:33:24.380 the the third reason is.
NOTE Confidence: 0.889009825

00:33:24.380 --> 00:33:26.684 That the effects are due to
NOTE Confidence: 0.889009825

00:33:26.684 --> 00:33:27.836 altering cognitive processes,

NOTE Confidence: 0.889009825

00:33:27.840 --> 00:33:30.300 the constructor motions like memory,

NOTE Confidence: 0.889009825

00:33:30.300 --> 00:33:31.986 attention, working memory,

NOTE Confidence: 0.889009825

00:33:31.986 --> 00:33:34.796 self processing and so forth.

NOTE Confidence: 0.889009825

00:33:34.800 --> 00:33:37.369 Then so the the reset GABA receptors

NOTE Confidence: 0.889009825

00:33:37.369 --> 00:33:39.642 are throughout the brain and every

NOTE Confidence: 0.889009825

00:33:39.642 --> 00:33:41.477 part of the brain literally.

NOTE Confidence: 0.889009825

00:33:41.480 --> 00:33:44.264 So you're going to affect a lot of

NOTE Confidence: 0.889009825

00:33:44.264 --> 00:33:46.402 different circuits and we can't just

NOTE Confidence: 0.889009825

00:33:46.402 --> 00:33:48.454 assume that there's because it's a

NOTE Confidence: 0.889009825

00:33:48.521 --> 00:33:51.279 a GABA receptor that binds them to

NOTE Confidence: 0.889009825

00:33:51.279 --> 00:33:54.166 benzodiazepines that that is only working in.

NOTE Confidence: 0.889009825

00:33:54.166 --> 00:33:54.590 Fear,

NOTE Confidence: 0.889009825

00:33:54.590 --> 00:33:55.252 anxiety circuit,

NOTE Confidence: 0.889009825

00:33:55.252 --> 00:33:57.569 obviously there are lots of side effects.

NOTE Confidence: 0.889009825

00:33:57.570 --> 00:33:59.490 So that that alone shows that

NOTE Confidence: 0.889009825

00:33:59.490 --> 00:34:01.386 the stuff is happening all over
NOTE Confidence: 0.889009825

00:34:01.386 --> 00:34:03.668 the brain and there are cognitive
NOTE Confidence: 0.889009825

00:34:03.668 --> 00:34:04.964 effects of benzodiazepine.
NOTE Confidence: 0.889009825

00:34:04.970 --> 00:34:07.330 So you know we have to just kind
NOTE Confidence: 0.889009825

00:34:07.330 --> 00:34:09.846 of ask what it is that we're
NOTE Confidence: 0.889009825

00:34:09.846 --> 00:34:11.696 really getting out of these
NOTE Confidence: 0.900153038095238

00:34:11.778 --> 00:34:13.905 medications because if we don't then
NOTE Confidence: 0.900153038095238

00:34:13.905 --> 00:34:16.500 we can't go forward and that's why you
NOTE Confidence: 0.900153038095238

00:34:16.500 --> 00:34:17.745 keep rediscovering benzodiazepines
NOTE Confidence: 0.900153038095238

00:34:17.745 --> 00:34:19.815 and and reuptake inhibitors because
NOTE Confidence: 0.900153038095238

00:34:19.815 --> 00:34:21.565 that's what you're looking for.
NOTE Confidence: 0.864669334666667

00:34:24.270 --> 00:34:26.460 So we need a conceptualization of
NOTE Confidence: 0.864669334666667

00:34:26.460 --> 00:34:28.467 fear and anxiety that recognizes
NOTE Confidence: 0.864669334666667

00:34:28.467 --> 00:34:30.379 the importance of innate.
NOTE Confidence: 0.864669334666667

00:34:30.380 --> 00:34:32.220 Make condition circuits sorry innate
NOTE Confidence: 0.864669334666667

00:34:32.220 --> 00:34:33.692 and conditioned circuits that

NOTE Confidence: 0.864669334666667

00:34:33.692 --> 00:34:35.569 have been inherited from animals,

NOTE Confidence: 0.864669334666667

00:34:35.570 --> 00:34:37.418 but one that doesn't confuse those

NOTE Confidence: 0.864669334666667

00:34:37.418 --> 00:34:39.043 circuits with circuits that underlie

NOTE Confidence: 0.864669334666667

00:34:39.043 --> 00:34:41.047 conscious feelings of fear or anxiety.

NOTE Confidence: 0.864669334666667

00:34:41.050 --> 00:34:43.479 So I want to now switch to

NOTE Confidence: 0.864669334666667

00:34:43.479 --> 00:34:46.248 what exactly I think is going

NOTE Confidence: 0.864669334666667

00:34:46.248 --> 00:34:48.428 on in emotional consciousness.

NOTE Confidence: 0.864669334666667

00:34:48.430 --> 00:34:49.942 So the hypothesis that I've been

NOTE Confidence: 0.864669334666667

00:34:49.942 --> 00:34:52.642 working with for a while now is that the

NOTE Confidence: 0.864669334666667

00:34:52.642 --> 00:34:53.950 brain mechanisms underlying emotional

NOTE Confidence: 0.864669334666667

00:34:53.950 --> 00:34:55.938 states of consciousness are not that

NOTE Confidence: 0.864669334666667

00:34:55.938 --> 00:34:57.548 different from those underlying any

NOTE Confidence: 0.864669334666667

00:34:57.550 --> 00:34:58.906 other kind of state of awareness.

NOTE Confidence: 0.864669334666667

00:34:58.910 --> 00:35:00.638 In other words, we have one.

NOTE Confidence: 0.864669334666667

00:35:00.640 --> 00:35:02.065 Kind of emotion,

NOTE Confidence: 0.864669334666667

00:35:02.065 --> 00:35:03.965 one kind of consciousness
NOTE Confidence: 0.864669334666667

00:35:03.965 --> 00:35:06.329 system in the brain and.
NOTE Confidence: 0.864669334666667

00:35:06.330 --> 00:35:08.070 What that system is processing
NOTE Confidence: 0.864669334666667

00:35:08.070 --> 00:35:09.810 is what you're conscious of.
NOTE Confidence: 0.864669334666667

00:35:09.810 --> 00:35:12.065 So what's different about emotional
NOTE Confidence: 0.864669334666667

00:35:12.065 --> 00:35:14.320 and non emotional experiences and
NOTE Confidence: 0.864669334666667

00:35:14.388 --> 00:35:16.244 what's different about different
NOTE Confidence: 0.864669334666667

00:35:16.244 --> 00:35:18.564 kinds of emotional experiences in
NOTE Confidence: 0.864669334666667

00:35:18.564 --> 00:35:21.726 this idea are the inputs processed by
NOTE Confidence: 0.864669334666667

00:35:21.726 --> 00:35:23.478 higher cortical cognitive network.
NOTE Confidence: 0.864669334666667

00:35:23.480 --> 00:35:24.360 So these would involve,
NOTE Confidence: 0.864669334666667

00:35:24.360 --> 00:35:26.022 you know, prefrontal cortex,
NOTE Confidence: 0.864669334666667

00:35:26.022 --> 00:35:27.244 parietal cortex,
NOTE Confidence: 0.864669334666667

00:35:27.244 --> 00:35:31.790 all these kind of higher cognitive circuits.
NOTE Confidence: 0.864669334666667

00:35:31.790 --> 00:35:33.620 So rather than having different
NOTE Confidence: 0.864669334666667

00:35:33.620 --> 00:35:35.084 subcortical circuits for different

NOTE Confidence: 0.864669334666667
00:35:35.084 --> 00:35:36.867 emotions as in basic emotions theory,
NOTE Confidence: 0.864669334666667
00:35:36.870 --> 00:35:38.130 which is, you know,
NOTE Confidence: 0.864669334666667
00:35:38.130 --> 00:35:39.705 all these different emotion circuits
NOTE Confidence: 0.864669334666667
00:35:39.705 --> 00:35:41.267 like the amygdala does this,
NOTE Confidence: 0.864669334666667
00:35:41.270 --> 00:35:43.610 the periaqueductal Greg does that.
NOTE Confidence: 0.864669334666667
00:35:43.610 --> 00:35:46.358 Hypothalamus does this.
NOTE Confidence: 0.864669334666667
00:35:46.360 --> 00:35:48.481 This higher order circuit idea is that
NOTE Confidence: 0.864669334666667
00:35:48.481 --> 00:35:50.813 we have these higher order cognitive
NOTE Confidence: 0.864669334666667
00:35:50.813 --> 00:35:52.629 representations of redescription or
NOTE Confidence: 0.864669334666667
00:35:52.629 --> 00:35:55.337 indexes or whatever you want to call them,
NOTE Confidence: 0.864669334666667
00:35:55.340 --> 00:35:57.872 that account for emotional and non
NOTE Confidence: 0.864669334666667
00:35:57.872 --> 00:36:00.100 emotional experiences in one system.
NOTE Confidence: 0.864669334666667
00:36:00.100 --> 00:36:01.983 So the idea is that the information
NOTE Confidence: 0.864669334666667
00:36:01.983 --> 00:36:03.729 being processed by this higher order
NOTE Confidence: 0.864669334666667
00:36:03.729 --> 00:36:05.493 circuit is different in emotional and
NOTE Confidence: 0.864669334666667

00:36:05.493 --> 00:36:07.420 non emotional situations and different
NOTE Confidence: 0.864669334666667

00:36:07.420 --> 00:36:09.784 and different kinds of emotional situations.
NOTE Confidence: 0.864669334666667

00:36:09.790 --> 00:36:11.778 So I don't believe in basic emotions.
NOTE Confidence: 0.864669334666667

00:36:11.780 --> 00:36:14.390 For me all emotions are
NOTE Confidence: 0.864669334666667

00:36:14.390 --> 00:36:15.434 cognitive interpretations.
NOTE Confidence: 0.864669334666667

00:36:15.440 --> 00:36:17.526 I'll explain that more in a minute.
NOTE Confidence: 0.864669334666667

00:36:17.530 --> 00:36:18.730 So here's, you know,
NOTE Confidence: 0.864669334666667

00:36:18.730 --> 00:36:19.330 basic idea.
NOTE Confidence: 0.864669334666667

00:36:19.330 --> 00:36:20.578 You've got water, onions,
NOTE Confidence: 0.864669334666667

00:36:20.578 --> 00:36:21.722 garlic, celery, salt,
NOTE Confidence: 0.864669334666667

00:36:21.722 --> 00:36:25.050 pepper through all that stuff into a pot.
NOTE Confidence: 0.864669334666667

00:36:25.050 --> 00:36:27.570 And none of these are super ingredients,
NOTE Confidence: 0.864669334666667

00:36:27.570 --> 00:36:27.900 right?
NOTE Confidence: 0.864669334666667

00:36:27.900 --> 00:36:30.870 But somehow if you now throw some chicken in,
NOTE Confidence: 0.864669334666667

00:36:30.870 --> 00:36:32.454 it becomes chicken soup.
NOTE Confidence: 0.864669334666667

00:36:32.454 --> 00:36:33.246 And again,

NOTE Confidence: 0.864669334666667

00:36:33.250 --> 00:36:35.245 chicken is not a soup ingredient either.

NOTE Confidence: 0.864669334666667

00:36:35.250 --> 00:36:37.315 None of these things exist for the

NOTE Confidence: 0.864669334666667

00:36:37.315 --> 00:36:39.108 purpose of making soup with soup.

NOTE Confidence: 0.864669334666667

00:36:39.110 --> 00:36:41.550 Flavor of the Super emerges from all this,

NOTE Confidence: 0.864669334666667

00:36:41.550 --> 00:36:43.286 and I think we can say the

NOTE Confidence: 0.864669334666667

00:36:43.286 --> 00:36:44.790 same thing about making fear.

NOTE Confidence: 0.864669334666667

00:36:44.790 --> 00:36:46.602 It's there are No Fear ingredients

NOTE Confidence: 0.864669334666667

00:36:46.602 --> 00:36:47.508 in the brain.

NOTE Confidence: 0.864669334666667

00:36:47.510 --> 00:36:49.766 Fear is the cognitive interpretation that

NOTE Confidence: 0.864669334666667

00:36:49.766 --> 00:36:53.040 is based on all these kinds of processes

NOTE Confidence: 0.864669334666667

00:36:53.040 --> 00:36:57.720 that that are generic processes really.

NOTE Confidence: 0.864669334666667

00:36:57.720 --> 00:36:59.936 So let's put it in a different picture.

NOTE Confidence: 0.864669334666667

00:36:59.940 --> 00:37:00.638 So.

NOTE Confidence: 0.864669334666667

00:37:00.638 --> 00:37:04.970 The blue part there is basically

NOTE Confidence: 0.864669334666667

00:37:04.970 --> 00:37:06.650 working memory.

NOTE Confidence: 0.864669334666667

00:37:06.650 --> 00:37:09.247 And the idea is that within working
NOTE Confidence: 0.864669334666667

00:37:09.247 --> 00:37:11.620 memory we assemble a mental model of
NOTE Confidence: 0.864669334666667

00:37:11.620 --> 00:37:13.912 fear or love or any other emotion
NOTE Confidence: 0.864669334666667

00:37:13.912 --> 00:37:16.147 that we're going to experience.
NOTE Confidence: 0.864669334666667

00:37:16.150 --> 00:37:18.738 And we do this by monitoring, appraising,
NOTE Confidence: 0.864669334666667

00:37:18.738 --> 00:37:21.906 attending to all of these inputs.
NOTE Confidence: 0.864669334666667

00:37:21.910 --> 00:37:23.345 This allows us to have
NOTE Confidence: 0.864669334666667

00:37:23.345 --> 00:37:24.206 metacognition is about,
NOTE Confidence: 0.864669334666667

00:37:24.210 --> 00:37:25.161 in other words,
NOTE Confidence: 0.864669334666667

00:37:25.161 --> 00:37:26.746 thoughts about what's going on.
NOTE Confidence: 0.864669334666667

00:37:26.750 --> 00:37:28.190 We can introspect about it,
NOTE Confidence: 0.864669334666667

00:37:28.190 --> 00:37:30.370 give verbal reports and control,
NOTE Confidence: 0.864669334666667

00:37:30.370 --> 00:37:31.130 goal directed.
NOTE Confidence: 0.864669334666667

00:37:31.130 --> 00:37:33.030 Behavior through this mental model.
NOTE Confidence: 0.868765728888889

00:37:33.030 --> 00:37:34.280 So what are the ingredients
NOTE Confidence: 0.868765728888889

00:37:34.280 --> 00:37:35.280 that go into that?

