2019 - Origin Of Life: $10 Million Prize at the Royal Society

Where did life come from? Where did the genetic code come from? The Evolution 2.0 Prize offers $10 million to the first person to self-organise chemicals into code. At the Royal Society in Great Britain 31 May 2019, Perry Marshall tells the story behind the prize. Hosted by Oxford Professor Denis Noble FRS CBE. The discussion was facilitated and chaired by Dr Paul Flather, President of The Forum for Philosophy, based at the London School of Economics, and Fellow of Mansfield College, Oxford. Origin of Information is the central question in Origin Of Life ("Abiogenesis"). It's critical to evolution itself. It is the most fundamental scientific question that can be precisely defined. A breakthrough may be as valuable as Einstein's E=MC^2 or the invention of the transistor. Perry Marshall is author of "Evolution 2.0: Breaking the Deadlock Between Darwin and Design." Submit prize entries at http://www.naturalcode.org. Listen to the podcast, videos, blog and read sample chapters of "Evolution 2.0" at http://www.evo2.org.

Video transcript

00:00
[Music]
00:08
okay so welcome everybody good morning I
00:12
think this is a very special
00:14
I have this simple job which is simply
00:17
to welcome you introduce our main
00:20
speakers who will have the much more
00:22
complicated task of explaining why we
00:26
think this is a special moment and we do
00:29
think it's a special moment because
00:31
there is at the moment a fierce debate
00:35
about about evolutionary theory and we
00:39
think that we are in the middle of a
00:41
fairly significant and radical change so
00:46
that the theories that were so
00:47
brilliantly evoked by Charles Darwin and
00:50
then his very successors loosely termed
00:54
neo-darwinian is now on the challenge
00:58
again and I hope that our guests this
01:01

morning will be able to explain a little
01:02
bit about how this works and how
01:05
exciting this is for future thinking
01:09
about how our bodies work and maybe how
01:14
thinking and machines and future
01:17
inventions may be constructed as I say
01:22
this is in a sense complicated but
01:24
complicated in an interesting way and we
01:28
can only marvel at how as we understand
01:31
more and more about ourselves how
01:34
amazingly they have this power to
01:37
engineer change in a way that's way
01:41
beyond our current capacities for
01:44
understanding and even though people
01:46
tend to marvel so much about artificial
01:49
intelligence we're pretty convinced
01:52
aren't we that cells are far in a way
01:54
ahead of the game and the really
01:57
exciting thing I think this is what
01:58
we're going to be discussing this
01:59
morning is to see how we can further our
02:03
knowledge of the way the cells can
02:06
change and the direction it's not a
02:09
simple linear direction it's much more
02:11
randomized but nevertheless
02:13
randomized with with the purpose so I do
02:16
think this is an exciting moment and
02:17
thank you all for joining us this
02:19
morning so my job now is to introduce
02:22
our first speaker professor Dennis noble
02:25
who's a scientist extraordinaire we
02:28
regard him very much as our dear
02:31
friendly polymath
02:33
he's a physiologist he's a biologist
02:36
he's a philosopher he's a linguist
02:38
he's also an activist and I personally
02:41
got to know him best when he started a
02:44
campaign to save investment and research

02:48
in science the famous silent save
02:51
British science campaign in the 1980s he
02:54
first came to prominence with his work
02:57
inventing a model of the human heart
03:00
which eventually led to the introduction
03:04
and development of pacemakers which were
03:07
all familiar with so he's very much a
03:10
very much involved in these current
03:12
debates around the idea of systems
03:15
biology and he's expressed his ideas in
03:18
two wonderful books very easily readable
03:20
very accessible the music of life and
03:23
more recently danced to the tune of life
03:25
Dennis would you like to explain a
03:28
little bit more about the current
03:30
debates and what's what's happening now
03:33
the background to this prize which were
03:36
going to be announcing shortly yes thank
03:39
you Paul for that I'll be fairly brief
03:45
it seems to me that yes there is a lot
03:51
of discussion now about the fundamentals
03:54
of biology I I was involved just three
03:58
years ago in helping to organize one of
04:02
the rare joint meetings between the
04:05
Royal Society and the British Academy
04:07
which occurred three years ago in 2016
04:13
has been published in the Royal
04:15
Society's journal interface focus
04:19
and the articles in that issue which are
04:24
under the heading of new trends in
04:26
evolutionary biology biological
04:27
philosophical and social science
04:30
perspectives indicate what is going on
04:33
it was an absolutely fascinating meeting
04:35
and incidentally the huge hole here was
04:39
completely full they thought there was a
04:41
huge waiting list for people to come to
04:44

