

Re: NS and AaD curves

Source: <http://sci.tech--archive.net/Archive/sci.bio.evolution/2005-10/msg00247.html>

- *From:* "g" <gillawton@xxxxxxxxxxxxxx>
 - *Date:* Sat, 8 Oct 2005 13:52:16 -0400 (EDT)
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"William Morse" <wdmorse@xxxxxxxxxxxxxx> wrote in message
[news:dhvmlg\\$1s58\\$1@xxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:dhvmlg$1s58$1@xxxxxxxxxxxxxxxxxxxxxxxxxxxx)

> "g" <gillawton@xxxxxxxxxxxxxx> wrote in
> [news:dhl5i4\\$rbbs\\$1@xxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:dhl5i4$rbbs$1@xxxxxxxxxxxxxxxxxxxxxxxxxxxx):

>
>

>> "Anon." <bob.ohara@xxxxxxxxxxxxxxxxxxxxxx> wrote in message
>> [news:dhha73\\$29c1\\$1@xxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:dhha73$29c1$1@xxxxxxxxxxxxxxxxxxxxxxxxxxxx)

>>> That would be a change in the environment: fitness is defined to be
>>> specific to an environment. If the environment changes, so does
>>> fitness.

>> Something's missing here, because the ratio of Bs to bs is conserved
>> -- unless there is another rule (or several more rules) in the
>> ontology.

>> Let me write down statements, as you give them to me, so I can arrive
>> at the meaning of 'fitness'. I am not arguing here -- just trying to
>> understand the ontology:

>> Statement One -- Fitness is the mathematical odds of a gene's being
>> passed on from a parent to an offspring.

> No, fitness is the expected odds of an offspring with a given gene
> surviving, given the expected environment. As Bob noted, fitness is
> specific to an environment. Which means you should rethink the following
> statement:

>> Based upon this statement, invironment would have no impact at all.
>> What subsumptive statement or statements might I add that would
>> account for any change in ratio of Bs to bs to change?

>>> Let's say that
>>>> some psychoneurotic guy lives in cave in a swamp, because of some
>>>> genetic coding that renders him anti-social, and he does not get

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>>>> infected. Let's suppose that, after the pandemic has passed, and
>>>> our swamp hermit has a sufficient libido to venture out of the swamp
>>>> and rape a few of the pandemic-surviving females, and a few children
>>>> result, and a few inherit the
>>>> gene or genes that assured
>>>> survival in his anecdotal case. That gene, or those genes,
>>>> survived. Right? Survival of the fittest. Right?

>

>

>>> No. Luck. You're still assuming that fitness measures the actual
>>> number of offspring. This isn't right.

>

>> No. That did not occur to me. The offspring of the dead victims of
>> the pandemic, after it has run its course is a null set. Hence, I am
>> thinking only of who gets to pass any gene along thence forward.

>

> I think a point you may be missing is that there are two components to
> evolution, what I might call the "mathematical" (expected) and the
> "historical" (contingent). As an illustration, mammals that eat ants and
> termites have evolved several times: anteaters, aardvarks, pangolins,
> echidnas, and numbats. They share many features : long snouts, powerful
> front claws, sticky tongues. So in an environment which contains ants or
> termites, a generic "anteater" will be a fit organism, and some of its
> features are predictable, i.e. mathematical. But which particular
> anteater evolved where is contingent: the echidna in Gondwana, the numbat
> in Australia, the aardvark in Africa, the anteater in South America, the
> pangolin in Laurasia. They are similar but not identical, and the reasons
> for their differences are probably more historical than mathematical,
> i.e. "luck" played a role.

>

>

> Yours,

>

> Bill Morse

What you say here makes perfect sense to me. But my issue is with the meaning of "fitness" or "survival of the fittest" as indicative of, or inclusive in, its context. What I am "missing" is not the distinction between statistical odds of an occurrence, nor the play-out (where random 'results' within the limits of those odds cannot be predicted and will form a different sequence each time a finite series of "runs" transpires).

Let me lay this out in an informal logic form:

If we were to define "run" to mean a set of n number of "plays." for which there are y number of variables, we cannot predict to a greater accuracy that one out of millions and millions what the sequence of any given run will be.

(Example:

Let a play be one spin of a roulette wheel (customary casino procedure)

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Let one run be fifty plays
The roulette wheel has (I forget... 36 numbers plus zero
and double zero = 38?)
(Actual numbers not essential to point being communicated
here)

As we can readily see, the odds of our predicting a given sequence, say, 32,
46, 2, 11, 0, 5... etc. is
astronomically remote... and I do mean ASTRONOMICALLY remote.

On any given return (assuming 38 pockets for the ball to enter) is one in
28.

Okay, so we make a run and get a sequence.

>>From the Monday morning quarterback position, we know EXACTLY what that
sequence was going to
be.

Now... applying that back to evolution:

Even from the Monday morning quarterback position we do not know the results
of every play, nor how many runs have transpired (each "play" being one
reproduction event... without regard to a species).

With each "play" we know that there were limits (for example, we know that
an amoeba was not likely to divide into a rabbit and a giraffe, but yet had
some limited ability to divide in such a way that the "copy" did not turn
out EXACTLY like the original. And, of course, as this led to complexity,
there still is
decreasing likelihood of an identical replication or offspring.
Nevertheless, elephants have very little likelihood of conceiving and giving
birth to an iguana. So we have both the element of chance, and limits as to
what that chance entails.

What is a mystery to me is why you would suspect I do not understand these
concepts on the grounds that
I have disclosed to you that I do not see what "fitness" nor "survival of
the fittest" means in such a context.

What a WEIRD choice of words to describe it !

It makes about as much sense to me as if someone were to tell me that the
process of propelling one's body in water is an example of robbing a train.
I ask, "What does robbing a train have to do with what I would call
'swimming,' and the response begins with.

Nobody seems to understand that I am asking for the conceptual CONNECTIONS
between "fitness," and/or "survival of the fittest," and the differences
between ad hoc predictions as to a single "play" and posteriori examinations
of an open-ended run (i.e., a run that cannot be repeated) and remains in

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progress through time of this writing.

The generic meaning Darwin assigned to "fitness" lay in a competition in which the best form/function won. But a definition having to do with statistical likelihood and the play-out of a run strikes me as total nonsense.

I am listening. My mind is open. But nobody has connected the term to the application.

It is as if someone were to say to me that the term "train robbery" applies to propelling one's body through water by use of the arms and legs (something I would call 'swimming')... and then I would ask that person -- how do you get that meaning out of it?

And that person were to reply, "Gil, what you do not seem to understand is... that outlaws rode quarter horses and carried six-shooters."

g

• *References:*

- ◆ *Re: NS and AaD curves*

- ◇ *From:* g

- ◆ *Re: NS and AaD curves*

- ◇ *From:* William Morse

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