

## Re: A fully developed creature can evolve?

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- *From:* "g" <[gillawton@xxxxxxxxxxxxxx](mailto:gillawton@xxxxxxxxxxxxxx)>
  - *Date:* Thu, 22 Sep 2005 17:25:07 -0400 (EDT)
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"Anon." <[bob.ohara@xxxxxxxxxxxxxx](mailto:bob.ohara@xxxxxxxxxxxxxx)> wrote in message  
[news:dg84u0\\$2grd\\$1@xxxxxxxxxxxxxx](mailto:news:dg84u0$2grd$1@xxxxxxxxxxxxxx)  
>g wrote:  
>> "Perplexed in Peoria" <[jimmenegay@xxxxxxxxxxxxxx](mailto:jimmenegay@xxxxxxxxxxxxxx)> wrote in message  
>> [news:dfv7s3\\$2g9d\\$1@xxxxxxxxxxxxxx](mailto:news:dfv7s3$2g9d$1@xxxxxxxxxxxxxx)  
>>  
>>>"Artificer" <[eliezerfigueroa@xxxxxxxxxx](mailto:eliezerfigueroa@xxxxxxxxxx)> wrote in message  
>>>[news:dftqi4\\$20bh\\$1@xxxxxxxxxxxxxx](mailto:news:dftqi4$20bh$1@xxxxxxxxxxxxxx)  
>> The resulting DNA change went to all his offspring and has been passed  
>> from  
>> them to all their offspring,  
>  
> All? Only half (give or take) of his offspring, so probably slightly  
> more than a quarter of theirs.

Corrective (and counter-balancing) information welcome, as always. I am not persuaded that either of our estimates is precise, but the nature of the issue is not dependent upon such precision here. Thank you for the input.

>  
>> etc., every generation since. The altered allele (an allele is a code  
>> sequence in the DNA that influences certain protein foldings in such a  
>> way  
>> as to result in observable traits) was in a zone which impacts  
>> pulmonary auto-immune function. It was recessive (meaning that unless a  
>> descendant got it from both parents, it did not get expressed).  
>>  
>> Despite the fact there was not the sophistication we have today about  
>> DNA,  
>> researchers were able to trace back to find a common relative, and to  
>> work  
>> out mathematically where the gene came from. (Just hitting the high  
>> points  
>> here.)  
>>  
>> It is important to understand that, in a population there can be  
>> thousands  
>> of people who share a common relative. This is not speculative. It is  
>> established fact. Lots and lots of Finns are third, fourth, fifth,

## Re: A fully developed creature can evolve?

- >> sixth...
- >> cousins, due to the fact the country was relatively stable for many, many
- >> generations.
- >>
- > And also that Kusta Vaasa wanted to keep the Russians out of Finland, so
- > he persuaded the Finns to move into central and eastern Finland. That
- > created a bottleneck, through which several genetic diseases squeezed.
- > I would have thought that any inbreeding after that was more a result of
- > the economics: the Finns were mainly farmers and woodsmen, and the
- > country isn't heavily industrialised (Nokia used to be based around
- > supplying the timber industry: indeed, they still make rubber boots).

Helpful. Thank you. The main thrust, however, is that a valuable gene pool for study has resulted from a combination of factors geographical, political, economic, social... and the world benefits from these people's gene pool, much to the credit of their pride and openness concerning it. Much gratitude is owed to them for their wonderful cooperation with researchers.

- >
- > THE stability meant that there are some good historical records, which
- > are being used by several groups in Finland to look at evolution of
- > pre-industrial human populations.
- >
- >> Because of this, genetic counseling is given to most young couples before
- >> they marry. The likelihood is very much higher there, that one or more
- >> genetic abnormalities will occur there, because the statistical
- >> likelihood
- >> of a couple's BOTH having the recessive gene for the particular trait
- >> traced
- >> back to the individual mentioned above, passed on by the one individual
- >> mentioned above, or both having some OTHER pairing of a set of some of
- >> the
- >> more than fifty known "bad" recessive genes common in the population of
- >> Finland, is extraordinarily high there.
- >>
- > I thought 50 was too high: it's actually about 35:
- > <<http://www.hus.fi/default.asp?path=59:404:4024:4582&print=1>>

Correction is welcome and appreciated. Elsewhere I read an estimation that there are only something like 80-something well-documented ones in the world, so even 35 within so small a geographical area is of much importance to research. Would welcome any further input as to the global estimate from you, as well. Thank you.