the meeting one of the people was
04:46
present was was Perry Marshall and I'll
04:48
come on to Perry in just a moment and to
04:50
the prize the next significant
04:54
development for me it was meeting up
04:56
with a remarkable
05:00
bacteriologist at Chicago University
05:02
James Shapiro who wrote this book
05:06
evolution of you from the 21st century
05:08
James Pierrot worked for a period in the
05:15
last century with Barbara McClintock and
05:18
some of you will know that major
05:20
discovery was of what we sometimes call
05:23
jumping genes the ability as she found
05:26
in chromosomes in corn for chunks of the
05:30
genome to move from one part of the
05:33
genome to another of course she wouldn't
05:36
have called at the genome in those days
05:37
it wasn't even known that it was DNA
05:39
that was the basis of the genetic
05:42
material and she received the Nobel
05:47
Prize for her discovery of what we are
05:51
now called mobile genetic elements in I
05:54
think it was 1983 at the age of about 81
06:00
Jim's book explains how that led in turn
06:06
to him questioning some of the
06:09
fundamentals of the way in which DNA is
06:12
interpreted
06:13
nobody incidentally and certainly not in
06:15
this room is challenging the importance
06:17
of DNA the importance of there being a
06:19
database there that enables cells to
06:23
pass on from one generation to another
06:26
the valuable information that is in DNA
06:29
I think what is common between
06:33
certainly some of us is that it's it's
06:37
that DNA is more controlled than it is
06:40
controlling that's the way I would put

06:42
it and that's exactly what Barbara
06:44
McClintock sought to in her Nobel Prize
06:47
lecture which was published in science
06:49
she said the the genome is an organ of
06:51
the cell which I think gets the idea of
06:54
causation the right way around and that
06:57
leads me to to Perry
06:59
now Perry you're you're extraordinary
07:02
you are a businessman you have a
07:07
reputation for marketing you have
07:11
bestsellers in books like 8020 sales and
07:17
marketing ultimate guide to Google
07:20
Adwords and industrial Ethernet but you
07:23
end up also publishing a book which has
07:26
a title not very different from James
07:29
Shapiro's the evolution 2.0 as he has it
07:33
as a view from the 21st century I read
07:37
his book very very carefully because I
07:39
found it initially a bit puzzling how
07:42
somebody like you with your background
07:44
admittedly with technological knowledge
07:48
starting off as an engineer you're right
07:50
but still I was intrigued to know to
07:55
what extent were you getting any of it
07:56
right and he does more or less because
08:00
what he writes is not very different in
08:03
terms of perspective from what I write
08:06
in my own books and so when Perry
08:08
approached me with the news that he had
08:11
a number of investors willing to put up
08:14
a major prize I was intrigued now why
08:18
should there be one as I see it
08:22
okay we're adding various processes to
08:26
the story of evolutionary biology
08:28
particularly these are controlled by
08:30
epigenetic factors and the fact that
08:34
material can go down via microsomes
08:37