NOTE Confidence: 0.868765728888889
00:37:35.280 --> 00:37:37.555 Well, start over here on the left,
NOTE Confidence: 0.868765728888889
00:37:37.560 --> 00:37:40.689 like 9:00 o'clock we have sensory processing
NOTE Confidence: 0.868765728888889
00:37:40.689 --> 00:37:43.245 with sensory processing by itself is
NOTE Confidence: 0.868765728888889
00:37:43.245 --> 00:37:45.525 meaningless until you have some memory.
NOTE Confidence: 0.868765728888889
00:37:45.530 --> 00:37:46.766 You don't come into the world
NOTE Confidence: 0.868765728888889
00:37:46.766 --> 00:37:47.980 knowing what apples, chairs,
NOTE Confidence: 0.868765728888889
00:37:47.980 --> 00:37:51.520 light bulbs and so forth are.
NOTE Confidence: 0.868765728888889
00:37:51.520 --> 00:37:53.632 You have to add semantic memory
NOTE Confidence: 0.868765728888889
00:37:53.632 --> 00:37:55.877 to sensory processing in order to
NOTE Confidence: 0.868765728888889
00:37:55.877 --> 00:37:57.807 make that a meaningful perception.
NOTE Confidence: 0.868765728888889
00:37:57.810 --> 00:38:01.194 And so semantic memory is a key factor that.
NOTE Confidence: 0.868765728888889
00:38:01.200 --> 00:38:03.951 Makes sensory processing go beyond just what
NOTE Confidence: 0.868765728888889
00:38:03.951 --> 00:38:06.897 the stimulus is brought into the brain is.
NOTE Confidence: 0.868765728888889
00:38:06.900 --> 00:38:09.388 So, but we can also have memories of
NOTE Confidence: 0.868765728888889
00:38:09.388 --> 00:38:12.359 the past episodes of our life in which
NOTE Confidence: 0.868765728888889

00:38:12.359 --> 00:38:15.718 those semantic situations have occurred,
NOTE Confidence: 0.868765728888889

00:38:15.720 --> 00:38:18.072 and this allows us to bring
NOTE Confidence: 0.868765728888889

00:38:18.072 --> 00:38:19.640 ourself into the experience.
NOTE Confidence: 0.868765728888889

00:38:19.640 --> 00:38:25.930 Now all of these kinds of ingredients are.
NOTE Confidence: 0.868765728888889

00:38:25.930 --> 00:38:27.978 Could be part of any kind of situation,
NOTE Confidence: 0.868765728888889

00:38:27.980 --> 00:38:29.730 any kind of conscious occurs.
NOTE Confidence: 0.868765728888889

00:38:29.730 --> 00:38:31.984 There's nothing to do with the motion.
NOTE Confidence: 0.868765728888889

00:38:31.990 --> 00:38:34.830 When we go to the other side of the the,
NOTE Confidence: 0.868765728888889

00:38:34.830 --> 00:38:37.518 the emotion plot there and again we
NOTE Confidence: 0.868765728888889

00:38:37.518 --> 00:38:40.844 can start it at 3:00 o'clock and go up.
NOTE Confidence: 0.868765728888889

00:38:40.844 --> 00:38:43.790 So one of the things that often happens is,
NOTE Confidence: 0.868765728888889

00:38:43.790 --> 00:38:45.029 let's say in the case of fear,
NOTE Confidence: 0.868765728888889

00:38:45.030 --> 00:38:47.704 we have a survival circuit that's activated.
NOTE Confidence: 0.868765728888889

00:38:47.710 --> 00:38:50.866 This is going to produce behavioral
NOTE Confidence: 0.868765728888889

00:38:50.866 --> 00:38:53.450 responses that will produce body
NOTE Confidence: 0.868765728888889

00:38:53.450 --> 00:38:56.450 signals that feedback to the brain.

NOTE Confidence: 0.868765728888889
00:38:56.450 --> 00:38:57.512 It will.
NOTE Confidence: 0.868765728888889
00:38:57.512 --> 00:39:00.167 The survival circuit will also
NOTE Confidence: 0.868765728888889
00:39:00.167 --> 00:39:02.411 activate brain arousal circuits
NOTE Confidence: 0.868765728888889
00:39:02.411 --> 00:39:05.196 that make brain hyper aroused.
NOTE Confidence: 0.868765728888889
00:39:05.200 --> 00:39:08.416 But an important thing is the emotion scheme.
NOTE Confidence: 0.868765728888889
00:39:08.420 --> 00:39:11.228 Emotion schema are bodies of knowledge
NOTE Confidence: 0.868765728888889
00:39:11.228 --> 00:39:13.830 that you've acquired about emotions.
NOTE Confidence: 0.868765728888889
00:39:13.830 --> 00:39:15.608 We, you know, we have emotion labels.
NOTE Confidence: 0.868765728888889
00:39:15.610 --> 00:39:17.490 We learn about emotion and
NOTE Confidence: 0.868765728888889
00:39:17.490 --> 00:39:19.370 we assign words to them.
NOTE Confidence: 0.868765728888889
00:39:19.370 --> 00:39:19.932 You know,
NOTE Confidence: 0.868765728888889
00:39:19.932 --> 00:39:21.618 you don't have to have the
NOTE Confidence: 0.868765728888889
00:39:21.618 --> 00:39:23.270 word to have an emotion,
NOTE Confidence: 0.868765728888889
00:39:23.270 --> 00:39:25.526 but you have to have the word to
NOTE Confidence: 0.868765728888889
00:39:25.526 --> 00:39:27.957 have the emotion named by the word.
NOTE Confidence: 0.868765728888889

00:39:27.960 --> 00:39:30.313 I can say that again if it's not clear, but.

NOTE Confidence: 0.868765728888889

00:39:30.313 --> 00:39:33.834 Ask me again if it's not clear.

NOTE Confidence: 0.868765728888889

00:39:33.840 --> 00:39:36.222 So schema are these bodies of

NOTE Confidence: 0.868765728888889

00:39:36.222 --> 00:39:38.224 knowledge that are particular to

NOTE Confidence: 0.868765728888889

00:39:38.224 --> 00:39:40.583 you because you are the person who

NOTE Confidence: 0.868765728888889

00:39:40.583 --> 00:39:42.806 have learned what danger is to you,

NOTE Confidence: 0.868765728888889

00:39:42.810 --> 00:39:44.730 what fear is to you,

NOTE Confidence: 0.868765728888889

00:39:44.730 --> 00:39:46.746 what it what you how you want to

NOTE Confidence: 0.868765728888889

00:39:46.746 --> 00:39:48.269 respond when you're in danger,

NOTE Confidence: 0.868765728888889

00:39:48.270 --> 00:39:50.650 how you're expected to respond,

NOTE Confidence: 0.868765728888889

00:39:50.650 --> 00:39:52.122 how other people respond,

NOTE Confidence: 0.868765728888889

00:39:52.122 --> 00:39:53.226 and so on.

NOTE Confidence: 0.868765728888889

00:39:53.230 --> 00:39:55.558 It's a catalog of things that

NOTE Confidence: 0.868765728888889

00:39:55.558 --> 00:39:57.911 can be activated by a simple

NOTE Confidence: 0.868765728888889

00:39:57.911 --> 00:40:00.053 stimulus of snake on the ground

NOTE Confidence: 0.868765728888889

00:40:00.053 --> 00:40:02.907 or a mugger coming towards you.

NOTE Confidence: 0.868765728888889
00:40:02.910 --> 00:40:03.748 Anything that.
NOTE Confidence: 0.868765728888889
00:40:03.748 --> 00:40:06.681 It's a classic elicitor of fear is
NOTE Confidence: 0.868765728888889
00:40:06.681 --> 00:40:09.078 going to activate enough information
NOTE Confidence: 0.868765728888889
00:40:09.078 --> 00:40:11.916 about the fear schema to unpack
NOTE Confidence: 0.868765728888889
00:40:11.995 --> 00:40:14.245 it to basically pattern complete
NOTE Confidence: 0.868765728888889
00:40:14.245 --> 00:40:16.851 the experience of fear and as.
NOTE Confidence: 0.868765728888889
00:40:16.851 --> 00:40:19.659 And this is not something that just happens,
NOTE Confidence: 0.868765728888889
00:40:19.660 --> 00:40:22.552 it's slowly evolves and microseconds or
NOTE Confidence: 0.868765728888889
00:40:22.552 --> 00:40:25.258 milliseconds as the episode unfolds so
NOTE Confidence: 0.868765728888889
00:40:25.258 --> 00:40:28.074 you find yourself in front of a snake.
NOTE Confidence: 0.868765728888889
00:40:28.080 --> 00:40:29.556 You know that snakes are reptiles,
NOTE Confidence: 0.868765728888889
00:40:29.560 --> 00:40:30.995 but that's not where your mind goes.
NOTE Confidence: 0.868765728888889
00:40:31.000 --> 00:40:32.120 Your mind goes to that.
NOTE Confidence: 0.868765728888889
00:40:32.120 --> 00:40:33.865 Snakes are dangerous and they
NOTE Confidence: 0.868765728888889
00:40:33.865 --> 00:40:35.960 can bite you and kill you.
NOTE Confidence: 0.868765728888889

00:40:35.960 --> 00:40:39.392 So as soon as you are now you've
NOTE Confidence: 0.868765728888889

00:40:39.392 --> 00:40:41.819 you pattern completed fear.
NOTE Confidence: 0.868765728888889

00:40:41.820 --> 00:40:43.578 But now you start to worry
NOTE Confidence: 0.868765728888889

00:40:43.578 --> 00:40:44.750 about what that thing
NOTE Confidence: 0.918709383214286

00:40:44.812 --> 00:40:47.589 is going to do to you and what might be the
NOTE Confidence: 0.918709383214286

00:40:47.589 --> 00:40:49.934 consequences of being bitten by a snake.
NOTE Confidence: 0.918709383214286

00:40:49.940 --> 00:40:51.620 Will you be able to find a doctor?
NOTE Confidence: 0.918709383214286

00:40:51.620 --> 00:40:53.805 Will they have the anecdote? And so on.
NOTE Confidence: 0.918709383214286

00:40:53.805 --> 00:40:55.740 What will happen to your family if you die?
NOTE Confidence: 0.918709383214286

00:40:55.740 --> 00:40:57.819 So fear instantly.
NOTE Confidence: 0.918709383214286

00:40:57.819 --> 00:40:59.898 Dwarfs and anxiety.
NOTE Confidence: 0.918709383214286

00:40:59.900 --> 00:41:02.240 And then you can go the other way as well.
NOTE Confidence: 0.918709383214286

00:41:02.240 --> 00:41:04.460 So if you're anxious about something,
NOTE Confidence: 0.918709383214286

00:41:04.460 --> 00:41:06.938 you start to see triggers of fear
NOTE Confidence: 0.918709383214286

00:41:06.940 --> 00:41:08.590 all over the environment, right?
NOTE Confidence: 0.918709383214286

00:41:08.590 --> 00:41:10.530 Particular stimuli now will trigger

NOTE Confidence: 0.918709383214286
00:41:10.530 --> 00:41:13.540 you to be afraid of that stimulus,
NOTE Confidence: 0.918709383214286
00:41:13.540 --> 00:41:16.214 because you have activated your brain in
NOTE Confidence: 0.918709383214286
00:41:16.214 --> 00:41:19.540 a way that makes those things stand up.
NOTE Confidence: 0.918709383214286
00:41:19.540 --> 00:41:21.196 So fear and anxiety kind of
NOTE Confidence: 0.918709383214286
00:41:21.196 --> 00:41:22.710 both morph into each other.
NOTE Confidence: 0.940863141111111
00:41:24.880 --> 00:41:27.598 But all of this is very particular to you,
NOTE Confidence: 0.940863141111111
00:41:27.600 --> 00:41:29.378 because it's your brain that is picking
NOTE Confidence: 0.940863141111111
00:41:29.378 --> 00:41:31.337 all this up out of the environment.
NOTE Confidence: 0.940863141111111
00:41:31.340 --> 00:41:32.738 Things that are dangerous to me,
NOTE Confidence: 0.940863141111111
00:41:32.740 --> 00:41:36.199 you're not dangerous to use, and so on.
NOTE Confidence: 0.940863141111111
00:41:36.200 --> 00:41:41.274 So. Umm. All right, now,
NOTE Confidence: 0.940863141111111
00:41:41.274 --> 00:41:44.706 one of the reasons we need this kind of view
NOTE Confidence: 0.940863141111111
00:41:44.706 --> 00:41:47.670 of fear and emotion in general is because.
NOTE Confidence: 0.940863141111111
00:41:47.670 --> 00:41:50.142 You know the the whole idea of the
NOTE Confidence: 0.940863141111111
00:41:50.142 --> 00:41:52.355 amygdala fear center is based on this
NOTE Confidence: 0.940863141111111

00:41:52.355 --> 00:41:54.910 I they basically what the amygdala is,
NOTE Confidence: 0.9408631411111111

00:41:54.910 --> 00:41:57.446 is to the extent that it's involved in
NOTE Confidence: 0.9408631411111111

00:41:57.446 --> 00:41:59.970 danger, it's a predatory defense circuit.
NOTE Confidence: 0.9408631411111111

00:41:59.970 --> 00:42:02.495 It evolved for mammals to
NOTE Confidence: 0.9408631411111111

00:42:02.495 --> 00:42:05.630 deal with predators. And.
NOTE Confidence: 0.9408631411111111

00:42:05.630 --> 00:42:08.518 But not everything that we are afraid of
NOTE Confidence: 0.9408631411111111

00:42:08.518 --> 00:42:11.509 or anxious about starts with the predator.
NOTE Confidence: 0.9408631411111111

00:42:11.510 --> 00:42:13.239 I mean, we can have all kinds
NOTE Confidence: 0.9408631411111111

00:42:13.239 --> 00:42:14.510 of fears and anxiety.
NOTE Confidence: 0.9408631411111111

00:42:14.510 --> 00:42:16.505 So you're stuck on a mountain top
NOTE Confidence: 0.9408631411111111

00:42:16.510 --> 00:42:18.320 and you've dropped your backpack
NOTE Confidence: 0.9408631411111111

00:42:18.320 --> 00:42:19.768 off the Cliff accidentally.
NOTE Confidence: 0.9408631411111111

00:42:19.770 --> 00:42:23.960 So you know you start to be afraid or anxious
NOTE Confidence: 0.9408631411111111

00:42:24.060 --> 00:42:28.068 about the fact that you don't have shelter,
NOTE Confidence: 0.9408631411111111

00:42:28.070 --> 00:42:29.156 food, and water.
NOTE Confidence: 0.9408631411111111

00:42:29.156 --> 00:42:32.275 So you're afraid that you might die of

NOTE Confidence: 0.9408631411111111
00:42:32.275 --> 00:42:34.830 starvation or dehydration or hypothermia.
NOTE Confidence: 0.9408631411111111
00:42:34.830 --> 00:42:35.886 You could be.
NOTE Confidence: 0.9408631411111111
00:42:35.886 --> 00:42:37.294 Afraid of something that
NOTE Confidence: 0.9408631411111111
00:42:37.294 --> 00:42:39.479 you hear in a conversation,
NOTE Confidence: 0.9408631411111111
00:42:39.480 --> 00:42:41.556 or anxious about something you hear
NOTE Confidence: 0.9408631411111111
00:42:41.556 --> 00:42:43.569 someone incidentally say about you that
NOTE Confidence: 0.9408631411111111
00:42:43.569 --> 00:42:45.297 they didn't realize you were there.
NOTE Confidence: 0.9408631411111111
00:42:45.300 --> 00:42:48.276 We we can have fear and anxiety from
NOTE Confidence: 0.9408631411111111
00:42:48.280 --> 00:42:50.566 endless number of reasons in life.
NOTE Confidence: 0.9408631411111111
00:42:50.570 --> 00:42:53.139 So it has something sometimes to do
NOTE Confidence: 0.9408631411111111
00:42:53.139 --> 00:42:55.379 with this predatory defense circuit.
NOTE Confidence: 0.9408631411111111
00:42:55.380 --> 00:42:57.200 But it's a predatory defense
NOTE Confidence: 0.9408631411111111
00:42:57.200 --> 00:42:59.020 circuit is not the answer.
NOTE Confidence: 0.9408631411111111
00:42:59.020 --> 00:43:01.652 And that's why it's it's really all about
NOTE Confidence: 0.9408631411111111
00:43:01.652 --> 00:43:03.465 the cognitive interpretation of the
NOTE Confidence: 0.9408631411111111

