

Re: Wynne-Edwards (was Homosexuality)

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- *From:* "John Edser" <edser@xxxxxxxxxx>
 - *Date:* Sun, 29 Jan 2006 13:13:46 -0500 (EST)
-

Guy Hoelzer hoelzer@xxxxxxx wrote:-

> > PART TWO:-

> >> I agree that every level of selection, such as the individual
> organisms, must
> >> have a phenotype (including the trait of fitness) that is a non-
> additive
> >> result of single gene influences.

> > JE:-

> > Do you agree that "the trait of fitness" as measured at the gene level
> is
> > always dependent on another level and is therefore not an independent
> > fitness?

> No. I have tried to convey to you that I do not see
> dependence/independence
> as a black and white issue.

JE:-

You did convey this. The problem was is it made no sense to me. The reason why is this: If you allow "dependence/independence" to be complimentary and not contradictory (it cannot be both) it becomes impossible to distinguish mono-centricity from poly-centricity. What is even worse than a false distinction is no distinction at all allowing ambiguity. Since any one biological form is composed of more than one type of part, it follows that each part type can represent a valid level of selection. Consider the supposed "gene level". Not one, but a minimal set of DNA/RNA codons are required as any valid genetic instruction to produce just one polypeptide where almost entirely, one gene must code for more than one polypeptide. How many levels of selection exist even here? If they are regarded to be dependent levels then no problem arises as to how to separate just a mono-centric proposition from a poly-centric proposition. In the more simple dependent case poly-levels form one nested set of fitnesses (one Russian Doll Set or RDS). It can be proposed that only the most outer RDS set actually matters. This is because any inner sets are finally selected at just the most outer set level. In this situation I propose that whatever

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selection does at each these nested level must compliment what it does at the most outer level simply because selection at any inner level remains _dependent_ and not _independent_ of the last, and therefore final level. A nested set of fitnesses behaves just like one mono-centric level for this reason. The mathematically based expression "non additive" verifies this model. Multiplication is the processing of _nested_ sets (which are not intersecting sets) where this processing is only interested in the number of elements. While $3*2$ and $2*3$ give the same answer for number of elements it does so in two entirely _contradictory_ ways which remain of major concern to evolutionary theory. Either 3 is nested within 2 OR 2 is nested within 3. It cannot be both. To illustrate: either you have 2 books of 3 stamps OR 3 books of 2 stamps. As far as multiplication is concerned they are exactly the same because the number of stamps (elements) which is 6, remains the same. To the biologist they are not at all the same because one nested set type can be selected over the other. To reproduce a larger number of more complex forms or a smaller number of less complex forms is always one of the biggest problems nature has to solve. If you entirely intersect 3 sets of 2 or 2 sets of 3 you also get 6 in the intersection in both cases. Here it is always perfectly clear that you have either 2 OR 3 _independent_ sets. The difference between a nested set of 6 and an intersecting set of 6 is the difference between "non additive" and "additive" which sits at the very heart of evolutionary theory and the models derived from theory. The Darwinian mono-centric theory describes each fitness independent organism as just one nested set of dependent fitness where increasing the number of nested sets increases complexity.

- > IMHO, no two things or processes in the
- > universe are 100% absolutely independent.

JE:-

That may well be. Popper's point was: it matters _not_ if you are right or wrong just: can what you and others propose be tested? If so, what constitutes a valid test and what should you test firstly has to be answered clearly and unambiguously otherwise science is reduced to an opinion which is inefficiently tested. Every opinion is as valid as any other. In this situation, those with more political clout get to enforce their opinion and dictate what nature is.

- > The entire universe is
- > connected.
- > IMHO the issue is whether something is sufficiently independent that it
- > takes control through self-organization. When I say that two different
- > levels of biological organization serve as levels of selection, I mean
- > that
- > I think fitnesses at those levels are sufficiently independent.