to the germline and so on but it leaves
08:42
two things it seems to me then complete
08:45
the unexplained how did life get going
08:48
in the first place and what is the
08:51
origin of the genetic code and I would
08:55
regard those as the two very very big
08:58
questions for science today on how life
09:02
got going in the first place there are
09:05
people trying very hard Lee Cronin is a
09:08
good example in Glasgow to start with
09:11
simple chemistry in a in a dish to find
09:16
out how it could be that proteins might
09:19
have evolved from simple structures to
09:22
very much more complicated structures
09:24
but we're still a long long way away
09:26
from understanding how all of that could
09:28
come together in a cell and then
09:31
eventually developed a store which is
09:34
DNA I put it that way because I can't
09:37
see personally how DNA can have been
09:39
there at the beginning after all it
09:41
requires the cell to enable it to
09:44
reproduce it requires the cell also
09:47
incidentally to correct errors in that
09:49
reproduction replication process but
09:53
then then leads to the other big
09:55
question then as DNA evolved where did
10:02
the specific code these 3 nucleotides
10:07
mean if that's the right word this
10:09
particular amino acid where does that
10:11
come from because with TripIt code there
10:15
could be many possible ways in which you
10:17
could arrange that
10:18
so did it happen by the chance chemistry
10:22
being that it went one way rather than
10:24
another in which case there's no
10:26
explanation at all or is there some good
10:29
chemical reason why that code should be

10:33
as it is rather than anything else and
10:36
that would be important to questions
10:38
like if we find life on Mars or one of
10:42
the moons of Jupiter or ever
10:44
we might eventually find it in the solar
10:46
system will we find the code is the same
10:49
will we find that the code at all or
10:51
could it be that you've got organisms
10:54
that are essentially cells without DNA
10:56
not impossible incident
10:59
so I I agree with you Perry that it's
11:05
the biggest challenge that at the moment
11:07
we could say that biology faces I say
11:10
the biggest because you might think the
11:11
origin of life is even bigger in a sense
11:13
it is but I think this just conceivably
11:18
could yield to the way in which the
11:21
chemistry process enabled it to happen
11:25
in the first place I just somehow think
11:27
there has to be a reason why it is as it
11:29
is so when you ask me whether I'd be on
11:34
the judging panel for this I tell you my
11:37
first reaction was I don't know enough
11:40
and I think it was probably it's with
11:42
brass what I said exactly and I'm not
11:46
sure whether George Church at Harvard
11:50
said the same I hope not no good and
11:56
Michael ruse is it at yes at this
12:02
Florida State yes who is a philosopher
12:05
and incidentally just to reassure those
12:08
who might wonder whether there are any
12:11
sort of somewhat metaphysical questions
12:14
being involved here he's a card-carrying
12:17
atheist agnostic so at least we get
12:20
that one on the table we are a funny old
12:24
mix anyway I think the best thing now
12:28
Perry is you tell us why you decided to
12:32

launch the prize why is it as big as it
12:36
is and what how did you had where where
12:40
does all the funding come from here you
12:42
are there the questions over to you and
12:45
I'm sure you'll get even more difficult
12:46
questions from around the table
12:48
well good morning thank you it's an
12:50
honor to be here at the Royal Society
12:52
well so we're we're here raising
12:58
doubling the prize amount and it's the
13:01
first significant activity I've had here
13:04
in Europe discussing this and so I'm
13:07
just gonna tell you probably about first
13:10
ten minutes here I'm just
13:11
to give you the background and then
13:13
we'll do QA after that I'll have a
13:16
little word from Kevin ham here so this
13:19
story starts literally in this little
13:23
Chinese bus in western China where I
13:28
went to visit my brother in 2004 and my
13:32
brother was an English teacher who is
13:35
also working part-time as a missionary
13:37
in China and we had had been having
13:40
these discussions back and forth because
13:42
he was increasingly doubting the whole
13:46
religious thing writ large and so these
13:51
emails were going back and forth and we
13:52
were discussing and when I when I got
13:55
there I realized he's throwing this
13:57
whole thing out the window and we're
13:59
pastors kids so this is a bit of a shock
14:03
to my system a little bit of shock to
14:06
the family dynamics shall we say and so
14:10
I was feeling a little uncomfortable and
14:14
we got into this argument and I I would
14:18
say that I retreated to my comfort zone
14:20
which is engineering because Imanol and
14:22
I said Brian look at the hand at the end