00:43:03.465 --> 00:43:06.020 situation because that is the the what.
NOTE Confidence: 0.9408631411111111

00:43:06.020 --> 00:43:08.267 You are your what your brain is
NOTE Confidence: 0.9408631411111111

00:43:08.267 --> 00:43:11.099 concluding as a result of this pattern
NOTE Confidence: 0.9408631411111111

00:43:11.099 --> 00:43:13.349 completion of stuff that you've
NOTE Confidence: 0.9408631411111111

00:43:13.349 --> 00:43:15.921 experienced in the past and giving you
NOTE Confidence: 0.9408631411111111

00:43:15.921 --> 00:43:18.338 a perspective on what's happening now.
NOTE Confidence: 0.9408631411111111

00:43:18.338 --> 00:43:20.958 So here's the conceptual hypothesis.
NOTE Confidence: 0.9408631411111111

00:43:20.960 --> 00:43:23.368 So you have a physical or social
NOTE Confidence: 0.9408631411111111

00:43:23.368 --> 00:43:25.380 threat in the environment.
NOTE Confidence: 0.9408631411111111

00:43:25.380 --> 00:43:28.080 It goes into a sensory system.
NOTE Confidence: 0.9408631411111111

00:43:28.080 --> 00:43:30.438 This is all non conscious processing.
NOTE Confidence: 0.9408631411111111

00:43:30.440 --> 00:43:32.024 Sensory system can contribute
NOTE Confidence: 0.9408631411111111

00:43:32.024 --> 00:43:34.865 to the mental model there if you
NOTE Confidence: 0.9408631411111111

00:43:34.865 --> 00:43:36.449 just go straight through.
NOTE Confidence: 0.9408631411111111

00:43:36.450 --> 00:43:38.376 But it also activates the threat.
NOTE Confidence: 0.9408631411111111

00:43:38.380 --> 00:43:40.304 The threat detector generates

NOTE Confidence: 0.9408631411111111

00:43:40.304 --> 00:43:42.228 behavioral and physiological responses

NOTE Confidence: 0.9408631411111111

00:43:42.228 --> 00:43:44.368 that contribute to the mental model

NOTE Confidence: 0.9408631411111111

00:43:44.368 --> 00:43:46.340 and the kind of body feedback way,

NOTE Confidence: 0.9408631411111111

00:43:46.340 --> 00:43:48.600 but also the brain arousal.

NOTE Confidence: 0.9408631411111111

00:43:48.600 --> 00:43:50.320 The threat detector will contribute

NOTE Confidence: 0.9408631411111111

00:43:50.320 --> 00:43:51.696 to the mental model.

NOTE Confidence: 0.9408631411111111

00:43:51.700 --> 00:43:54.208 But the century stimulus becomes meaningful

NOTE Confidence: 0.9408631411111111

00:43:54.208 --> 00:43:56.819 when it's combined with memory on top.

NOTE Confidence: 0.9408631411111111

00:43:56.820 --> 00:43:58.710 There sensory memory

NOTE Confidence: 0.9408631411111111

00:43:58.710 --> 00:44:00.600 interactions create perceptions,

NOTE Confidence: 0.9408631411111111

00:44:00.600 --> 00:44:03.600 perceptions and memory combine in

NOTE Confidence: 0.9408631411111111

00:44:03.600 --> 00:44:06.600 schema to activate to pattern.

NOTE Confidence: 0.9408631411111111

00:44:06.600 --> 00:44:08.754 Complete the schema and give you

NOTE Confidence: 0.9408631411111111

00:44:08.754 --> 00:44:11.160 a template for your mental model.

NOTE Confidence: 0.9408631411111111

00:44:11.160 --> 00:44:14.208 Now your mental model of the

NOTE Confidence: 0.9408631411111111

00:44:14.208 --> 00:44:15.732 experience is preconscious.
NOTE Confidence: 0.9408631411111111

00:44:15.740 --> 00:44:18.146 So we've got this completely unconscious
NOTE Confidence: 0.9408631411111111

00:44:18.146 --> 00:44:20.429 processing then some pre conscious
NOTE Confidence: 0.9408631411111111

00:44:20.429 --> 00:44:22.280 processing because everything.
NOTE Confidence: 0.9408631411111111

00:44:22.280 --> 00:44:23.798 Every conscious state.
NOTE Confidence: 0.9408631411111111

00:44:23.798 --> 00:44:26.878 Is preconscious before it's conscious, right?
NOTE Confidence: 0.9408631411111111

00:44:26.878 --> 00:44:29.070 Because you don't just.
NOTE Confidence: 0.9408631411111111

00:44:29.070 --> 00:44:30.570 Have a conscious state.
NOTE Confidence: 0.9408631411111111

00:44:30.570 --> 00:44:32.820 There's a lot of cognitive processing
NOTE Confidence: 0.9408631411111111

00:44:32.886 --> 00:44:35.406 that underlies each conscious experience.
NOTE Confidence: 0.9408631411111111

00:44:35.410 --> 00:44:38.606 So the mental model is pre conscious now.
NOTE Confidence: 0.9408631411111111

00:44:38.606 --> 00:44:41.462 Here's my we're going back to
NOTE Confidence: 0.9408631411111111

00:44:41.462 --> 00:44:44.129 the split brain now because.
NOTE Confidence: 0.9408631411111111

00:44:44.130 --> 00:44:45.170 This is where I started,
NOTE Confidence: 0.9408631411111111

00:44:45.170 --> 00:44:48.248 that there's some kind of narration
NOTE Confidence: 0.9408631411111111

00:44:48.248 --> 00:44:50.300 that is generated unconsciously

NOTE Confidence: 0.843490416875

00:44:50.386 --> 00:44:53.068 that then explains what's going on.

NOTE Confidence: 0.843490416875

00:44:53.070 --> 00:44:55.303 So the idea is that we have

NOTE Confidence: 0.843490416875

00:44:55.303 --> 00:44:56.739 this pre conscious narration

NOTE Confidence: 0.843490416875

00:44:56.739 --> 00:44:59.175 coming out of the middle model.

NOTE Confidence: 0.843490416875

00:44:59.180 --> 00:45:02.160 That underlies the conscious experience,

NOTE Confidence: 0.843490416875

00:45:02.160 --> 00:45:04.645 but there's some details that

NOTE Confidence: 0.843490416875

00:45:04.645 --> 00:45:06.633 that's often not understood.

NOTE Confidence: 0.843490416875

00:45:06.640 --> 00:45:09.424 And this is just stuff that I've kind

NOTE Confidence: 0.843490416875

00:45:09.424 --> 00:45:11.972 of uncovered myself in the process of

NOTE Confidence: 0.843490416875

00:45:11.972 --> 00:45:14.940 writing this new book that I just finished.

NOTE Confidence: 0.843490416875

00:45:14.940 --> 00:45:17.230 But the idea is that.

NOTE Confidence: 0.843490416875

00:45:17.230 --> 00:45:19.015 The preconscious narrative.

NOTE Confidence: 0.843490416875

00:45:19.015 --> 00:45:21.395 Can control your behavior,

NOTE Confidence: 0.843490416875

00:45:21.400 --> 00:45:22.828 your goal directed behavior,

NOTE Confidence: 0.843490416875

00:45:22.828 --> 00:45:26.467 and allow you to give a verbal report, but.

NOTE Confidence: 0.843490416875

00:45:26.467 --> 00:45:29.269 Those two things are going to
NOTE Confidence: 0.843490416875

00:45:29.269 --> 00:45:30.670 involve separate neuropathways,
NOTE Confidence: 0.843490416875

00:45:30.670 --> 00:45:33.910 verbal report coming out of language,
NOTE Confidence: 0.843490416875

00:45:33.910 --> 00:45:35.454 areas of the brain,
NOTE Confidence: 0.843490416875

00:45:35.454 --> 00:45:37.384 our goal directed behavior coming
NOTE Confidence: 0.843490416875

00:45:37.384 --> 00:45:39.539 out of straight and so forth.
NOTE Confidence: 0.843490416875

00:45:39.540 --> 00:45:41.634 So you're going to have additional
NOTE Confidence: 0.843490416875

00:45:41.634 --> 00:45:43.705 processing in those circuits that are
NOTE Confidence: 0.843490416875

00:45:43.705 --> 00:45:45.875 going to make the verbal report not
NOTE Confidence: 0.843490416875

00:45:45.875 --> 00:45:47.113 necessarily completely overlapping
NOTE Confidence: 0.843490416875

00:45:47.113 --> 00:45:49.288 with the goal directed behavior.
NOTE Confidence: 0.843490416875

00:45:49.290 --> 00:45:50.274 So you might.
NOTE Confidence: 0.843490416875

00:45:50.274 --> 00:45:52.066 You know, say things that are
NOTE Confidence: 0.843490416875

00:45:52.066 --> 00:45:53.486 different from what you do,
NOTE Confidence: 0.843490416875

00:45:53.490 --> 00:45:55.093 or the things you do are different
NOTE Confidence: 0.843490416875

00:45:55.093 --> 00:45:56.449 from what you say somewhat.

NOTE Confidence: 0.843490416875
00:45:56.450 --> 00:45:57.446 They can overlap,
NOTE Confidence: 0.843490416875
00:45:57.446 --> 00:45:59.106 but they can also diverge,
NOTE Confidence: 0.843490416875
00:45:59.110 --> 00:46:01.598 but there's more because.
NOTE Confidence: 0.843490416875
00:46:01.598 --> 00:46:05.330 Once you're conscious of all this,
NOTE Confidence: 0.843490416875
00:46:05.330 --> 00:46:07.815 the narration is giving you
NOTE Confidence: 0.843490416875
00:46:07.815 --> 00:46:09.306 something to interpret.
NOTE Confidence: 0.843490416875
00:46:09.310 --> 00:46:11.539 You can now.
NOTE Confidence: 0.843490416875
00:46:11.540 --> 00:46:14.855 Also give a verbal report and
NOTE Confidence: 0.843490416875
00:46:14.855 --> 00:46:17.660 control behavior consciously.
NOTE Confidence: 0.843490416875
00:46:17.660 --> 00:46:19.516 So it's not that all of this stuff
NOTE Confidence: 0.843490416875
00:46:19.516 --> 00:46:20.700 is just unconscious.
NOTE Confidence: 0.843490416875
00:46:20.700 --> 00:46:21.675 Once you're conscious,
NOTE Confidence: 0.843490416875
00:46:21.675 --> 00:46:23.950 that opens up a whole nother level
NOTE Confidence: 0.843490416875
00:46:24.011 --> 00:46:25.776 of decision making and control.
NOTE Confidence: 0.843490416875
00:46:25.780 --> 00:46:28.644 So I think one of the reasons that
NOTE Confidence: 0.843490416875

00:46:28.644 --> 00:46:30.842 consciousness is so hard to to
NOTE Confidence: 0.843490416875

00:46:30.842 --> 00:46:32.597 study and understand that because
NOTE Confidence: 0.843490416875

00:46:32.597 --> 00:46:36.118 we never know in an experiment.
NOTE Confidence: 0.843490416875

00:46:36.120 --> 00:46:39.570 Whether the subject is reporting.
NOTE Confidence: 0.843490416875

00:46:39.570 --> 00:46:41.784 Nonverbally when you ask for a
NOTE Confidence: 0.843490416875

00:46:41.784 --> 00:46:44.130 verbal report or are consciously
NOTE Confidence: 0.843490416875

00:46:44.130 --> 00:46:45.946 reporting non consciously or
NOTE Confidence: 0.843490416875

00:46:45.946 --> 00:46:47.762 consciously or whether their
NOTE Confidence: 0.843490416875

00:46:47.762 --> 00:46:50.210 behavior that they choose to perform.
NOTE Confidence: 0.843490416875

00:46:50.210 --> 00:46:53.420 Is gold directed and being directed
NOTE Confidence: 0.843490416875

00:46:53.420 --> 00:46:55.025 unconsciously or consciously?
NOTE Confidence: 0.843490416875

00:46:55.030 --> 00:46:57.910 So I think this, you know,
NOTE Confidence: 0.843490416875

00:46:57.910 --> 00:46:59.610 if you could say, well,
NOTE Confidence: 0.843490416875

00:46:59.610 --> 00:47:01.010 that really complicates things.
NOTE Confidence: 0.843490416875

00:47:01.010 --> 00:47:01.710 It does.
NOTE Confidence: 0.843490416875

00:47:01.710 --> 00:47:03.264 But if you know what the problem,

NOTE Confidence: 0.843490416875
00:47:03.270 --> 00:47:04.880 if you know what the complications are,
NOTE Confidence: 0.843490416875
00:47:04.880 --> 00:47:07.076 they can become a feature rather
NOTE Confidence: 0.843490416875
00:47:07.076 --> 00:47:09.006 than an impediment to understanding.
NOTE Confidence: 0.942235095
00:47:11.550 --> 00:47:17.240 So this is this is the puts it what I just
NOTE Confidence: 0.942235095
00:47:17.240 --> 00:47:20.979 said into a slightly different framework but.
NOTE Confidence: 0.942235095
00:47:20.980 --> 00:47:23.420 On the bottom right there you have a
NOTE Confidence: 0.942235095
00:47:23.420 --> 00:47:25.848 bunch of different kinds of systems
NOTE Confidence: 0.942235095
00:47:25.848 --> 00:47:28.040 that contribute to the mental,
NOTE Confidence: 0.942235095
00:47:28.040 --> 00:47:29.800 the unconscious mental model.
NOTE Confidence: 0.942235095
00:47:29.800 --> 00:47:32.100 They have sensory, perceptual information,
NOTE Confidence: 0.942235095
00:47:32.100 --> 00:47:33.992 memory information, goal information,
NOTE Confidence: 0.942235095
00:47:33.992 --> 00:47:35.411 homeostatic information and
NOTE Confidence: 0.942235095
00:47:35.411 --> 00:47:37.689 and lots of other things.
NOTE Confidence: 0.942235095
00:47:37.690 --> 00:47:40.146 So these things are all coming into the
NOTE Confidence: 0.942235095
00:47:40.146 --> 00:47:41.972 mental model unconsciously and they
NOTE Confidence: 0.942235095

00:47:41.972 --> 00:47:44.800 are the basis of this non conscious
NOTE Confidence: 0.942235095

00:47:44.872 --> 00:47:47.656 mental model which spawns 3 tributaries.
NOTE Confidence: 0.942235095

00:47:47.660 --> 00:47:50.150 One is the tributary of
NOTE Confidence: 0.942235095

00:47:50.150 --> 00:47:51.644 Goal directed behavior.
NOTE Confidence: 0.942235095

00:47:51.650 --> 00:47:53.870 One is the tributary of speech
NOTE Confidence: 0.942235095

00:47:53.870 --> 00:47:56.788 and writing and the last one is
NOTE Confidence: 0.942235095