JE:-

Unless you define "dependent" to be contradictory to "independent" you can explain away anything you prefer without fear of refutation simply because

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no contradiction now exists to challenge it.

>>> I'm not

>>> sure what you mean by the "fitness of a trait" when you so emphatically

>>> insist that fitness can only be a quality attributable to whole

> organisms.

>> JE:-

>> Empirically, fitness is indeed just "a quality attributable to whole

>> organisms". This does not mean that a useful simplified model of fitness

>> cannot heuristically refer to the fitness of just a single trait. I was

>> referring to the common gene centric heuristic model of the fitness of a

>> single trait where I absolutely insist that this model never be misused,

>> i.e. replace the theory from which it was simplified. The theory the

> model

>> was simplified from only attributes a heritable fitness to be a quality

>> attributable to one fertile organism.

> Thanks for clarifying. I am familiar and comfortable with that

> abstraction.

JE:-

But you have not made it perfectly clear what in your opinion distinguishes a theory from a model. Unless you can do so you are allowing yourself to switch between either at will reducing the argument you were "comfortable with" to just ambiguity and subsequent misuse.

> Unfortunately, I have a different problem with the concept of a trait that

> I

> find harder to put aside. IMHO, what we call traits are almost always

> figments of our imagination. In other words, I don't think the traits we

> usually talk about exist as entities or agents.

JE:-

I would put that more concisely: a trait is a dependent entity which is just a heuristic simplification of nature. Any dependent fitness level is not an empirical level of fitness, just a useful heuristic level of fitness that has to be assumed in order to tackle the complexity of the problem. The big danger is such heuristic assumptions tend to become so familiar to those that work with them they fail to distinguish them as such and misuse them.

> Is having hair a trait,

> or

> is each hair a trait? You can't have it both ways.

JE:-

If one is a nested set of the other providing a minimum of two contradictory explanations then it makes sense. In this case, if each hair is a nested set of hairs then each hair becomes dependently selected at just the one hair

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level of selection. In this case this will be verified if the fitness of each hair is not just additive within the hair trait. Note: not a single polygenetic fitness has ever been documented in nature.

>snip<

> >>>> Indeed, I see that normally cooperative behavior of reproductive
> agents
> >>>> below the level of the individual (e.g., genes, cells) as evidence
> that
> >>>> selection at higher levels can result in the domestication of agents
> at
> >>>> lower levels.

> > JE:–
> > If the fitness of a lower level has become "domesticated" does this mean
> > that this fitness has been selected to be lowered via selection
> operating at
> > a fitness level above it?

> I wouldn't say that "the fitness of a lower level has become
> 'domesticated'". I would say that the lower level itself had become
> domesticated.

JE:–
Evolutionary theory deals in fitness. If fitness had not become
"domesticated" then domestication is not proven.

> I do not see this as lowering the mean fitness at the lower
> level.

JE:–
It may or may not do so. It can be seen to do so in just the immediate relative sense which is all gene centric Neo Darwinistic evolutionary theorists seem to want to employ, e.g. Hamilton's Rule where the total fitness of the actor is deleted. Cheek cells die off quickly and nerve cells drastically curtail their reproduction, apparently for the sake of the body as a whole. This does not prove that the TOTAL fitness per cheek cell per cheek cell population has been reduced which is the only finite and constant measure of fitness that is possible. Unless this measure is obtained it becomes impossible to determine if cheek or nerve cells are dependent (altruistic) or independent (mutualistic) in fitness to the body as one whole.

> On the contrary, it can result in raising the mean fitness at the
> lower level. I suspect, for example, that the mean fitness of cattle was
> raised by domestication, despite the routine killing and castration of
> individuals. I see domestication as always involving protection and

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> nurturing.