14:27
of your arm I said this is a nice piece
14:30
of engineering I said you don't think
14:33
this is a collection of random accidents
14:35
do you he goes hold on and he just came
14:39
right back at me with a standard parry
14:41
all you need is random copying errors of
14:45
DNA and natural selection and millions
14:48
of years and you'll get a hand and you
14:50
don't need any engineering and now I
14:55
didn't really have a problem with
14:58
evolution per se but I never quite heard
15:01
it phrased that way I had always looked
15:06
at my hand and said there's there's
15:08
something very very intentional going on
15:10
here and he was challenging that and I
15:14
just you know in a few seconds inside my
15:18
own head I thought okay I already know
15:22
without pushing this argument any
15:23
further
15:24
there's a whole bunch of biologists that
15:26
would agree with him and not agree with
15:28
me and I know from what I've done so far
15:34
in my career and in school that there's
15:36
a lot of things in science that are very
15:39
counterintuitive and me you know what I
15:43
don't know so it's so like Perry why
15:46
don't you stop arguing with your brother
15:48
right now and it wasn't helping anyway
15:52
if you know what I mean you know we're
15:54
trying to have this Pleasant visit and
15:57
it's you know okay
15:59
and I just I made a decision when I get
16:04
home I am gonna get to the bottom of
16:07
this
16:07
he had already been dragging me with him
16:11
against my will anyway and I already had
16:14
this whole cloud of religious and
16:18

philosophical questions and I said you
16:20
know what I'm an engineer I know how to
16:23
read a scientific paper
16:25
I'm scientifically literate I'm gonna go
16:28
home and I'm gonna let science make this
16:30
decision for me and you know my belief
16:33
system could completely change and
16:35
that's terrifying but you know what here
16:39
we go and I just leaped into the void
16:41
and that's how this started well so
16:45
what's about to follow is a story of
16:50
transforming what started as a
16:52
philosophical and religious question and
16:55
turning it into an engineering question
16:57
and then eventually turning it into a
17:00
prize okay and so I went home and I
17:04
started obsessively reading and buying
17:08
books and I'm an entrepreneur and if you
17:11
know entrepreneurs they're all
17:12
obsessive-compulsive kind of people and
17:14
they just probably scientist are too I
17:16
imagine but I I just started buying
17:20
books and going to websites and
17:23
voraciously digesting things from all
17:26
parts of the spectrum everything I could
17:28
get my hands on so so here's what here's
17:32
what I discovered
17:35
I wrote well for a while I floundered
17:41
helplessly I was I was just inundated
17:47
with information and I couldn't make
17:51
sense of it and I couldn't figure out
17:53
like what's the starting point with us
17:55
and which facts do you put first in
17:58
which facts do you put second well one
18:00
day I I was trying to understand DNA
18:04
genetic mutations the genetic code and I
18:08
suddenly had this flash of recognition
18:10
and here's what it was I had written

18:14
this book industrial Ethernet which for
18:18
a major Society of process control
18:20
engineers and if any of you have trouble
18:22
sleeping tonight this may help but it
18:30
actually turned out to be kind of
18:32
fascinating how all the ones and zeros
18:34
go on a wire and how ingenious all of it
18:37
is and I was studying DNA and mutations
18:42
and all of that and I said I was like
18:43
wait a minute I've seen all of this
18:47
before I know what this is now the
18:51
diagram on the screen shows the the
18:56
dissection of an Ethernet packet on the
18:59
top and on the bottom transcription and
19:04
translation of DNA and you can see just
19:09
graphically how similar they are
19:14
mathematically they're identical its
19:17
encoding and decoding it is a
19:19
communication system there's an encoder
19:23
a message and a decoder and all of a
19:28
sudden I had all of these familiar
19:32
things that I could attach all of this
19:34
to I'm like okay I can start with us I
19:38
understand genetics genetics is digital
19:41
communication
19:42
I understand digital communication
19:44
because I wrote an Ethernet book
19:46
suddenly in a whole bunch of things like
19:51
like a whole bunch of suspicions also
19:56
came along which took two or three years
19:59
to later confirm it but it all just fell
20:02
into place the ABCs of a communication
20:06
system is that you have an input that
20:09
goes into an encoder it gets turned into
20:13
a message and then it gets decoded so I
20:16
send you a text message it gets encoded
20:19
on my phone it gets turned into ones and
20:22