00:47:56.788 --> 00:47:58.604 the tributary of Consciousness.
NOTE Confidence: 0.942235095

00:47:58.610 --> 00:48:00.318 So the tributary consciousness
NOTE Confidence: 0.942235095

00:48:00.318 --> 00:48:02.026 creates the non sorry.
NOTE Confidence: 0.942235095

00:48:02.030 --> 00:48:03.895 The tribute of conscious predates
NOTE Confidence: 0.942235095

00:48:03.895 --> 00:48:05.387 the conscious mental model.
NOTE Confidence: 0.942235095

00:48:05.390 --> 00:48:07.928 So it's a second mental model that you have.
NOTE Confidence: 0.942235095

00:48:07.930 --> 00:48:10.766 And once you have that model then
NOTE Confidence: 0.942235095

00:48:10.766 --> 00:48:13.022 you can also control speech and
NOTE Confidence: 0.942235095

00:48:13.022 --> 00:48:15.510 writing and goal directed behavior.
NOTE Confidence: 0.942235095

00:48:15.510 --> 00:48:17.841 So it's just restating what I said

NOTE Confidence: 0.942235095
00:48:17.841 --> 00:48:20.939 but in a different way graphically.
NOTE Confidence: 0.942235095
00:48:20.940 --> 00:48:23.698 OK so I just want to briefly
NOTE Confidence: 0.942235095
00:48:23.698 --> 00:48:26.108 mention see what time of this.
NOTE Confidence: 0.942235095
00:48:26.110 --> 00:48:26.467 OK,
NOTE Confidence: 0.942235095
00:48:26.467 --> 00:48:28.609 just want to briefly mention the
NOTE Confidence: 0.942235095
00:48:28.609 --> 00:48:30.437 higher order theory of consciousness
NOTE Confidence: 0.942235095
00:48:30.437 --> 00:48:32.845 because I find this a very useful
NOTE Confidence: 0.942235095
00:48:32.845 --> 00:48:35.235 way for thinking about all of this.
NOTE Confidence: 0.942235095
00:48:35.240 --> 00:48:38.175 So the traditional view of
NOTE Confidence: 0.942235095
00:48:38.175 --> 00:48:40.523 higher order theory is.
NOTE Confidence: 0.942235095
00:48:40.530 --> 00:48:41.910 And most most research
NOTE Confidence: 0.942235095
00:48:41.910 --> 00:48:43.290 on consciousness in fact,
NOTE Confidence: 0.942235095
00:48:43.290 --> 00:48:47.080 is about sensory cortex and dorsolateral
NOTE Confidence: 0.942235095
00:48:47.080 --> 00:48:51.630 prefrontal cortex that is the the main.
NOTE Confidence: 0.942235095
00:48:51.630 --> 00:48:53.922 At the main kind of interaction
NOTE Confidence: 0.942235095

00:48:53.922 --> 00:48:55.970 that is often talked about,
NOTE Confidence: 0.942235095

00:48:55.970 --> 00:48:58.756 that's because a lot of the research
NOTE Confidence: 0.942235095

00:48:58.756 --> 00:49:00.830 involves sensory processing and so forth.
NOTE Confidence: 0.942235095

00:49:00.830 --> 00:49:03.637 But I think that the higher order
NOTE Confidence: 0.942235095

00:49:03.637 --> 00:49:06.578 theory can really benefit from a
NOTE Confidence: 0.942235095

00:49:06.578 --> 00:49:08.782 more elaborate anatomical framework
NOTE Confidence: 0.942235095

00:49:08.782 --> 00:49:11.265 because rather than asking how
NOTE Confidence: 0.942235095

00:49:11.265 --> 00:49:13.509 does a a lower order state.
NOTE Confidence: 0.942235095

00:49:13.510 --> 00:49:14.404 Become conscious.
NOTE Confidence: 0.942235095

00:49:14.404 --> 00:49:18.477 What I tried to do with what I'm about
NOTE Confidence: 0.942235095

00:49:18.477 --> 00:49:21.352 to show you is assume that prefrontal
NOTE Confidence: 0.942235095

00:49:21.352 --> 00:49:24.728 cortex has something to do with all this.
NOTE Confidence: 0.942235095

00:49:24.730 --> 00:49:27.075 And work backwards to what are the
NOTE Confidence: 0.942235095

00:49:27.075 --> 00:49:29.419 inputs to these prefrontal circuits
NOTE Confidence: 0.942235095

00:49:29.420 --> 00:49:31.922 that might shape our our understanding
NOTE Confidence: 0.942235095

00:49:31.922 --> 00:49:34.579 of of what those circuits do.

NOTE Confidence: 0.942235095

00:49:34.580 --> 00:49:37.149 So this is the framework that I

NOTE Confidence: 0.942235095

00:49:37.149 --> 00:49:40.308 like to work with. So we have.

NOTE Confidence: 0.867144022857143

00:49:42.600 --> 00:49:45.070 And you see my cursor on this. Yeah. OK.

NOTE Confidence: 0.867144022857143

00:49:45.070 --> 00:49:47.870 So from higher order it what prefrontal

NOTE Confidence: 0.867144022857143

00:49:47.870 --> 00:49:50.767 cortex has granular components and what

NOTE Confidence: 0.867144022857143

00:49:50.767 --> 00:49:53.192 we'll call sub granular components.

NOTE Confidence: 0.867144022857143

00:49:53.200 --> 00:49:54.719 So let's look at the bottom here.

NOTE Confidence: 0.867144022857143

00:49:54.720 --> 00:49:57.258 So here's the the granular prefrontal

NOTE Confidence: 0.867144022857143

00:49:57.258 --> 00:50:00.632 cortex and I think this now my hypothesis

NOTE Confidence: 0.867144022857143

00:50:00.632 --> 00:50:04.099 is this is responsible for the middle model,

NOTE Confidence: 0.867144022857143

00:50:04.100 --> 00:50:08.300 but the schematic information is coming

NOTE Confidence: 0.867144022857143

00:50:08.300 --> 00:50:11.280 from these sub granular areas like

NOTE Confidence: 0.867144022857143

00:50:11.280 --> 00:50:13.104 the ventromedial prefrontal cortex.

NOTE Confidence: 0.867144022857143

00:50:13.110 --> 00:50:16.008 The anterior cingulate are the what?

NOTE Confidence: 0.867144022857143

00:50:16.010 --> 00:50:18.266 The more general medial prefrontal cortex,

NOTE Confidence: 0.867144022857143

00:50:18.270 --> 00:50:19.644 orbital frontal cortex.
NOTE Confidence: 0.867144022857143

00:50:19.644 --> 00:50:22.850 These are our areas that connect with
NOTE Confidence: 0.867144022857143

00:50:22.932 --> 00:50:25.860 memory systems and allow semantic and
NOTE Confidence: 0.867144022857143

00:50:25.860 --> 00:50:28.661 episodic memory to generate schema and
NOTE Confidence: 0.867144022857143

00:50:28.661 --> 00:50:31.342 the schema then become the basis for
NOTE Confidence: 0.867144022857143

00:50:31.342 --> 00:50:34.890 the granular prefrontal mental model.
NOTE Confidence: 0.867144022857143

00:50:34.890 --> 00:50:36.500 So if we work backwards from here,
NOTE Confidence: 0.867144022857143

00:50:36.500 --> 00:50:38.309 we see that.
NOTE Confidence: 0.867144022857143

00:50:38.309 --> 00:50:41.927 That the representation on top is
NOTE Confidence: 0.867144022857143

00:50:41.927 --> 00:50:45.170 very sparse in terms of explaining
NOTE Confidence: 0.867144022857143

00:50:45.170 --> 00:50:46.754 complex mental states.
NOTE Confidence: 0.867144022857143

00:50:46.760 --> 00:50:48.150 And in general, you know,
NOTE Confidence: 0.867144022857143

00:50:48.150 --> 00:50:51.170 all this research on consciousness
NOTE Confidence: 0.867144022857143

00:50:51.170 --> 00:50:54.134 in the perceptual system is highly
NOTE Confidence: 0.867144022857143

00:50:54.134 --> 00:50:56.953 limiting because what it focuses on
NOTE Confidence: 0.867144022857143

00:50:56.953 --> 00:50:59.969 is like dots or lines on a screen,

NOTE Confidence: 0.867144022857143

00:50:59.970 --> 00:51:01.824 and whether you perceive them or

NOTE Confidence: 0.867144022857143

00:51:01.824 --> 00:51:03.570 can you see this or not,

NOTE Confidence: 0.867144022857143

00:51:03.570 --> 00:51:05.190 but our life experiences are

NOTE Confidence: 0.867144022857143

00:51:05.190 --> 00:51:07.050 all multimodal and we have to.

NOTE Confidence: 0.867144022857143

00:51:07.050 --> 00:51:08.148 Always we are.

NOTE Confidence: 0.867144022857143

00:51:08.148 --> 00:51:10.344 Always integrating what is there in

NOTE Confidence: 0.867144022857143

00:51:10.344 --> 00:51:13.053 the world with our perceptions and our

NOTE Confidence: 0.867144022857143

00:51:13.053 --> 00:51:15.049 past memories and our understanding

NOTE Confidence: 0.867144022857143

00:51:15.049 --> 00:51:17.485 of the world and our schema.

NOTE Confidence: 0.867144022857143

00:51:17.490 --> 00:51:19.398 Those are the mechanisms that interpret

NOTE Confidence: 0.867144022857143

00:51:19.398 --> 00:51:22.448 who we are and what's going on in our lives.

NOTE Confidence: 0.867144022857143

00:51:22.450 --> 00:51:24.760 And we we can't understand that

NOTE Confidence: 0.867144022857143

00:51:24.760 --> 00:51:27.412 from a simple visual cortex and

NOTE Confidence: 0.867144022857143

00:51:27.412 --> 00:51:28.797 prefrontal cortex framework.

NOTE Confidence: 0.867144022857143

00:51:28.797 --> 00:51:31.920 But I think we can go pretty far with

NOTE Confidence: 0.867144022857143

00:51:31.993 --> 00:51:34.118 the with this as a starting point
NOTE Confidence: 0.867144022857143

00:51:34.118 --> 00:51:36.158 where we just begin to appreciate
NOTE Confidence: 0.867144022857143

00:51:36.158 --> 00:51:38.258 the complexity of the way the
NOTE Confidence: 0.867144022857143

00:51:38.258 --> 00:51:40.198 brain puts all this together.
NOTE Confidence: 0.867144022857143

00:51:40.200 --> 00:51:43.536 So these are just illustrating the
NOTE Confidence: 0.867144022857143

00:51:43.536 --> 00:51:46.273 the granular prefrontal cortex in
NOTE Confidence: 0.867144022857143

00:51:46.273 --> 00:51:48.835 the in the lateral cortex there.
NOTE Confidence: 0.867144022857143

00:51:48.840 --> 00:51:50.528 So dorsolateral Pat Goldman,
NOTE Confidence: 0.867144022857143

00:51:50.528 --> 00:51:53.913 Rakesh put that on the map in terms
NOTE Confidence: 0.867144022857143

00:51:53.913 --> 00:51:56.217 of working memory and so forth.
NOTE Confidence: 0.867144022857143

00:51:56.220 --> 00:52:00.004 We have ventral ventral lateral paths lab,
NOTE Confidence: 0.867144022857143

00:52:00.004 --> 00:52:00.728 Liz Romanski,
NOTE Confidence: 0.867144022857143

00:52:00.728 --> 00:52:02.900 who was my graduate student or
NOTE Confidence: 0.867144022857143

00:52:02.970 --> 00:52:05.221 postdoc with Pat, she and Pat.
NOTE Confidence: 0.867144022857143

00:52:05.221 --> 00:52:07.106 Put ventrolateral on the map
NOTE Confidence: 0.867144022857143

00:52:07.106 --> 00:52:09.383 as being important for auditory

NOTE Confidence: 0.867144022857143
00:52:09.383 --> 00:52:11.788 working memory and so forth.
NOTE Confidence: 0.867144022857143
00:52:11.790 --> 00:52:14.030 Then we have the arbiter frontal cortex,
NOTE Confidence: 0.867144022857143
00:52:14.030 --> 00:52:15.462 lateral orbital frontal cortex,
NOTE Confidence: 0.867144022857143
00:52:15.462 --> 00:52:18.641 but I think one of the most important
NOTE Confidence: 0.867144022857143
00:52:18.641 --> 00:52:20.553 and under underappreciated structures
NOTE Confidence: 0.867144022857143
00:52:20.553 --> 00:52:23.214 is the frontal pole and I'll tell
NOTE Confidence: 0.867144022857143
00:52:23.214 --> 00:52:24.950 you why that's important in a minute.
NOTE Confidence: 0.867144022857143
00:52:24.950 --> 00:52:27.406 And then on the medial side we have
NOTE Confidence: 0.867144022857143
00:52:27.406 --> 00:52:29.467 some granular cortex in the dorsal
NOTE Confidence: 0.867144022857143
00:52:29.467 --> 00:52:31.537 medial and the medial frontal pole
NOTE Confidence: 0.867144022857143
00:52:31.601 --> 00:52:33.365 and then the lighter Gray areas
NOTE Confidence: 0.867144022857143
00:52:33.365 --> 00:52:35.698 are all the sub granular areas
NOTE Confidence: 0.867144022857143
00:52:35.698 --> 00:52:37.420 like anterior cingulate.
NOTE Confidence: 0.867144022857143
00:52:37.420 --> 00:52:40.180 Prelimbic our medial orbital and
NOTE Confidence: 0.867144022857143
00:52:40.180 --> 00:52:41.836 ventromedial prefrontal cortex.
NOTE Confidence: 0.867144022857143

00:52:41.840 --> 00:52:43.844 Now the reason these are important
NOTE Confidence: 0.867144022857143

00:52:43.844 --> 00:52:45.674 to distinguish is that Umm,
NOTE Confidence: 0.867144022857143

00:52:45.674 --> 00:52:48.144 the granular cortex has an
NOTE Confidence: 0.867144022857143

00:52:48.144 --> 00:52:50.120 architecture that allows human
NOTE Confidence: 0.867144022857143

00:52:50.207 --> 00:52:53.077 cognition to unfold the way it does,
NOTE Confidence: 0.867144022857143

00:52:53.080 --> 00:52:56.488 whereas the sub granular cortex is
NOTE Confidence: 0.867144022857143

00:52:56.488 --> 00:52:59.660 less complex in that and doesn't
NOTE Confidence: 0.867144022857143

00:52:59.660 --> 00:53:01.740 have that particular architecture.
NOTE Confidence: 0.867144022857143

00:53:01.740 --> 00:53:05.650 So lateral prefrontal cortex is involved
NOTE Confidence: 0.867144022857143

00:53:05.650 --> 00:53:07.620 in working memory cognitive control.
NOTE Confidence: 0.867144022857143

00:53:07.620 --> 00:53:08.060 However,
NOTE Confidence: 0.867144022857143

00:53:08.060 --> 00:53:10.260 their representations higher order indexing,
NOTE Confidence: 0.867144022857143

00:53:10.260 --> 00:53:11.768 global broadcasting and so
NOTE Confidence: 0.867144022857143

00:53:11.768 --> 00:53:14.030 forth and and the medial areas
NOTE Confidence: 0.857613486428571