- >
- > The Finns seem quite proud of their genetic heritage. And one of the
- > great things about working here is that they are very good scientists,
- > so they can utilise their heritage.
- >
- >> More attention is given by medical and anthropological genetic
- >> researchers

Re: A fully developed creature can evolve?

## Re: A fully developed creature can evolve?

>> to "bad" genes than to "advantageous" genes.  
>>  
>> Hopefully that will not always be true, but so far, where there is money  
>> for  
>> devoting to research, it has seemed more important to find out why people  
>> with certain alleles tend to die young of cardio-vascular problems, or  
>> have  
>> type one, or type two, diabetes, or be born with kidneys that will fail  
>> early in life, or are mentally retarded... than to seek to identify  
>> alleles  
>> that result in, say, genius-level IQ, or who are superstar athletes, or  
>> who  
>> go through adolescence with no zits.  
>>  
>> I don't know if this answers your question. It is aimed only at giving  
>> you  
>> a glimpse of what goes on with  
>> mutations.  
>>  
>> In the case of three hundred years or so in Finland, the "beneficial"  
>> mutations may not seem to explain much about how populations can  
>> accumulate  
>> changes — good, bad or indifferent. Multiply that by a million years,  
>> and  
>> you begin to get a feel for how changes can add to changes which add to  
>> changes... giving advantages to some and disadvantages to others and  
>> how...  
>> over millions of years... these take on increasing significance.  
>>  
> But the Finns are exceptional (in many ways), and over time the genetic  
> diseases should work themselves out of the population. And any  
> beneficial mutations will have changed in frequency to roughly the same  
> extent.  
>  
> With a population that is extensively sub-structured, natural selection  
> may not have enough of an effect to be able to purge bad alleles. I  
> mention this partly because a couple of the good empirical work showing  
> this was done in Finland: on butterflies and Daphnia.  
>  
> Bob

Bob,

Let us hope that the work you reference, on butterflies and Daphnia, together with future work, perhaps, on gene-modified laboratory animals (chimeras), might obviate the necessity of experimenting on human subjects. And let us hope that governmental policy-makers will be wise and scientifically literate and open-minded in putting restraints on research. And, too — given sufficient latitude to progress toward solutions — let us hope that researchers will be totally alert to risks, and very wise and very cautious in their work, and will conform to highest standards of morality,

Re: A fully developed creature can evolve?

## Re: A fully developed creature can evolve?

and will minimize suffering of non-human species (and chimeras derived from them).

The genetic modification of mouse DNA by insertion of genes that 'mimic' the human immune system has enabled research on immune and auto-immune disorders that could not have been so productively performed, in good conscience, on human subjects.

In my reading, I have sensed a preponderant focus on efforts to try to learn about DNA and RNA, by means of "reverse engineering," where possible, and something akin to "Monday morning quarterbacking," wherever reverse engineering leads to a chasm. My gut feeling is that there are limits to reverse engineering, brought about by the "loss" of some data. For all that has been conserved in cross-species axons, I believe it is accurate to say that some links in a chain going back to the origin of the first 'living' thing, have been snipped.

As with the history of anything, loss or destruction of evidence is a factor. In some instances historians (in cooperation with members of other scientific disciplines) are even now discovering physical artifacts that fill in some gaps; but never... never... are there enough artifacts to fill all the gaps. Also, there has been some deliberate tampering with history, as Napoleon intimated in saying, "History is a collection of lies agreed to."

(Some of those lies have been discovered to be lies, and have been corrected, I suspect, but not all.)

But it seems only reasonable that there would be... must be... missing artifacts in our chromosomal connections to the past, where we are forced to guess where to go from there. A friend of mine has spent literally thousands of hours trying to trace back his own geneology. A mere three generations back, however, he is confronted with two prospective ancestors, both having the exact same name and living in the exact same town, but ascertained to have been different men (mention was made of their having been personally acquainted, and not kin to each other, to their knowledge). My friend has spent many futile hours in trying to ascertain which was his ancestor (or 'closer' ancestor).

But let me get back to the main thrust here: IF governmental controls do not, in the future, inhibit the development of laboratory chimeras containing certain genes in the global human gene pool that we would be better off without ... and IF researchers can produce chimeras to carry, one-by-one, some of the 'undesirable' genes we have alluded to here... and IF efficient vectors can, by trial and error, be screened for finding those posing least risk(\*), hopefully... hopefully... ways can be found that have not yet been found, for altering the pathogenic genes in humans.

If it is true that there always will be individuals ignorant of, and uncooperative with, such things as immunizations against epidemic diseases, it does not seem likely there EVER would be ubiquitous cooperation among humans with any program (however painless, however economically feasible, no matter how conscionable, and no matter how available to any and all) if one

Re: A fully developed creature can evolve?