zeroes and it comes into your phone
20:23
through Wi-Fi or what have you and you
20:26
read the message and if what was put in
20:29
corresponds properly to what came out
20:32
then communication has successfully
20:35
happened on the left here is part of an
20:39
ASCII table one zero zero zero zero one
20:42
is a capital A and one zero zero zero
20:45
one zero is a capital B and in DNA AAA
20:49
is lysine and GGG is glycine and so if
20:54
you have an in code or message in a
20:56
decoder in a table you have a
20:59
communication system and that's exactly
21:00
what you know it's in every biology book
21:03
known to me and as I started to explore
21:06
this I I came to this realization that
21:12
there's a million codes 999,999 of them
21:19
designed and then there's when we don't
21:23
know where it came from and it's DNA now
21:27
what I told Dennis when we we talked on
21:30
the phone after the Royal Society
21:32
meeting two and a half years ago I said
21:36
to Dennis ten years ago when I was sort
21:40
of in the beginning of this you could
21:42
have pegged me as a card-carrying
21:45
intelligent design guy based on exactly
21:49
what I just told you it's like well to
21:51
an engineer this looks totally designed
21:54
but there were there were there were a
21:57
couple of things that caused me to shift
22:01
my position to be very much in concert
22:04
with what Dennis and people like James
22:08
Shapiro and others espouse was maybe
22:13
we'll get into this later it's kind of
22:15
up to you I got very fascinated with
22:18
evolution itself and when I discovered
22:21
Barbara McClintock my inner geek just
22:24
went crazy

22:26
because she discovered that corn plants
22:30
cut splice edit and reengineer their own
22:33
DNA in real time into an engineer who
22:38
was tempted to be a creationist I
22:40
suddenly saw it was like a whole
22:44
universe opened up I'm like oh this is
22:48
way way more interesting than anything
22:53
I've been told so far now this was in
22:57
probably 2006 that he discovered Barbara
23:00
McClintock but it took me two years of
23:02
reading and researching it before
23:04
actually found this I'm like why is it
23:06
this front page news and so I became
23:11
immensely fascinated with evolution
23:14
itself this is like this is the greatest
23:17
engineering problem ever and neither of
23:21
the camps so to speak are doing it
23:23
justice
23:25
well and then you get to the origin of
23:28
life in the origin of code and it would
23:31
be easy it would be easy to just
23:36
abdicate to a divine explanation but I
23:40
suspect that there are some principles
23:42
here that science has not figured out I
23:45
still believe in God but I don't like
23:48
God of the gaps arguments I think they
23:51
routinely fail and and we're trying to
23:55
get past this and so so here's how the
23:58
prize works if you can produce a
24:01
self-organizing digital communication
24:03
system will write you a check for
24:04
$100,000 and there are no other strings
24:08
attached the first person that shows up
24:10
who has done this they get a check but
24:13
if your process is patentable the
24:17
natural code LLC will fund the patent
24:19
and pay you ten million dollars for the
24:22

rights for it and partner you into the
24:24
company so that you participate in the
24:27
profits as it grows because I think this
24:30
would be extremely valuable intellectual
24:33
property I actually think I think that
24:37
origin of life evolution itself AI and
24:43
maybe consciousness are really the same
24:46
single problem not for problems and I
24:50
think an answer to this question of how
24:54
do you get from chemicals to code would
24:56
unlock the door to all of those problems
24:59
that's what I suspect I don't know that
25:01
that's true but that's what I suspect
25:03
okay why a prize one information is the
25:09
central question in biology where does
25:11
the information come from how is the
25:13
information processed how is information
25:16
from you know one species to the next in
25:20
an evolutionary process how is that
25:22
information actually generated number
25:25
two
25:26
computer programs don't write themselves
25:29
that cells do
25:32
das did not evolve into Windows by
25:35
itself but bugs evolved into superbugs
25:38
in 30 minutes so there's something
25:41
there's something that people in the
25:43
software world don't understand at all
25:45
number three
25:50
Alexa and Siri understand every word you
25:55
say and they have no idea what you mean
25:58
your dog doesn't understand a single
26:01
word you say but your dog knows what you
26:02
mean
26:03
there's a fundamental difference between
26:06
biology and human technology and I think
26:09
this would bridge that gap number four a
26:12
solution to this will revolutionize