00:53:14.099 --> 00:53:15.819 are in memory integration,
NOTE Confidence: 0.857613486428571

00:53:15.820 --> 00:53:18.880 schema assembly, self processing,

NOTE Confidence: 0.857613486428571
00:53:18.880 --> 00:53:21.175 default mode processing.
NOTE Confidence: 0.857613486428571
00:53:21.180 --> 00:53:24.316 But we need more recognition of the the
NOTE Confidence: 0.857613486428571
00:53:24.316 --> 00:53:26.743 distinction than than this often used
NOTE Confidence: 0.857613486428571
00:53:26.743 --> 00:53:29.095 at least in the consciousness view.
NOTE Confidence: 0.857613486428571
00:53:29.100 --> 00:53:30.465 And this is a a kind of
NOTE Confidence: 0.857613486428571
00:53:30.465 --> 00:53:31.599 way to think about it,
NOTE Confidence: 0.857613486428571
00:53:31.600 --> 00:53:34.882 that you have these lower order
NOTE Confidence: 0.857613486428571
00:53:34.882 --> 00:53:36.696 states that have recurrent
NOTE Confidence: 0.857613486428571
00:53:36.696 --> 00:53:38.486 networks between all of their.
NOTE Confidence: 0.857613486428571
00:53:38.490 --> 00:53:39.532 Various interconnections,
NOTE Confidence: 0.857613486428571
00:53:39.532 --> 00:53:42.137 but there are also recurrent
NOTE Confidence: 0.857613486428571
00:53:42.137 --> 00:53:44.513 interconnections between the the sub
NOTE Confidence: 0.857613486428571
00:53:44.513 --> 00:53:46.368 granular prefrontal and the bottom
NOTE Confidence: 0.857613486428571
00:53:46.368 --> 00:53:48.800 and the granular on top and between
NOTE Confidence: 0.857613486428571
00:53:48.800 --> 00:53:50.366 the various components of granular
NOTE Confidence: 0.857613486428571

00:53:50.366 --> 00:53:52.238 and sub granular and so forth.
NOTE Confidence: 0.857613486428571

00:53:52.240 --> 00:53:54.528 So there's a lot that's going on that
NOTE Confidence: 0.857613486428571

00:53:54.528 --> 00:53:56.628 if we understand the anatomy better
NOTE Confidence: 0.857613486428571

00:53:56.628 --> 00:53:59.558 and build it into the way we talk
NOTE Confidence: 0.857613486428571

00:53:59.558 --> 00:54:01.562 about all these things more thoroughly,
NOTE Confidence: 0.857613486428571

00:54:01.562 --> 00:54:03.578 I think we would make more
NOTE Confidence: 0.857613486428571

00:54:03.578 --> 00:54:04.869 progress on all this.
NOTE Confidence: 0.857613486428571

00:54:04.870 --> 00:54:07.834 So let me just close with
NOTE Confidence: 0.857613486428571

00:54:07.834 --> 00:54:09.316 emphasized by emphasizing.
NOTE Confidence: 0.857613486428571

00:54:09.320 --> 00:54:10.912 What's going on here?
NOTE Confidence: 0.857613486428571

00:54:10.912 --> 00:54:13.300 So let's start with the the
NOTE Confidence: 0.857613486428571

00:54:13.390 --> 00:54:15.748 light Gray on the right side.
NOTE Confidence: 0.857613486428571

00:54:15.750 --> 00:54:18.370 Area, so anterior, cingulate, medial,
NOTE Confidence: 0.857613486428571

00:54:18.370 --> 00:54:19.954 prefrontal, that's prelimbic,
NOTE Confidence: 0.857613486428571

00:54:19.954 --> 00:54:22.066 ventromedial and so forth.
NOTE Confidence: 0.857613486428571

00:54:22.070 --> 00:54:22.792 Media, larval,

NOTE Confidence: 0.857613486428571
00:54:22.792 --> 00:54:24.597 these light Gray areas are
NOTE Confidence: 0.857613486428571
00:54:24.597 --> 00:54:26.780 all the sub granular areas.
NOTE Confidence: 0.857613486428571
00:54:26.780 --> 00:54:29.144 The reason that's important is because
NOTE Confidence: 0.857613486428571
00:54:29.144 --> 00:54:33.010 all mammals have those areas, so.
NOTE Confidence: 0.857613486428571
00:54:33.010 --> 00:54:35.450 The darker Gray areas are
NOTE Confidence: 0.857613486428571
00:54:35.450 --> 00:54:37.402 all primate unique areas.
NOTE Confidence: 0.857613486428571
00:54:37.410 --> 00:54:39.984 So you don't have a dorsal medial or medial,
NOTE Confidence: 0.857613486428571
00:54:39.990 --> 00:54:43.007 medial, frontal pole or lateral frontal pole,
NOTE Confidence: 0.857613486428571
00:54:43.010 --> 00:54:45.116 dorsal lateral or ventral lateral in
NOTE Confidence: 0.857613486428571
00:54:45.116 --> 00:54:47.869 rats and and other non primate mammals,
NOTE Confidence: 0.857613486428571
00:54:47.870 --> 00:54:50.684 but you have them in in primates.
NOTE Confidence: 0.857613486428571
00:54:50.690 --> 00:54:53.030 And in the human brain we have an area,
NOTE Confidence: 0.857613486428571
00:54:53.030 --> 00:54:55.870 the a component of the lateral frontal pole,
NOTE Confidence: 0.857613486428571
00:54:55.870 --> 00:54:58.350 that is only present in the human brain.
NOTE Confidence: 0.857613486428571
00:54:58.350 --> 00:54:59.950 So.
NOTE Confidence: 0.857613486428571

00:54:59.950 --> 00:55:02.190 Let's just for the sake of argument,
NOTE Confidence: 0.857613486428571
00:55:02.190 --> 00:55:04.130 say that.
NOTE Confidence: 0.857613486428571
00:55:04.130 --> 00:55:06.158 The human unique.
NOTE Confidence: 0.857613486428571
00:55:06.158 --> 00:55:09.430 Frontal pole has an important role in
NOTE Confidence: 0.857613486428571
00:55:09.430 --> 00:55:11.676 human unique kinds of consciousness just
NOTE Confidence: 0.857613486428571
00:55:11.676 --> 00:55:15.608 for the sake of argument and that we.
NOTE Confidence: 0.857613486428571
00:55:15.610 --> 00:55:19.859 The primate unique areas of the the.
NOTE Confidence: 0.857613486428571
00:55:19.860 --> 00:55:21.034 Primate brain.
NOTE Confidence: 0.857613486428571
00:55:21.034 --> 00:55:24.272 Are going to be the responsible
NOTE Confidence: 0.857613486428571
00:55:24.272 --> 00:55:25.782 for kinds of consciousness that
NOTE Confidence: 0.857613486428571
00:55:25.782 --> 00:55:27.490 are shared by all primates,
NOTE Confidence: 0.857613486428571
00:55:27.490 --> 00:55:29.122 including humans and including
NOTE Confidence: 0.857613486428571
00:55:29.122 --> 00:55:31.570 monkeys and chimps and so forth.
NOTE Confidence: 0.857613486428571
00:55:31.570 --> 00:55:33.199 And the Gray,
NOTE Confidence: 0.857613486428571
00:55:33.199 --> 00:55:34.828 light Gray areas,
NOTE Confidence: 0.857613486428571
00:55:34.830 --> 00:55:37.434 sub granular areas are going to be

NOTE Confidence: 0.857613486428571
00:55:37.434 --> 00:55:40.348 the kinds of consciousness that might
NOTE Confidence: 0.857613486428571
00:55:40.348 --> 00:55:43.213 be shared throughout all mammals.
NOTE Confidence: 0.857613486428571
00:55:43.220 --> 00:55:44.620 So even if we only,
NOTE Confidence: 0.857613486428571
00:55:44.620 --> 00:55:48.500 let's just start with the the sub granular.
NOTE Confidence: 0.857613486428571
00:55:48.500 --> 00:55:50.580 So there's a lot of concern
NOTE Confidence: 0.857613486428571
00:55:50.580 --> 00:55:52.540 about how do we get from human,
NOTE Confidence: 0.857613486428571
00:55:52.540 --> 00:55:54.592 how do we get from animal
NOTE Confidence: 0.857613486428571
00:55:54.592 --> 00:55:55.960 consciousness to human consciousness?
NOTE Confidence: 0.857613486428571
00:55:55.960 --> 00:55:56.334 Well,
NOTE Confidence: 0.857613486428571
00:55:56.334 --> 00:55:58.578 if these sub granular areas are
NOTE Confidence: 0.857613486428571
00:55:58.578 --> 00:56:01.320 involved in a kind of consciousness
NOTE Confidence: 0.857613486428571
00:56:01.320 --> 00:56:04.180 in mammals and all mammals,
NOTE Confidence: 0.857613486428571
00:56:04.180 --> 00:56:07.414 then we have a foundation for saying
NOTE Confidence: 0.857613486428571
00:56:07.414 --> 00:56:10.335 how did the dorsolateral ventrolateral
NOTE Confidence: 0.857613486428571
00:56:10.335 --> 00:56:13.660 evolve in primates from these.
NOTE Confidence: 0.857613486428571

00:56:13.660 --> 00:56:17.174 Other kinds of areas that are shared
NOTE Confidence: 0.857613486428571

00:56:17.174 --> 00:56:20.940 by all mammals and how did the human?
NOTE Confidence: 0.857613486428571

00:56:20.940 --> 00:56:23.525 Prefrontal cortex evolve from the
NOTE Confidence: 0.857613486428571

00:56:23.525 --> 00:56:26.720 monkey and other primate prefrontal cortex.
NOTE Confidence: 0.857613486428571

00:56:26.720 --> 00:56:28.508 So it's a framework for kind
NOTE Confidence: 0.857613486428571

00:56:28.508 --> 00:56:30.239 of starting with what we know.
NOTE Confidence: 0.857613486428571

00:56:30.240 --> 00:56:32.160 The idea is that if we knew more
NOTE Confidence: 0.857613486428571

00:56:32.160 --> 00:56:33.576 about what the human specific
NOTE Confidence: 0.857613486428571

00:56:33.576 --> 00:56:35.322 part of the frontal pole does
NOTE Confidence: 0.857613486428571

00:56:35.322 --> 00:56:36.790 for human consciousness.
NOTE Confidence: 0.857613486428571

00:56:36.790 --> 00:56:38.020 What the?
NOTE Confidence: 0.796123295

00:56:40.040 --> 00:56:42.620 What the primate kinds of areas,
NOTE Confidence: 0.796123295

00:56:42.620 --> 00:56:43.700 dorsolateral, ventrolateral,
NOTE Confidence: 0.796123295

00:56:43.700 --> 00:56:46.744 and so forth, do for human consciousness,
NOTE Confidence: 0.796123295

00:56:46.744 --> 00:56:48.524 and what the medial prefrontal
NOTE Confidence: 0.796123295

00:56:48.524 --> 00:56:50.437 areas do for human consciousness.

NOTE Confidence: 0.796123295

00:56:50.440 --> 00:56:53.275 We could then try to reverse engineer

NOTE Confidence: 0.796123295

00:56:53.280 --> 00:56:55.640 what's going on in the brains of other

NOTE Confidence: 0.796123295

00:56:55.640 --> 00:56:57.818 primates from the areas that we share

NOTE Confidence: 0.796123295

00:56:57.818 --> 00:57:00.192 with primates and what's going on in the

NOTE Confidence: 0.796123295

00:57:00.192 --> 00:57:02.351 brains of other mammals on the basis of

NOTE Confidence: 0.796123295

00:57:02.351 --> 00:57:05.940 what we share with other mammals because.

NOTE Confidence: 0.796123295

00:57:05.940 --> 00:57:09.060 You know, basically just study consciousness.

NOTE Confidence: 0.796123295

00:57:09.060 --> 00:57:11.720 Verbal report is almost essential.

NOTE Confidence: 0.796123295

00:57:11.720 --> 00:57:14.816 Because it's not that because language

NOTE Confidence: 0.796123295

00:57:14.816 --> 00:57:16.880 is necessary for consciousness,

NOTE Confidence: 0.796123295

00:57:16.880 --> 00:57:19.840 but it provides an important

NOTE Confidence: 0.796123295

00:57:19.840 --> 00:57:23.830 leverage point so I can respond.

NOTE Confidence: 0.796123295

00:57:23.830 --> 00:57:25.918 To something that I'm conscious of

NOTE Confidence: 0.796123295

00:57:25.918 --> 00:57:28.160 verbally by telling you what's there,

NOTE Confidence: 0.796123295

00:57:28.160 --> 00:57:30.140 or by pointing.

NOTE Confidence: 0.796123295

00:57:30.140 --> 00:57:33.380 But if I'm unconscious of something,
NOTE Confidence: 0.796123295

00:57:33.380 --> 00:57:36.460 I can only respond nonverbally,
NOTE Confidence: 0.796123295

00:57:36.460 --> 00:57:38.844 pointing or other things.
NOTE Confidence: 0.796123295

00:57:38.844 --> 00:57:42.530 So in humans, we have verbal report
NOTE Confidence: 0.796123295

00:57:42.530 --> 00:57:44.820 to separate to give us a clue.
NOTE Confidence: 0.796123295

00:57:44.820 --> 00:57:46.328 When something is conscious
NOTE Confidence: 0.796123295

00:57:46.328 --> 00:57:47.836 doesn't mean it's perfect,
NOTE Confidence: 0.796123295

00:57:47.840 --> 00:57:51.440 but it gives us a kind of way to
NOTE Confidence: 0.796123295

00:57:51.440 --> 00:57:53.168 we can't talk about things that
NOTE Confidence: 0.796123295

00:57:53.168 --> 00:57:55.021 we aren't conscious of, right?
NOTE Confidence: 0.796123295

00:57:55.021 --> 00:57:58.526 So I mean, we can.
NOTE Confidence: 0.796123295

00:57:58.530 --> 00:58:00.210 Pull things out and so forth,
NOTE Confidence: 0.796123295

00:58:00.210 --> 00:58:02.650 but I don't want to get into that.
NOTE Confidence: 0.796123295

00:58:02.650 --> 00:58:05.152 Just want to keep it simple and say that.
NOTE Confidence: 0.796123295

00:58:05.160 --> 00:58:06.612 That in an experiment.
NOTE Confidence: 0.796123295

00:58:06.612 --> 00:58:08.790 When you are able to verbal

NOTE Confidence: 0.796123295

00:58:08.868 --> 00:58:10.539 report about something,

NOTE Confidence: 0.796123295

00:58:10.540 --> 00:58:14.671 that is the best evidence that the person is

NOTE Confidence: 0.796123295

00:58:14.671 --> 00:58:18.116 conscious of what they are are experiencing.

NOTE Confidence: 0.796123295

00:58:18.120 --> 00:58:21.230 So in animals having only

NOTE Confidence: 0.796123295

00:58:21.230 --> 00:58:22.474 nonverbal responses,

NOTE Confidence: 0.796123295

00:58:22.480 --> 00:58:24.896 we don't have that way to leverage it.