JE:-

The conundrum is: the more we sell and eat domesticated cattle the greater their numbers. From a cattle eye view they have domesticated us re: their reproduction which is all nature cares about. The reality is the relationship is mutual which I argue is the case for any evolved relationship between independent selectees in one population. Note that unless you measure the total reproduction of the cattle in one population you can never know if this is or is not the case. Also, unless you allow the distinction between dependent and independent fitnesses these reproductive totals become reduced to be non definitive.

>snip<

>>> No multi-unit theory has ever been proposed? I don't even know where
> to
>>> begin. This is a shocking claim given so many years of discussion on
> this
>>> topic.

>> JE:-

>> Yes, it is a shocking claim but I will continue to make it until it is
>> refuted as the scientific method requires. Please outline the available
>> rationale for just a bi-level theory where:
>>
>> 1) The two levels are independent.
>>
>> 2) The two levels are dependent.

> Try reading Stan Salthe's book on Development and Evolution in which he
> explains his notion of hierarchy theory.

JE:-

Hierarchy is simply not sufficient to distinguish between fitness independence and fitness dependence as contradictions which empirically (excluding "insilico"), is what they actually are. I put it to you that unless the distinction between dependent and independent fitnesses is recognized as a contradictory and not just complimentary "anything goes" in evolutionary theory (it is reduced to irrefutability).

>>>> I also take law-making and policing in human societies, along with
> putative
>>>> examples of such in non-human societies, as evidence of the same
> process in
>>>> which individual organisms become domesticated by top-down effects.

>>>> JE:- Yes but these events can easily be explained as the fitness
>>>> interdependency that has always existed within groups of successful

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> >>>> Darwinian selectees. All it requires is mutualised selection operating
> at
> >>>> just the one fertile organism level and not at so called "multi-
> levels".

> > JE:-
> > Please provide a comment.

> It does not require the limitation that selection operates only at the
> individual level.

JE:-

Yes it does, that was my point. Interdependency excludes dependent associations. This needs to be addressed and not just ignored within any non biased discussion. Note that it is easier to test what I have proposed to refutation than to test what you have proposed. If the total gains to each independent entity increases but not necessarily equally then "individual organisms become domesticated by top-down effects" for their mutual benefit where this argument is entirely mono-centric.

>snip<

> >>>> Occam's razor cannot validly delete anything. It cannot validly be
> used as
> >>>> anything other than a default guideline in the absence of
> contradictory
> >>>> evidence or logic.

> >>>> JE:- Your procedure is not correct. If two or more competing theories
> >>>> provide the same verifications then the less complex of them is
> >>>> firstly
> >>>> assumed and not the others simply because there is absolutely no point
> >>>> in
> >>>> attempting to explain things in a way that is more complex than is
> >>>> absolutely necessary because it costs more to test a more complex idea
> >>>> to
> >>>> refutation than just a simple one. Reason and efficiency require the
> >>>> more
> >>>> simple idea to be tested to refutation firstly, i.e. before
> >>>> attempting to
> >>>> test more complex ideas because nobody has infinite resources.
> >>>> However,
> >>>> since you reject the necessity of refutation none of this matters to
> >>>> you. Is
> >>>> this the reason you reject Occam's Razor?

> > JE:-
> > Please provide an answer.

> I don't reject Occam's razor. I just think it is the weakest possible

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- > reason to prefer any particular explanation, and I don't think it applies
- > at
- > all to the order in which alternative hypotheses should be tested.

JE:-

The "order in which alternative hypotheses should be tested" is the result of applying the razor.

<http://pespmc1.vub.ac.be/OCCAMRAZ.html>

Quote from the above:

"Occam's razor helps us to "shave off" those concepts, variables or constructs that are not really needed to explain the phenomenon. By doing that, developing the model will become much easier, and there is less chance of introducing inconsistencies, ambiguities and redundancies."

Note that only variables can so deleted. Deleting constants changes the proposition entirely and may reverse cause and effect e.g. Hamilton's Rule where altruism cannot be distinguished from selfishness because the total fitness of the actor was deleted.