## Re: A fully developed creature can evolve?

were designed that could genetically modify individuals to block, neutralize, remove ... undesirable genes.

Assuming all the filters (including animal rights objectors) which would tend to prevent or delay the furtherance of scientific 'knowledge' of gene-purging issues and solutions (including ignorance of political policy makers) risk minimalist thinking, ...or other, the work would face both predictable and unforeseen risks. We dare not, for example, have human-related chimeras \_EVER\_ escape and breed outside laboratory control. We dare not have a self-replicable viral, or viral-type, vector be introduced outside the laboratory. Much care must be taken to assure that any vector, successful or unsuccessful toward achieving any gene modification in a chimera, be incapable of reproducing itself, and be totally disposed of after it has done its targeted job, lest it become modified in the chimera. Or, let me say in all humility, that this is my perception, based upon random reading and much concerned thought on some of the issues involved.

Programmed post-utility apoptosis of vectors might prove feasible as a risk deterrant. Also, of great interest is the prospect that nano-robotic vectors could be designed in such a way as to self-destruct, or to be eliminated after snipping a 'bad' gene.

In any event, my personal convictions on the efficacy of any reliance upon abortion is beyond my ability to view as a therapy for treating a gene pool — almost as objectionable as eugenics. (No, I am not taking any stance on abortion here, please. I am very conflicted over it and have not firm stance to offer.) But never have I been willing to condone any 'solution' involving either of these two as a 'curative' procedure. I have much confidence that science, in the right hands, and given sufficient latitude to do the necessary research, can and — at some future time — SHALL find far less objectionable alternatives.

The confidence I feel, in this regard, derives in part from my viewing of history as having consisted of change, along with reluctance to change. But — no matter how long or efficiently new knowledge is resisted — it seems to 'out,' eventually.

No researcher, and not governmental policy maker, should be ignorant, we should hope, of the Hobbesian concept of power, and "knowledge" a manifestation of power. All knowledge has the potential to be used destructively, as well as constructively. But the optimistic side of that as (I think it was John Stuart Mill) put it, "Those capable of the greatest evil are also capable of the greatest good." The one does not come without the other.

In the past few centuries, as science has begun to evolve knowledge (hence control over) enormous power potentials (including nuclear fission and, also, including how to use toxic agents and biological agents as weapons of mass bio-destruction, there have been those who have said, "We must not go there," and have opposed research, and those who have argued with them that,

Re: A fully developed creature can evolve?

Re: A fully developed creature can evolve?

"If we do not, then our enemy will." There is, in an impirical sense, I submit (with no intent to present it as original) impirical validity in an assertion that the knowledge of good IS the knowledge of evil (and this, with NO metaphysical overtone attaching, whatsoever.)

One risk that arises out of any progress in our knowledge of genes, gene modification and, especially perhaps, the engineering of self-replicable viral vectors, is that some psychotic or terrorist individual or group might get hold of them. However, it does not seem to me that any solutions to burgeoning problems of humanity should be constrained to prevent its misuse, less all learning come to a halt, as a result.

I do hope further experimentation with human-gene-carrying chimeras and gene-modifying vectors will be permitted, and do yearn for them to proffer gentle and kind solutions to the current presence of pathological genes in the human gene pool. And I do hope it is within the capacity of the controlling leaders of us (or the majority of us, if they be one and the same) to use the knowledge to be gained from that pursuit wisely.

All the above is offered with much respect for all, and out of a desire for correction and value-adding information from any who might insert further poignant information, or offer constructive correction in a courteous and productive way.

g

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> Journal of Negative Results – EEB: [www.jnr-eeb.org](http://www.jnr-eeb.org)  
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Re: A fully developed creature can evolve?

• **References:**

◆ ***A fully developed creature can evolve?***

◇ *From:* Artificer

◆ ***Re: A fully developed creature can evolve?***

◇ *From:* Perplexed in Peoria

◆ ***Re: A fully developed creature can evolve?***

◇ *From:* g

◆ ***Re: A fully developed creature can evolve?***

◇ *From:* Anon.

• Prev by Date: ***Re: A FUNDAMENTAL ISSUE***

• Next by Date: ***Re: A FUNDAMENTAL ISSUE***

• Previous by thread: ***Re: A fully developed creature can evolve?***

• Next by thread: ***The Ancient Conflict Between Tribal Beliefs and Non Tribal Theories***

• Index(es):

◆ ***Date***

◆ ***Thread***