NOTE Confidence: 0.796123295

00:58:24.900 --> 00:58:27.920 So I think instead of like trying to to use

NOTE Confidence: 0.796123295

00:58:27.995 --> 00:58:31.157 simple behavioral responses like other words,

NOTE Confidence: 0.796123295

00:58:31.160 --> 00:58:33.272 extrapolation from analogy with

NOTE Confidence: 0.796123295

00:58:33.272 --> 00:58:36.440 human behavior to try to understand

NOTE Confidence: 0.796123295

00:58:36.527 --> 00:58:39.285 what's going on when a rat freezes.

NOTE Confidence: 0.796123295

00:58:39.290 --> 00:58:40.181 We we say,

NOTE Confidence: 0.796123295

00:58:40.181 --> 00:58:40.478 OK,

NOTE Confidence: 0.796123295

00:58:40.478 --> 00:58:41.963 it's afraid because we're afraid

NOTE Confidence: 0.796123295

00:58:41.963 --> 00:58:42.889 when we freeze.

NOTE Confidence: 0.796123295

00:58:42.890 --> 00:58:45.872 But this extrapolation from from human
NOTE Confidence: 0.796123295

00:58:45.872 --> 00:58:49.278 behavior I think gets us into trouble.
NOTE Confidence: 0.796123295

00:58:49.280 --> 00:58:51.144 We need a different way to approach it.
NOTE Confidence: 0.796123295

00:58:51.150 --> 00:58:53.262 I think this anatomical approach of
NOTE Confidence: 0.796123295

00:58:53.262 --> 00:58:55.053 reverse engineering based on what
NOTE Confidence: 0.796123295

00:58:55.053 --> 00:58:56.648 we learn about human consciousness
NOTE Confidence: 0.796123295

00:58:56.648 --> 00:58:58.798 might tell us more about what might
NOTE Confidence: 0.796123295

00:58:58.798 --> 00:59:00.688 be going on in in other mammals.
NOTE Confidence: 0.796123295

00:59:00.690 --> 00:59:01.980 OK, So what is an emotion?
NOTE Confidence: 0.796123295

00:59:01.980 --> 00:59:03.310 It's a mental model based,
NOTE Confidence: 0.796123295

00:59:03.310 --> 00:59:04.600 narrative driven,
NOTE Confidence: 0.796123295

00:59:04.600 --> 00:59:05.890 culturally shaped,
NOTE Confidence: 0.796123295

00:59:05.890 --> 00:59:09.115 subjective experience and biologically or
NOTE Confidence: 0.796123295

00:59:09.115 --> 00:59:11.350 psychologically significant situation.
NOTE Confidence: 0.796123295

00:59:11.350 --> 00:59:12.958 All humans must deal with danger,
NOTE Confidence: 0.796123295

00:59:12.960 --> 00:59:14.574 and all cultures have words for

NOTE Confidence: 0.796123295
00:59:14.574 --> 00:59:16.030 danger and words for experiences
NOTE Confidence: 0.796123295
00:59:16.030 --> 00:59:17.665 that occur when in danger.
NOTE Confidence: 0.796123295
00:59:17.670 --> 00:59:19.089 But emotional experiences
NOTE Confidence: 0.796123295
00:59:19.089 --> 00:59:20.508 vary across culture.
NOTE Confidence: 0.796123295
00:59:20.510 --> 00:59:21.965 Because we can translate words
NOTE Confidence: 0.796123295
00:59:21.965 --> 00:59:23.129 like fear across cultures,
NOTE Confidence: 0.796123295
00:59:23.130 --> 00:59:25.346 we assume that people in these cultures have
NOTE Confidence: 0.796123295
00:59:25.346 --> 00:59:27.787 the same basic experience named by the word.
NOTE Confidence: 0.796123295
00:59:27.790 --> 00:59:29.914 But cultural differences and experiences are
NOTE Confidence: 0.796123295
00:59:29.914 --> 00:59:32.428 based on differences in the schema involved,
NOTE Confidence: 0.796123295
00:59:32.430 --> 00:59:34.008 that is the schema or personal.
NOTE Confidence: 0.796123295
00:59:34.010 --> 00:59:35.640 So the different people within
NOTE Confidence: 0.796123295
00:59:35.640 --> 00:59:37.270 a culture have different schema
NOTE Confidence: 0.796123295
00:59:37.327 --> 00:59:38.847 and hence different experiences
NOTE Confidence: 0.796123295
00:59:38.847 --> 00:59:40.747 and people in different cultures.
NOTE Confidence: 0.796123295

00:59:40.750 --> 00:59:42.755 We also have different schema
NOTE Confidence: 0.796123295

00:59:42.755 --> 00:59:43.958 and different experiences.
NOTE Confidence: 0.796123295

00:59:43.960 --> 00:59:44.604 Other animals,
NOTE Confidence: 0.796123295

00:59:44.604 --> 00:59:46.214 lacking our specific kind of
NOTE Confidence: 0.796123295

00:59:46.214 --> 00:59:47.180 cognition and brain,
NOTE Confidence: 0.796123295

00:59:47.180 --> 00:59:48.800 can't have our kind of schema
NOTE Confidence: 0.796123295

00:59:48.800 --> 00:59:50.240 and our kind of fear.
NOTE Confidence: 0.796123295

00:59:50.240 --> 00:59:52.361 But they may have their own emotions
NOTE Confidence: 0.796123295

00:59:52.361 --> 00:59:54.300 made possible by their own brains.
NOTE Confidence: 0.796123295

00:59:54.300 --> 00:59:56.465 So she's screaming and she's
NOTE Confidence: 0.796123295

00:59:56.465 --> 00:59:58.630 afraid that these are not
NOTE Confidence: 0.873692946666667

00:59:58.717 --> 01:00:00.850 the same. So what happened
NOTE Confidence: 0.873692946666667

01:00:00.850 --> 01:00:02.561 between 1917 and 2018?
NOTE Confidence: 0.873692946666667

01:00:02.561 --> 01:00:04.668 The effort to put fraud in the
NOTE Confidence: 0.873692946666667

01:00:04.668 --> 01:00:05.655 rearview mirror? Psychology,
NOTE Confidence: 0.873692946666667

01:00:05.655 --> 01:00:07.580 psychiatry and brain science through

NOTE Confidence: 0.873692946666667
01:00:07.580 --> 01:00:10.260 the middle baby out with the bathwater.
NOTE Confidence: 0.873692946666667
01:00:10.260 --> 01:00:11.958 Until we accept that emotions are
NOTE Confidence: 0.873692946666667
01:00:11.958 --> 01:00:13.480 first and foremost mental states,
NOTE Confidence: 0.873692946666667
01:00:13.480 --> 01:00:14.908 efforts to treat mental
NOTE Confidence: 0.873692946666667
01:00:14.908 --> 01:00:15.979 disorders will languish.
NOTE Confidence: 0.873692946666667
01:00:15.980 --> 01:00:16.864 Patients, therapists,
NOTE Confidence: 0.873692946666667
01:00:16.864 --> 01:00:17.748 pharmaceutical companies,
NOTE Confidence: 0.873692946666667
01:00:17.748 --> 01:00:19.516 and researchers will all
NOTE Confidence: 0.873692946666667
01:00:19.516 --> 01:00:21.299 continue to be disappointed.
NOTE Confidence: 0.873692946666667
01:00:21.300 --> 01:00:23.162 So some of this is from anxious
NOTE Confidence: 0.873692946666667
01:00:23.162 --> 01:00:25.299 and the deep history of ourselves.
NOTE Confidence: 0.873692946666667
01:00:25.300 --> 01:00:27.442 And I have a bunch of fear
NOTE Confidence: 0.873692946666667
01:00:27.442 --> 01:00:29.328 rants that you can look up,
NOTE Confidence: 0.873692946666667
01:00:29.330 --> 01:00:31.801 and a bunch of clinical rants and
NOTE Confidence: 0.873692946666667
01:00:31.801 --> 01:00:33.187 some consciousness partition rents
NOTE Confidence: 0.873692946666667

01:00:33.187 --> 01:00:35.077 I don't have time to talk about.
NOTE Confidence: 0.873692946666667

01:00:35.080 --> 01:00:36.028 Thank you very much.
NOTE Confidence: 0.7755721225

01:00:43.240 --> 01:00:46.000 Thank you Doctor Lulu for an amazing talk.
NOTE Confidence: 0.7755721225

01:00:46.000 --> 01:00:48.548 I'm really blown away by by the
NOTE Confidence: 0.7755721225

01:00:48.548 --> 01:00:50.428 breath of your work we're at.
NOTE Confidence: 0.7755721225

01:00:50.428 --> 01:00:51.398 We're out of time now.
NOTE Confidence: 0.7755721225

01:00:51.400 --> 01:00:53.816 If people would like to stay for questions,
NOTE Confidence: 0.7755721225

01:00:53.820 --> 01:00:55.514 you can. If you need to go,
NOTE Confidence: 0.7755721225

01:00:55.520 --> 01:00:56.425 please feel free to go.
NOTE Confidence: 0.7755721225

01:00:56.425 --> 01:00:59.560 I apologize for using all the time.
NOTE Confidence: 0.7755721225

01:00:59.560 --> 01:01:03.380 Thank you. Any questions?
NOTE Confidence: 0.7755721225

01:01:03.380 --> 01:01:04.598 Come on, you got some Georgia.
NOTE Confidence: 0.85696215

01:01:07.160 --> 01:01:08.230 I guess I would think
NOTE Confidence: 0.76714911

01:01:08.300 --> 01:01:10.500 there are some thanks.
NOTE Confidence: 0.789603929375

01:01:10.660 --> 01:01:13.516 I I would say there's some anyway
NOTE Confidence: 0.789603929375

01:01:13.516 --> 01:01:15.302 that would emphasize interoception

NOTE Confidence: 0.789603929375

01:01:15.302 --> 01:01:17.697 more than you appear to.

NOTE Confidence: 0.789603929375

01:01:17.700 --> 01:01:19.368 And I just wonder what you

NOTE Confidence: 0.789603929375

01:01:19.368 --> 01:01:21.216 would say to them or what

NOTE Confidence: 0.789603929375

01:01:21.216 --> 01:01:22.886 your thoughts are about that.

NOTE Confidence: 0.810898194

01:01:23.210 --> 01:01:25.268 You know, I said the body

NOTE Confidence: 0.810898194

01:01:25.268 --> 01:01:26.640 responses are very important,

NOTE Confidence: 0.810898194

01:01:26.640 --> 01:01:29.632 but I don't I think that until those

NOTE Confidence: 0.810898194

01:01:29.632 --> 01:01:32.249 responses are cognitively interpreted.

NOTE Confidence: 0.810898194

01:01:32.250 --> 01:01:34.806 They're not giving you an experience,

NOTE Confidence: 0.810898194

01:01:34.810 --> 01:01:36.775 but the experience requires the

NOTE Confidence: 0.810898194

01:01:36.775 --> 01:01:38.347 interpretation of signals whether

NOTE Confidence: 0.810898194

01:01:38.347 --> 01:01:39.799 they're external signals or

NOTE Confidence: 0.810898194

01:01:39.799 --> 01:01:41.469 internal signals and that's what

NOTE Confidence: 0.810898194

01:01:41.469 --> 01:01:43.352 the these cognitive networks are

NOTE Confidence: 0.810898194

01:01:43.352 --> 01:01:45.338 important for that you know you

NOTE Confidence: 0.810898194

01:01:45.338 --> 01:01:47.150 and intraception is going to come
NOTE Confidence: 0.810898194

01:01:47.214 --> 01:01:49.230 into those come into the amygdala,
NOTE Confidence: 0.810898194

01:01:49.230 --> 01:01:49.548 hypothalamus,
NOTE Confidence: 0.810898194

01:01:49.548 --> 01:01:51.456 their aqueductal Gray and then they
NOTE Confidence: 0.810898194

01:01:51.456 --> 01:01:53.363 will go into the medial prefrontal
NOTE Confidence: 0.810898194

01:01:53.363 --> 01:01:55.449 areas that I was just talking about.
NOTE Confidence: 0.810898194

01:01:55.450 --> 01:01:57.532 So those medial prefrontal areas are
NOTE Confidence: 0.810898194

01:01:57.532 --> 01:01:59.756 providing kind of and I didn't have
NOTE Confidence: 0.810898194

01:01:59.756 --> 01:02:02.219 time to go into the last part which was.
NOTE Confidence: 0.810898194

01:02:02.220 --> 01:02:03.728 The partition of consciousness
NOTE Confidence: 0.810898194

01:02:03.728 --> 01:02:05.990 into three kinds of states that
NOTE Confidence: 0.810898194

01:02:06.055 --> 01:02:07.819 entail traveling talks about.
NOTE Confidence: 0.810898194

01:02:07.820 --> 01:02:09.828 One is autonoetic consciousness,
NOTE Confidence: 0.810898194

01:02:09.828 --> 01:02:11.836 which is reflective self-awareness.
NOTE Confidence: 0.810898194

01:02:11.840 --> 01:02:15.557 Basically it's based on episodic memory of
NOTE Confidence: 0.810898194

01:02:15.560 --> 01:02:18.296 who you are and what you know about yourself.

NOTE Confidence: 0.810898194
01:02:18.300 --> 01:02:19.242 No edit consciousness,
NOTE Confidence: 0.810898194
01:02:19.242 --> 01:02:21.920 which is based on semantic memory and the
NOTE Confidence: 0.810898194
01:02:21.920 --> 01:02:24.015 conceptual knowledge and semantic knowledge,
NOTE Confidence: 0.810898194
01:02:24.020 --> 01:02:26.360 and then a noetic consciousness,
NOTE Confidence: 0.810898194
01:02:26.360 --> 01:02:29.296 which is more of a kind of William
NOTE Confidence: 0.810898194
01:02:29.296 --> 01:02:32.227 James Fringe state that is simply there.
NOTE Confidence: 0.810898194
01:02:32.230 --> 01:02:32.896 You know,
NOTE Confidence: 0.810898194
01:02:32.896 --> 01:02:35.561 you know your body states are yours without
NOTE Confidence: 0.810898194
01:02:35.561 --> 01:02:37.547 having to affirm that they're your,
NOTE Confidence: 0.810898194
01:02:37.550 --> 01:02:39.218 that your mental state to yours
NOTE Confidence: 0.810898194
01:02:39.218 --> 01:02:40.330 without having their permit.
NOTE Confidence: 0.810898194
01:02:40.330 --> 01:02:42.381 But there are some people who have
NOTE Confidence: 0.810898194
01:02:42.381 --> 01:02:44.539 brain damage that lose the ability to
NOTE Confidence: 0.810898194
01:02:44.539 --> 01:02:46.703 know their mental states of theirs or
NOTE Confidence: 0.810898194
01:02:46.703 --> 01:02:48.628 to know their body states of theirs.
NOTE Confidence: 0.810898194

01:02:48.630 --> 01:02:50.472 And that's when it becomes apparent
NOTE Confidence: 0.810898194

01:02:50.472 --> 01:02:52.767 that we always know that our you know,
NOTE Confidence: 0.810898194

01:02:52.770 --> 01:02:54.546 unless your brain is is damaged
NOTE Confidence: 0.810898194

01:02:54.546 --> 01:02:56.846 in this way you know that your
NOTE Confidence: 0.810898194

01:02:56.846 --> 01:02:58.250 mental states are yours.
NOTE Confidence: 0.810898194

01:02:58.250 --> 01:03:01.010 So the idea is that when
NOTE Confidence: 0.810898194

01:03:01.010 --> 01:03:03.010 you have some kind of.
NOTE Confidence: 0.810898194

01:03:03.010 --> 01:03:04.822 Violation of that normality,
NOTE Confidence: 0.810898194

01:03:04.822 --> 01:03:07.087 what William James called the
NOTE Confidence: 0.810898194

01:03:07.087 --> 01:03:08.738 rightness of mental states.
NOTE Confidence: 0.810898194

01:03:08.740 --> 01:03:10.931 Then that's when you have to go
NOTE Confidence: 0.810898194

01:03:10.931 --> 01:03:13.492 into the more cognitive levels of
NOTE Confidence: 0.810898194

01:03:13.492 --> 01:03:15.560 consciousness to interpret them.
NOTE Confidence: 0.810898194

01:03:15.560 --> 01:03:17.080 But otherwise you're interoception
NOTE Confidence: 0.810898194

01:03:17.080 --> 01:03:20.719 is going to be one of those kinds of
NOTE Confidence: 0.810898194

01:03:20.719 --> 01:03:22.859 analytic States and medial prefrontal

NOTE Confidence: 0.810898194

01:03:22.859 --> 01:03:25.010 cortex and unless it becomes.