- > >>>>> JE:- Fitness can only be a reproductive measure per selectee per
- > >>>>> population. It is one thing to argue that a selectee reduces its own
- > >>>>> reproductive fitness for the benefit of the others but quite another
- > to
- > >>>>> argue that each selectee reproduces to a maximum while at the same
- > time
- > >>>>> benefiting all the others.

> >>>> OK.

> >>> JE:-

> >>> So how would you separate these events within nature?

> > JE:-

> > Please provide an answer.

- > I suppose it could be done experimentally by artificially holding some
- > aspects of the problem constant.

JE:-

Yes, I proposed that over 3 years ago! If the total number of fertile forms are held constant within one natural population then I argue that all Darwinian natural selection must become halted while this equality is maintained only leaving random process like mutation and sampling error to effect change (allowing them to be tested to non verification in a controlled test). I argue that the fertile organism part of the biological cycle, i.e. from fertile egg to fertile organism meta-populations is the

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only part that works. Holding the total number of fertile and infertile forms to remain constant would not halt Darwinian natural selection and neither would holding the reproduction of populations from parent populations into one metapopulation (group selection). I consider this the only definitive test to refutation of the Darwinian mono-centric theory.

When I first posted it to sbe I thought that the professionals that post here would be sufficiently interested to discuss it. They just preferred to evade it. They also prefer to evade Waddington's Post Neo-Darwinian paradigm which I posted in the thread "Waddington's Revision of Haldane". How can science progress if key facts and theories remain evaded?

>snip<

> >>>> While I am glad to see you using the slime mold paper I sent you in
> your
> >>>> argument, I am not convinced by the interpretation of results you
> have
> >>>> advocated.

> >>>> JE:-

> >>>> Ok. How do you explain their results?

> > JE:-

> > Please provide an answer.

> This thread has gone on so long, and interspersed comments so complicated,
> that I have lost track of your original claim based on this paper. I'm
> afraid you will have to repeat it for me to answer.

JE:-

I claim their results can be explained in the simplest possible way: each cell obtained a mutualised but not necessarily equal fitness advantage (which is just the mono-centric explanation) which however ALWAYS comes at a price (no free lunches). In this case the price was a 1/3 risk that each cell forms the stalk wherein it does not reproduce at all. However, taking this considerable risk was cheaper per cell than not taking it because spore formation with an elevated stalk to distribute the spores from drastically reduced the fitness per cell. Cheating was selected against using epistasis (as they discovered) only because the cost of cheating exceeded the gains in cheating at just a mono-centric cell level (in this case each cell is one Darwinian selectee). If the stalk is reduced in height to become just a little below the optimum via cheating then all the cells that reproduced, which of course included any cheaters, suffered a fitness loss. At some point this loss becomes greater than the gains to the cheaters so cheating became selected against using the documented epistatic events which enforced non cheating.

> >> My point was not about onus at all. It was about logic.

> > JE:-

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>> But it was logic which placed the onus on you because (I repeat) it
> remains
>> "pointless and wasteful to explain anything in a way that is more
>> complicated that it needs to be".

> Then I think the onus is on you, because I am arguing that selection works
> the same way whenever there is heritability of fitness.

JE:-

You left out: " ..whenever there is heritability of fitness " at
multilevels.

> You are the one
> saying there is something different when heritability of fitness exists at
> levels other than the individual, so your claim is less simple than mine.

JE:-

I claim that just the one independent level empirically exists so that my
proposition is: " ..whenever there is heritability of fitness " at just a
mono-centric level.

Since my proposition is much easier to test than yours it is required to be
tested firstly as a result of Occam's Razor. Therefore the onus is on you to
establish why a multi level proposition should be assumed and tested BEFORE
the Darwinian mono-centric level.

Regards,

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• *Follow-Ups:*

◆ *Re: Wynne-Edwards (was Homosexuality)*

◇ *From:* Guy Hoelzer

- Prev by Date: *Forward from ATP (OOL)*
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