26:14
technology and medicine for reasons that
26:19
should be obvious but I think we can
26:21
talk about in the QA and and fifth in
26:25
the this is one of the reasons I wanted
26:26
to have this meeting last summer I had a
26:28
long conversation with George Church
26:31
he's Godfather of modern genetics you
26:34
could say and we talked about the risks
26:38
and the dangers of gene editing and
26:39
CRISPR we can edit DNA as easily as
26:43
inserting a picture into a blog post and
26:45
you can buy a gene editing kit on Amazon
26:48
for 169 US dollars with free shipping
26:51
okay and I think that this information
26:57
question has not been treated seriously
26:59
enough there's not enough journals about
27:02
it there's not enough books about it
27:04
most people are dealing with this as a
27:06
chemistry problem
27:07
I think it's an information problem and
27:10
if we don't take this information
27:13
problem seriously enough I think we're
27:15
gonna make some very big mistakes and we
27:18
won't be able to put the toothpaste back
27:20
in the tube and I hope that we can talk
27:22
about that today so judges
27:25
George Church from Harvard and MIT
27:27
everybody in genetics knows who he is
27:31
incredibly prolific 130 43 patent apps
27:36
fascinating guy next Judge Dennis Nobel
27:41
from Oxford first to come on board needs
27:44
no introduction here Michael ruse from
27:47
Florida State University the the
27:49
president of Hero X who hosts our prize
27:52
said Perry you're a Christian and people
27:56
are automatically going to think this is
27:57
like some kind of Veidt or no
27:59

intelligent design publicity stunt can
28:01
you
28:01
like get an atheist on your panel let me
28:06
see what I can do yeah so we got Michael
28:08
ruse
28:09
I love Michael he's a hilarious guy he's
28:12
also very friendly he's he's not
28:15
combative he's been involved in many
28:18
debates and discussions about science
28:20
and religion he's been in some of the
28:23
creation trials as an expert witness in
28:25
the United States you all know how
28:27
different the United States landscape is
28:30
with this question than than Europe so
28:33
he came on board so I have these judges
28:35
and at natural code.org we have the
28:38
whole prize description it redirects to
28:41
the hero X website we have a 10 million
28:44
dollar prize and and I I don't well I
28:50
just I I think we needed a substantial
28:53
sum of money to pinpoint the importance
28:56
of this question so okay thank you very
28:59
much Perry so just to reiterate what
29:01
we're announcing today is that the prize
29:04
is now 10 million dollars and that's
29:07
that's completely new and a huge
29:11
increase from previous thinking about it
29:14
it's the first time Perry that you've
29:16
talked about this prize beyond America
29:19
so this is in a sense trying to turn the
29:22
prize into a global prize and the third
29:26
key element is that you've realized that
29:29
this prize is is beyond chemistry and
29:33
biology and engineering it's really
29:35
about information which is central to
29:38
the way that we we operate in society
29:40
and in terms of our body so these are
29:43
the the major announcements this morning