NOTE Confidence: 0.810898194

01:03:25.010 --> 01:03:26.090 For the sake of you know,

NOTE Confidence: 0.810898194

01:03:26.090 --> 01:03:28.645 if you have an intense body state,

NOTE Confidence: 0.810898194

01:03:28.650 --> 01:03:31.562 then it's not going to stay in the

NOTE Confidence: 0.810898194

01:03:31.562 --> 01:03:33.410 normal level of analytic consciousness.

NOTE Confidence: 0.810898194

01:03:33.410 --> 01:03:36.184 It's going to rise to have the

NOTE Confidence: 0.810898194

01:03:36.184 --> 01:03:38.136 semantic interpretation or even

NOTE Confidence: 0.810898194

01:03:38.136 --> 01:03:40.088 autonoetic interpretation of being

NOTE Confidence: 0.810898194

01:03:40.090 --> 01:03:42.110 something that you are personally

NOTE Confidence: 0.810898194

01:03:42.110 --> 01:03:44.130 involved with and conscious of.

NOTE Confidence: 0.810898194

01:03:44.130 --> 01:03:44.870 That's my two cents.

NOTE Confidence: 0.775839346666667

01:03:46.800 --> 01:03:47.700 Any more questions?

NOTE Confidence: 0.70398843

01:03:49.970 --> 01:03:50.480 Heartland.

NOTE Confidence: 0.6565641

01:03:55.520 --> 01:03:58.144 That was awesome and I turned around

NOTE Confidence: 0.6565641

01:03:58.144 --> 01:03:59.840 so happy to see two of my postdocs in

NOTE Confidence: 0.6565641

01:03:59.840 --> 01:04:01.982 the back because I always talk to them
NOTE Confidence: 0.6565641

01:04:01.982 --> 01:04:04.278 about how I think theory is so important.
NOTE Confidence: 0.6565641

01:04:04.280 --> 01:04:06.096 It's really fun to see the way you
NOTE Confidence: 0.6565641

01:04:06.100 --> 01:04:07.636 have evolved your own theories over
NOTE Confidence: 0.6565641

01:04:07.640 --> 01:04:09.492 time as and it's a mechanism to
NOTE Confidence: 0.6565641

01:04:09.492 --> 01:04:11.332 drive I think one's own work forward
NOTE Confidence: 0.6565641

01:04:11.332 --> 01:04:12.522 and a whole field forward.
NOTE Confidence: 0.6565641

01:04:12.530 --> 01:04:14.498 So thank you for that and I guess
NOTE Confidence: 0.6565641

01:04:14.498 --> 01:04:16.250 my question is you observe verbal.
NOTE Confidence: 0.6565641

01:04:16.250 --> 01:04:17.699 You said two things that struck me.
NOTE Confidence: 0.6565641

01:04:17.700 --> 01:04:20.020 One you tripped consciousness is is
NOTE Confidence: 0.6565641

01:04:20.020 --> 01:04:21.220 contingent upon brain mechanisms
NOTE Confidence: 0.6565641

01:04:21.220 --> 01:04:22.819 like everything else.
NOTE Confidence: 0.6565641

01:04:22.820 --> 01:04:25.280 Two you said that verbal report.
NOTE Confidence: 0.6565641

01:04:25.280 --> 01:04:25.958 Is a you
NOTE Confidence: 0.82960954

01:04:25.970 --> 01:04:28.500 know, is the the the best maybe way

NOTE Confidence: 0.916573956

01:04:28.510 --> 01:04:31.350 we can measure consciousness but.

NOTE Confidence: 0.916573956

01:04:31.350 --> 01:04:33.289 Would you think that there could be

NOTE Confidence: 0.916573956

01:04:33.289 --> 01:04:34.822 other biological things that we can

NOTE Confidence: 0.916573956

01:04:34.822 --> 01:04:36.334 measure that should be as we don't

NOTE Confidence: 0.916573956

01:04:36.386 --> 01:04:38.468 know yet but should be as indicative

NOTE Confidence: 0.916573956

01:04:38.468 --> 01:04:40.008 of consciousness and maybe better than

NOTE Confidence: 0.729286899

01:04:40.020 --> 01:04:42.764 verbal report. So there going to be lots

NOTE Confidence: 0.729286899

01:04:42.764 --> 01:04:45.174 of correlates, but the question is.

NOTE Confidence: 0.729286899

01:04:45.174 --> 01:04:48.390 How do we separate correlates from causes?

NOTE Confidence: 0.729286899

01:04:48.390 --> 01:04:52.851 You know and. That's the problem and I don't,

NOTE Confidence: 0.729286899

01:04:52.851 --> 01:04:55.374 I, I really don't know how we get past

NOTE Confidence: 0.729286899

01:04:55.374 --> 01:04:57.760 that because I think we can, you know,

NOTE Confidence: 0.729286899

01:04:57.760 --> 01:05:01.070 as a scientist, I'm more concerned with.

NOTE Confidence: 0.729286899

01:05:01.070 --> 01:05:04.358 What we can learn using verbal report then?

NOTE Confidence: 0.729286899

01:05:04.360 --> 01:05:05.684 As opposed to what?

NOTE Confidence: 0.729286899

01:05:05.684 --> 01:05:07.339 We can't learn from them.
NOTE Confidence: 0.729286899

01:05:07.340 --> 01:05:10.819 That makes any sense because I think.
NOTE Confidence: 0.729286899

01:05:10.820 --> 01:05:13.064 You know, with better understanding of
NOTE Confidence: 0.729286899

01:05:13.064 --> 01:05:16.608 neuroanatomy, we can make progress.
NOTE Confidence: 0.729286899

01:05:16.610 --> 01:05:18.848 Beyond where we stand right now,
NOTE Confidence: 0.729286899

01:05:18.850 --> 01:05:20.202 we need to build.
NOTE Confidence: 0.729286899

01:05:20.202 --> 01:05:22.633 The understanding of the brain and but
NOTE Confidence: 0.729286899

01:05:22.633 --> 01:05:24.957 not over interpret the brain because we
NOTE Confidence: 0.729286899

01:05:24.957 --> 01:05:27.746 need to have it the interpretations we
NOTE Confidence: 0.729286899

01:05:27.746 --> 01:05:29.959 develop have to go hand in hand right.
NOTE Confidence: 0.729286899

01:05:29.960 --> 01:05:31.390 We've got to understand something
NOTE Confidence: 0.729286899

01:05:31.390 --> 01:05:33.338 about the brain but we can't let
NOTE Confidence: 0.729286899

01:05:33.338 --> 01:05:35.193 the brain tell us what is conscious
NOTE Confidence: 0.729286899

01:05:35.193 --> 01:05:37.370 and that is not we verbal report
NOTE Confidence: 0.729286899

01:05:37.440 --> 01:05:39.728 is so good for that but again it's
NOTE Confidence: 0.729286899

01:05:39.728 --> 01:05:41.801 limited but we can make progress on

NOTE Confidence: 0.729286899

01:05:41.801 --> 01:05:43.945 that area now from the point of view

NOTE Confidence: 0.729286899

01:05:43.945 --> 01:05:45.590 of the clinician you know So what

NOTE Confidence: 0.729286899

01:05:45.646 --> 01:05:47.144 do we do well I think they're.

NOTE Confidence: 0.854633874545455

01:05:49.290 --> 01:05:51.156 You know, obviously you can't simply

NOTE Confidence: 0.854633874545455

01:05:51.156 --> 01:05:53.800 trust what the person says, right? But.

NOTE Confidence: 0.8870494025

01:05:55.950 --> 01:05:58.662 If the person, if you can tell if

NOTE Confidence: 0.8870494025

01:05:58.662 --> 01:06:01.390 the person is suffering and the

NOTE Confidence: 0.8870494025

01:06:01.390 --> 01:06:04.860 behavioral treatments are the you know.

NOTE Confidence: 0.8870494025

01:06:04.860 --> 01:06:05.628 Pharmaceutical treatments.

NOTE Confidence: 0.8870494025

01:06:05.628 --> 01:06:07.548 How are you treating the

NOTE Confidence: 0.8870494025

01:06:07.548 --> 01:06:09.429 person if they're not working?

NOTE Confidence: 0.8870494025

01:06:09.430 --> 01:06:11.036 The person is still suffering, right?

NOTE Confidence: 0.8870494025

01:06:11.036 --> 01:06:12.992 And maybe the reason they're still

NOTE Confidence: 0.8870494025

01:06:12.992 --> 01:06:14.908 suffering is because even if they

NOTE Confidence: 0.8870494025

01:06:14.908 --> 01:06:16.383 aren't telling you what's wrong,

NOTE Confidence: 0.8870494025

01:06:16.390 --> 01:06:20.625 they're suffering mentally in a way that.
NOTE Confidence: 0.8870494025

01:06:20.630 --> 01:06:23.240 Is more causal to their.
NOTE Confidence: 0.8870494025

01:06:23.240 --> 01:06:24.810 What's their overall experience and
NOTE Confidence: 0.8870494025

01:06:24.810 --> 01:06:26.740 what they're able to talk about?
NOTE Confidence: 0.8870494025

01:06:26.740 --> 01:06:29.044 Because, you know, again,
NOTE Confidence: 0.8870494025

01:06:29.044 --> 01:06:31.403 the preconscious cognitive states don't
NOTE Confidence: 0.8870494025

01:06:31.403 --> 01:06:34.210 all come to conscious and to consciousness.
NOTE Confidence: 0.8870494025

01:06:34.210 --> 01:06:36.790 So when I'm talking about consciousness,
NOTE Confidence: 0.8870494025

01:06:36.790 --> 01:06:39.686 I'm including all that pre conscious stuff as
NOTE Confidence: 0.8870494025

01:06:39.686 --> 01:06:42.879 part of the emotion part of the experience.
NOTE Confidence: 0.8870494025

01:06:42.880 --> 01:06:44.338 And it can't all come out.
NOTE Confidence: 0.8870494025

01:06:44.340 --> 01:06:46.839 Some of the will come out and
NOTE Confidence: 0.8870494025

01:06:46.839 --> 01:06:47.910 unconscious or conscious,
NOTE Confidence: 0.8870494025

01:06:47.910 --> 01:06:48.570 willful report.
NOTE Confidence: 0.8870494025

01:06:48.570 --> 01:06:51.575 But some of it is stuck in there and
NOTE Confidence: 0.8870494025

01:06:51.575 --> 01:06:54.176 you have to pull it out in other ways.

NOTE Confidence: 0.8870494025

01:06:54.180 --> 01:06:57.291 So the science and the clinic

NOTE Confidence: 0.8870494025

01:06:57.291 --> 01:06:59.517 don't always kind of you know

NOTE Confidence: 0.8870494025

01:06:59.520 --> 01:07:01.860 go hand in hand completely,

NOTE Confidence: 0.8870494025

01:07:01.860 --> 01:07:04.512 but I think they're they're probably some

NOTE Confidence: 0.8870494025

01:07:04.512 --> 01:07:07.116 things that are valuable what I'm trying

NOTE Confidence: 0.8870494025

01:07:07.116 --> 01:07:10.296 to say that could be helpful clinically.

NOTE Confidence: 0.8870494025

01:07:10.300 --> 01:07:11.950 For example, like,

NOTE Confidence: 0.8870494025

01:07:11.950 --> 01:07:14.700 take the whole psychedelic revolution.

NOTE Confidence: 0.8870494025

01:07:14.700 --> 01:07:17.660 Maybe what's going on there

NOTE Confidence: 0.8870494025

01:07:17.660 --> 01:07:20.620 is some borrowing from Kalina

NOTE Confidence: 0.8870494025

01:07:20.725 --> 01:07:23.530 Christoff work on all this?

NOTE Confidence: 0.8870494025

01:07:23.530 --> 01:07:27.238 Is the that the psychedelics are.

NOTE Confidence: 0.865246786666667

01:07:29.820 --> 01:07:32.868 Allowing you to have a a new higher

NOTE Confidence: 0.865246786666667

01:07:32.868 --> 01:07:34.755 order experience about who you

NOTE Confidence: 0.865246786666667

01:07:34.755 --> 01:07:36.993 are and what's going on, right?

NOTE Confidence: 0.865246786666667

01:07:36.993 --> 01:07:39.458 Because it's it's breaking down
NOTE Confidence: 0.865246786666667

01:07:39.458 --> 01:07:42.128 the rigid thought processes, right,
NOTE Confidence: 0.865246786666667

01:07:42.128 --> 01:07:45.618 and allowing novel thought process.
NOTE Confidence: 0.865246786666667

01:07:45.620 --> 01:07:47.678 And also, you know, mindfulness of
NOTE Confidence: 0.865246786666667

01:07:47.678 --> 01:07:50.179 course is about higher order States and
NOTE Confidence: 0.865246786666667

01:07:50.179 --> 01:07:52.303 the experiences that you have, right,
NOTE Confidence: 0.865246786666667

01:07:52.303 --> 01:07:54.774 and shutting down certain kinds of things.
NOTE Confidence: 0.865246786666667

01:07:54.780 --> 01:07:58.489 So I think that the. That we have.
NOTE Confidence: 0.899615133333333

01:08:00.670 --> 01:08:03.448 We need a broader perspective on.
NOTE Confidence: 0.899615133333333

01:08:03.450 --> 01:08:05.650 I can't explain how all these things work,
NOTE Confidence: 0.899615133333333

01:08:05.650 --> 01:08:07.792 obviously, but I think that the
NOTE Confidence: 0.899615133333333

01:08:07.792 --> 01:08:09.990 fact that the field is moving
NOTE Confidence: 0.899615133333333

01:08:09.990 --> 01:08:12.090 in this direction seems to be.
NOTE Confidence: 0.899615133333333

01:08:12.090 --> 01:08:13.510 Opening new avenues for
NOTE Confidence: 0.899615133333333

01:08:13.510 --> 01:08:14.930 thinking about this thing.
NOTE Confidence: 0.829221910909091

01:08:17.880 --> 01:08:18.708 I have a question,

NOTE Confidence: 0.829221910909091
01:08:18.708 --> 01:08:20.320 see if I can get this right.
NOTE Confidence: 0.829221910909091
01:08:20.320 --> 01:08:22.624 So as psychologists,
NOTE Confidence: 0.829221910909091
01:08:22.624 --> 01:08:25.696 psychiatrists we use questionnaires
NOTE Confidence: 0.829221910909091
01:08:25.700 --> 01:08:26.680 and if you think about it,
NOTE Confidence: 0.829221910909091
01:08:26.680 --> 01:08:28.909 each person interprets a
NOTE Confidence: 0.829221910909091
01:08:28.909 --> 01:08:29.956 liquor scale differently.
NOTE Confidence: 0.829221910909091
01:08:29.956 --> 01:08:31.701 They use their own semantic
NOTE Confidence: 0.829221910909091
01:08:31.701 --> 01:08:34.922 network to interpret item and then
NOTE Confidence: 0.829221910909091
01:08:34.922 --> 01:08:36.277 they fill out different items,
NOTE Confidence: 0.829221910909091
01:08:36.280 --> 01:08:37.580 they endorse different items.
NOTE Confidence: 0.829221910909091
01:08:37.580 --> 01:08:38.880 We sum those up,
NOTE Confidence: 0.829221910909091
01:08:38.880 --> 01:08:41.704 we have a number and we use that
NOTE Confidence: 0.829221910909091
01:08:41.710 --> 01:08:43.497 number to correlate with things and
NOTE Confidence: 0.829221910909091
01:08:43.497 --> 01:08:45.506 we usually do it after the fact.
NOTE Confidence: 0.829221910909091
01:08:45.510 --> 01:08:47.390 And some people use exemplar,
NOTE Confidence: 0.829221910909091

01:08:47.390 --> 01:08:49.280 they want to report my kids afraid of dogs,

NOTE Confidence: 0.829221910909091

01:08:49.280 --> 01:08:50.430 they think of an example, right.

NOTE Confidence: 0.829221910909091

01:08:50.430 --> 01:08:52.110 Something might just out in general,

NOTE Confidence: 0.829221910909091

01:08:52.110 --> 01:08:52.357 right.

NOTE Confidence: 0.829221910909091

01:08:52.357 --> 01:08:54.086 So all these things go into that

NOTE Confidence: 0.829221910909091

01:08:54.090 --> 01:08:55.836 subjective report and I worry that

NOTE Confidence: 0.829221910909091

01:08:55.836 --> 01:08:58.790 all we have known studies this right.

NOTE Confidence: 0.829221910909091

01:08:58.790 --> 01:09:00.030 And I just would like to hear your

NOTE Confidence: 0.857401358

01:09:00.040 --> 01:09:02.420 thoughts on it, I guess.

NOTE Confidence: 0.857401358

01:09:02.420 --> 01:09:05.234 I don't, I think that you know,

NOTE Confidence: 0.857401358

01:09:05.240 --> 01:09:07.406 you bring up an interesting thing

NOTE Confidence: 0.857401358

01:09:07.406 --> 01:09:09.939 which is the the use of metrics

NOTE Confidence: 0.857401358

01:09:09.940 --> 01:09:14.266 and I think that that's where.

NOTE Confidence: 0.857401358

01:09:14.270 --> 01:09:17.114 You know, obviously to.

NOTE Confidence: 0.857401358

01:09:17.114 --> 01:09:20.654 Be reimbursed for sessions and so forth.

NOTE Confidence: 0.857401358

01:09:20.654 --> 01:09:22.760 The patient has to be evaluated

NOTE Confidence: 0.857401358

01:09:22.830 --> 01:09:25.427 in in some metric way defined by

NOTE Confidence: 0.857401358

01:09:25.427 --> 01:09:27.221 the insurance companies, right?

NOTE Confidence: 0.857401358

01:09:27.221 --> 01:09:31.307 And because they want objective measurements.

NOTE Confidence: 0.857401358

01:09:31.310 --> 01:09:36.228 So. I think that we.

NOTE Confidence: 0.857401358

01:09:36.230 --> 01:09:37.686 That's part of where what I've met.

NOTE Confidence: 0.857401358

01:09:37.690 --> 01:09:40.218 But the middle has gone out of mental

NOTE Confidence: 0.857401358

01:09:40.218 --> 01:09:42.134 disorders because it's so much is

NOTE Confidence: 0.857401358

01:09:42.134 --> 01:09:43.664 based on the objective response.

NOTE Confidence: 0.857401358

01:09:43.670 --> 01:09:44.576 Now you know,

NOTE Confidence: 0.857401358

01:09:44.576 --> 01:09:46.568 I don't know enough about what

NOTE Confidence: 0.857401358

01:09:46.568 --> 01:09:48.958 people that what clinicians do

NOTE Confidence: 0.857401358

01:09:48.958 --> 01:09:51.370 with these Likert scales to really

NOTE Confidence: 0.857401358

01:09:51.370 --> 01:09:52.870 comment too much but So what

NOTE Confidence: 0.857401358

01:09:52.870 --> 01:09:54.455 what's the consequence of you're

NOTE Confidence: 0.857401358

01:09:54.455 --> 01:09:56.175 saying no consequence just done?

NOTE Confidence: 0.7567351733333333

01:09:57.530 --> 01:09:59.385 There's a lot of consequences
NOTE Confidence: 0.7567351733333333

01:09:59.385 --> 01:09:59.756 misinterpretation.
NOTE Confidence: 0.7567351733333333

01:09:59.760 --> 01:10:01.500 So remember back having a client
NOTE Confidence: 0.7567351733333333

01:10:01.500 --> 01:10:03.576 that came into clinic and the mom
NOTE Confidence: 0.7567351733333333

01:10:03.576 --> 01:10:05.292 was saying ohh she's really anxious.
NOTE Confidence: 0.7567351733333333

01:10:05.300 --> 01:10:09.170 You're anxious. And then we got
NOTE Confidence: 0.80864373

01:10:07.260 --> 01:10:09.160 into it. She yeah she she
NOTE Confidence: 0.800431732631579

01:10:09.170 --> 01:10:11.090 hits her brother and she you know and it was
NOTE Confidence: 0.800431732631579

01:10:11.140 --> 01:10:12.884 it was something it was driven by emotion
NOTE Confidence: 0.800431732631579

01:10:12.884 --> 01:10:14.752 and neighborhood reactive to anxiety.
NOTE Confidence: 0.800431732631579

01:10:14.752 --> 01:10:16.165 But it but it looks very different but
NOTE Confidence: 0.800431732631579

01:10:16.165 --> 01:10:17.658 the way she was using that language.
NOTE Confidence: 0.800431732631579

01:10:17.660 --> 01:10:21.800 There's that. Then there's. In our I just.
NOTE Confidence: 0.800431732631579

01:10:21.800 --> 01:10:23.638 I guess what I'm thinking is that the
NOTE Confidence: 0.800431732631579

01:10:23.638 --> 01:10:26.077 essence of a person's experience is is lost.
NOTE Confidence: 0.800431732631579

01:10:26.077 --> 01:10:29.060 But and and in all the ways that I described

NOTE Confidence: 0.800431732631579
01:10:29.060 --> 01:10:30.824 and I'm wondering if that short circuits
NOTE Confidence: 0.829697753333333
01:10:30.840 --> 01:10:34.488 are models, so I mean they.
NOTE Confidence: 0.829697753333333
01:10:34.490 --> 01:10:36.994 What I've been trying to say is that
NOTE Confidence: 0.829697753333333
01:10:36.994 --> 01:10:38.836 the experience is very complicated and
NOTE Confidence: 0.829697753333333
01:10:38.836 --> 01:10:41.370 that like sums a lot of information.
NOTE Confidence: 0.829697753333333
01:10:41.370 --> 01:10:42.594 So yeah, I think it's consistent
NOTE Confidence: 0.829697753333333
01:10:42.594 --> 01:10:43.410 with what you're saying.
NOTE Confidence: 0.829697753333333
01:10:43.410 --> 01:10:45.000 Can't partition it into little
NOTE Confidence: 0.829697753333333
01:10:45.000 --> 01:10:46.590 elements that that that are
NOTE Confidence: 0.829697753333333
01:10:46.648 --> 01:10:48.256 greater than the whole is greater
NOTE Confidence: 0.829697753333333
01:10:48.256 --> 01:10:50.240 than the sum of the parts. And
NOTE Confidence: 0.743272347142857
01:10:50.810 --> 01:10:52.966 I mean, I could vision we do.
NOTE Confidence: 0.743272347142857
01:10:52.970 --> 01:10:54.146 We see when when you assess a
NOTE Confidence: 0.743272347142857
01:10:54.146 --> 01:10:55.269 child from the parents perspective
NOTE Confidence: 0.743272347142857
01:10:55.269 --> 01:10:56.417 and the kids perspective,
NOTE Confidence: 0.743272347142857

01:10:56.420 --> 01:10:57.838 they have reports on different environments.
NOTE Confidence: 0.743272347142857

01:10:57.838 --> 01:10:58.654 Those don't correspond.
NOTE Confidence: 0.743272347142857

01:10:58.660 --> 01:10:59.974 But other examples could be would
NOTE Confidence: 0.743272347142857

01:10:59.974 --> 01:11:01.865 be good to know when someone filling
NOTE Confidence: 0.743272347142857

01:11:01.865 --> 01:11:03.440 out that questionnaire what what
NOTE Confidence: 0.743272347142857

01:11:03.440 --> 01:11:04.500 their semantic network looks like
NOTE Confidence: 0.743272347142857

01:11:04.500 --> 01:11:05.780 for the words that you've asked
NOTE Confidence: 0.785264901

01:11:05.790 --> 01:11:08.128 them about. And that may tell you
NOTE Confidence: 0.785264901

01:11:08.128 --> 01:11:09.790 something different about what those
NOTE Confidence: 0.785264901

01:11:09.790 --> 01:11:11.536 numbers mean when you use them to predict.
NOTE Confidence: 0.83515155

01:11:15.820 --> 01:11:16.250 George.
NOTE Confidence: 0.82649505

01:11:20.810 --> 01:11:23.628 I wonder if you. Ever
NOTE Confidence: 0.803681158333333

01:11:23.640 --> 01:11:24.972 had occasion sit down with Aaron
NOTE Confidence: 0.803681158333333

01:11:24.972 --> 01:11:27.640 Beck and had a conversation with him
NOTE Confidence: 0.803681158333333

01:11:27.640 --> 01:11:30.544 and and and the question is what you
NOTE Confidence: 0.803681158333333

01:11:30.544 --> 01:11:33.006 might bring from your research in

NOTE Confidence: 0.803681158333333

01:11:33.006 --> 01:11:35.496 terms of how you what suggestions

NOTE Confidence: 0.803681158333333

01:11:35.581 --> 01:11:38.040 you might have for CBT. In general,

NOTE Confidence: 0.779619317272727

01:11:38.150 --> 01:11:41.622 so I'm I collaborated quite a bit

NOTE Confidence: 0.779619317272727

01:11:41.622 --> 01:11:43.940 recently with Stefan Hoffman,

NOTE Confidence: 0.779619317272727

01:11:43.940 --> 01:11:46.166 who was very close to Beth.

NOTE Confidence: 0.779619317272727

01:11:46.170 --> 01:11:48.347 And we did have a meeting with

NOTE Confidence: 0.779619317272727

01:11:48.347 --> 01:11:49.698 him together a few years ago,

NOTE Confidence: 0.779619317272727

01:11:49.698 --> 01:11:52.300 but it was, you know, he was pretty.

NOTE Confidence: 0.779619317272727

01:11:52.300 --> 01:11:53.568 Getting on in age,

NOTE Confidence: 0.779619317272727

01:11:53.568 --> 01:11:55.913 so to speak and so we didn't get,

NOTE Confidence: 0.779619317272727

01:11:55.913 --> 01:11:57.670 I mean he was still relatively sharp,

NOTE Confidence: 0.779619317272727

01:11:57.670 --> 01:11:59.413 but we didn't get into a lot

NOTE Confidence: 0.779619317272727

01:11:59.413 --> 01:12:01.060 of the the details like.

NOTE Confidence: 0.779619317272727

01:12:01.060 --> 01:12:02.100 You know, in this paper,

NOTE Confidence: 0.779619317272727

01:12:02.100 --> 01:12:03.564 putting the middle back in the

NOTE Confidence: 0.779619317272727

01:12:03.564 --> 01:12:05.776 middle of this order stuff on has
NOTE Confidence: 0.779619317272727

01:12:05.776 --> 01:12:09.756 added some important ideas about.
NOTE Confidence: 0.779619317272727

01:12:09.760 --> 01:12:11.980 Early cognitive.
NOTE Confidence: 0.779619317272727

01:12:11.980 --> 01:12:14.668 Therapy, cognitive behavioral therapy
NOTE Confidence: 0.779619317272727

01:12:14.668 --> 01:12:18.752 was much more mental than contemporary
NOTE Confidence: 0.779619317272727

01:12:18.752 --> 01:12:20.840 cognitive behavioral therapy,
NOTE Confidence: 0.779619317272727

01:12:20.840 --> 01:12:23.408 again because of the kind of
NOTE Confidence: 0.779619317272727

01:12:23.408 --> 01:12:25.780 the objectifying of the things.
NOTE Confidence: 0.779619317272727

01:12:25.780 --> 01:12:29.450 That's about as far as I can say that the.
NOTE Confidence: 0.779619317272727

01:12:29.450 --> 01:12:30.926 You know, I think every course,
NOTE Confidence: 0.779619317272727

01:12:30.930 --> 01:12:32.138 every therapist wants their
NOTE Confidence: 0.779619317272727

01:12:32.138 --> 01:12:33.917 patient to feel better, right?
NOTE Confidence: 0.779619317272727

01:12:33.917 --> 01:12:37.886 To be better. But there's so many.
NOTE Confidence: 0.779619317272727

01:12:37.890 --> 01:12:40.284 As again, talking totally from the outside,
NOTE Confidence: 0.779619317272727

01:12:40.290 --> 01:12:41.178 there's so many.
NOTE Confidence: 0.84173188375

01:12:43.460 --> 01:12:46.260 Things that are dictated about how they

NOTE Confidence: 0.84173188375

01:12:46.260 --> 01:12:48.500 report and summarize what the what's

NOTE Confidence: 0.84173188375

01:12:48.500 --> 01:12:52.029 going on with the patient that I think.

NOTE Confidence: 0.84173188375

01:12:52.030 --> 01:12:54.924 It's it's hard for the memo to have

NOTE Confidence: 0.84173188375

01:12:54.924 --> 01:12:57.353 the role that I think it should.

NOTE Confidence: 0.84173188375

01:12:57.360 --> 01:12:58.440 Again, I'm not a therapist,

NOTE Confidence: 0.84173188375

01:12:58.440 --> 01:13:00.408 so you're looking skeptical.

NOTE Confidence: 0.86907573

01:13:03.180 --> 01:13:04.350 But please tell. I mean I

NOTE Confidence: 0.86907573

01:13:04.350 --> 01:13:05.550 want to learn so tell me.

NOTE Confidence: 0.807470306

01:13:12.070 --> 01:13:13.630 Well, it's a quarter after.

NOTE Confidence: 0.807470306

01:13:13.630 --> 01:13:14.295 I want to thank you all for

NOTE Confidence: 0.807470306

01:13:14.295 --> 01:13:14.999 coming and and and Doctor Leduc.