29:47
in in the world society in this very
29:49
special conference room I think this is
29:52
the most fundamental insight question in
29:54
science that can be precisely defined
29:56
well thank you very much now we're going
29:59
to open it up to questions but before I
30:01
do we're going to bring in a close
30:03
colleague of yours Kevin Ham who's
30:05
kindly joined us from in this morning
30:08
- is perspective on this my name is
30:11
Kevin Ham I'm from Vancouver Canada and
30:14
I flew in for this occasion and the
30:18
announcement of the 10 million XPrize
30:21
I'm one of the investors and I just
30:23
wanted to give you a background story of
30:26
how I came into it which leads me to my
30:29
childhood when I was 14 I was skating
30:34
around on a shrink by suppertime I could
30:37
barely bring my spoon to my mouth by
30:40
dinnertime I could barely walk I ended
30:43
up in a Children's Hospital admitted for
30:47
autoimmune disease while I lay in bed
30:50
for the next few weeks I wondered if I
30:54
was gonna live and if I did I decided I
30:59
was gonna be a doctor so that was kind
31:01
of like my mission in life at 16 I
31:05
started studying reading the Bible I
31:07
came to believe there was God I did a
31:11
Bachelor of Science in biochemistry and
31:14
then I got into med school finished med
31:18
school became a family doctor at age 30
31:21
while I was in my medical residency I
31:24
saw 40 patients a day 10 minutes per
31:28
patient and I just thought it was like a
31:30
factory and so I thought you know what I
31:32
don't want to do this like a business so
31:34
I I knew that the internet was going to
31:39

be a revolutionary medium greater than
31:43
any media revolution that we've
31:46
experienced in history so I decided to
31:49
create an internet business so I did
31:52
that it started making more money in one
31:54
month than I did the whole year in
31:55
residency and so I thought I'd do that
31:59
for about six more months and then go
32:01
back to medicine
32:03
but I haven't gone back to medicine I'm
32:05
still doing business
32:06
I met Perry in 2016 about three years
32:11
ago and we were having dinner and I went
32:14
to meet him because of his 8020 book and
32:17
his his book talked about 8020 being
32:21
fractal and so there's a 80/20 inside of
32:25
80/20 and that fascinated me and it
32:27
totally changed the way I thought about
32:29
business about life about everything
32:31
actually so we were having dinner and
32:34
then he started telling me about this
32:36
book that he wrote and it had written
32:37
evolution 2.0 and not fascinated me
32:42
after our five-hour dinner I put my hand
32:46
out and I said I'm in I want to be
32:50
involved in this prize and he told me it
32:53
he was trying to get investors at a
32:55
million dollars in so I said I'm in I
32:59
was number I was the fifth investor and
33:02
then we started having these annual
33:04
meetings we had our first one in Hawaii
33:07
our second one in Napa Valley and our
33:10
third one's going to be in Iceland the
33:12
summer and so now the number of
33:15
investors are double at 10:00 and so it
33:18
creates this very eclectic unique group
33:22
of people from all walks of life and so
33:27
that that's that's pretty exciting part

33:30
of the thing that I got from this was
33:33
that makes a lot of sense what Perry
33:35
just described that yeah this this
33:38
genetic code you know all of us with 23
33:42
pairs of chromosomes multiplies and then
33:45
it differentiates into all these
33:48
diversified cells that become tissues
33:52
and organs and
33:54
you know billions of unique beings and
33:58
species and all all even with the same
34:04
code you get different expressions of
34:06
beings even with twins and triplets and
34:08
so forth based on the external factors
34:11
internal factors and that's that's just
34:14
so amazing and then I thought why isn't
34:17
this being taught in school like I never
34:20
heard of anything like this before so
34:24
and I was like carry this this needs to
34:27
be in the schools like it needs to be
34:30
introduced and just this how peer and I
34:35
was thinking how is Perry who's a
34:37
collision ear able to understand explain
34:43
DNA and genetics better than I can
34:46
understand it and I I love the stuff I
34:49
studied it I wanted to support this to
34:53
get the information out into a broader
34:55
arena and obviously the 10
34:58
million-dollar prize might be incentive
35:01
for people a little bit more incentive
35:04
than just like I don't know like I don't
35:08
know how much you win in a Nobel Prize
35:09
but it's it's less than that this is a
35:14
wonderful challenge for us thank you
35:15
Kevin thank you
35:16
[Music]
35:27
you
35:29
you