

Re: Is the AAH a legitimate hypothesis? Of course it is.

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From: Algis Kuliukas (algis_at_RiverApes.com)

Date: 01/10/05

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Rich Travsky wrote:

> *Algis Kuliukas wrote:*

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> > *But Rich, if the water wasn't replenished (easily or otherwise) they'd*

> > *die.*

> > *In the days before human technology invented ways of carrying water,*

> > *they couldn't have lived more than a few kms from a reliable source of*

> > *fresh water.*

>

> *There are peoples who have and are doing just that without carrying water*

> *around with them. Some good points from a post of Jim Moore's back in 1995:*

>

>

> <http://www.google.ca/groups?selm=60.4336.7295.0N1FF1B7%40canrem.com&output=g>

> ...

> *You are also making an assumption which is unsupported by reality;*

> *that an environment which is quite dry has no drinking water*

> *available anywhere, when in fact we can see, from humans, and*

> *chimpanzees for that matter, that environments which are in fact*

> *dry and hot can have sufficient drinking water. This is true even*

> *when drinking water is not carried (for instance, !Kung and*

> *Australian aborigines often do not carry drinking water even in*

> *extremely hot and dry environments). However, sources of drinking*

> *water can be and are carried even by chimpanzees. Our ancestors*

> *could certainly have done the same.*

>

> *"The Tongo chimpanzees dig for large, water-filled roots*

> *(*Clematis*),*

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> *which they carry and share like a bottle (Lanjouw, pers. com.)*

These

- > *inventive practices are clearly responses to the lack of permanent*
- > *water" (Wrangham et al., 1994:9, *Chimpanzee Cultures* Edited by*
- > *Richard W. Wrangham, W. C. McGrew, Frans B.M. de Waal, and Paul G.*
- > *Heltne, with assistance from Linda A. Marquardt. Cambridge, Mass.*
- > *and London, England: Harvard University Press).*
- > ...
- >
- > *There are savanna chimps. Don't forget Pruettz' work.*

I do not dispute that in extreme circumstances humans, indeed apes, can come up with ingenious ways of finding water. It just seems to be a form of special pleading that such a water-wasteful mechanism as evaporative sweat cooling would have evolved based on such a doubtful foundation.

- > > *Sweat cools by movement of air over it. If we were going to cool off*
- > > *by*
- > > *going into water we wouldn't need such an evaporative effect,*
- would
- > > *we?*
- > >
- > > *Duh. You go for a dip to cool down and then when you get out of the*
- > > *water, after your skin has dried you might sweat a bit. When you*
- get
- > > *thirsty you go for another dip and have drink. Easy. Why have you*
- got
- > > *to pretend it's so difficult?*
- >
- > *Why did you ignore what I asked? What do you think the sweat was in*
- > *response to?*
- >
- > *Sweat cools by movement of air over it. If we were going to cool off*
- > *by going into water we *wouldn't need* such an evaporative effect,*
- would
- > *we?*

Of course we would, because I am assuming that our ancestors lived by the water's edge, not *in* the water. Our views are not so far apart, Rich. I expect humans often did wander away from water sources. I have never claimed that they were not terrestrial, have I? I'm just arguing that sweat cooling makes most sense when posited as a thermoregulatory mechanism to supplant that gained from going for a dip.

- > *You're also ignoring that predators find water sources great palces*
- > *to hunt and it's amusing to think they'll just go off for a dip at*
- the
- > *drop of a hat. Other animals recognise the threat*

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- > <http://www.comozooconservatory.org/zoo/zebra.html>
- > ...
- > *Mothers do not take their young with them to waterholes.*
- > ...
- >
- > *so what makes you think these early hominids would also be stupid about the dangers at water sources?*

Exactly. That's one reason why sweat cooling would act as a great adjunct to going for a dip. If the river's got crocs in there, we'll sweat it out for an hour until we've thrown in some rocks to scare them off, otherwise we're in for a dip.

Don't you see? You're arguing for an extreme position: The water was so dangerous no one would ever go for a dip and humans would be so clever they'd find water anywhere anyway, therefore sweat cooling must have evolved **away** from water sources.

I'm arguing for a common sense position: The best way to get cool is to go for a dip. If that's not possible because we've wandered away from the river, or we think there might be a croc lurking there, we can sweat to keep cool for a short time, but we'd better keep close to the water's edge to get a drink or have a dip when we get the chance.

[..]

- > > *The whole paper was actually called 'Fat an Figures.' the bit you*
- > > *snipped was just a side–topic box.*
- > > *Here's a passage from it:*
- > > *[...snip trivia]*
- > > *Note those figures on typical adiposity of primates (even living fairly*
- > > *sedentary lives) and humans.*
- >
- > *Which changes nothing. "not an aquatic ape". No "special evolutionary forces".*

Pick the words out that support your pre–conceived notion if you like. But Pond's clearly reporting that humans are fatter than apes. The question is: Why? You don't even want to accept it's a valid question.

[snipped again – why keep doing this, Rich?]

- > *This shows that getting fat is dependent upon the same factors that other creatures get fat from: availability, activity levels, and for humans*
- > *there's the added cultural factor (which actually ties into availability).*

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Humans have a propensity for greater adiposity than almost all other mammals (aquatics excepted.)

What about human infants? They're not fat because of exposure to over-eating. They're *born* fat. Why should that be?

> > > *It's extremely doubtful one can appeal to an aquatic to explain away*

> > > *these social and cultural factors.*

> >

> > *All human groups, even those not exposed to a phase of agriculture, > > have a tendency to put on weight very rapidly. At the ASHB conference I*

> > *attended a talk by one of the world's leading experts on this, Prof S*

> > *Ulijaszek, who was arguing for the same thing, but of course his*

> > *explanation for it was very different. He said it was our evolution in*

> > *very harsh habitats (code for savannah, I think) that led us to have a*

> > *specific predisposition for getting fat quickly for energy storage.*

> >

> > *Now, do you think he's wrong about that? Or, if the explanation is the*

>

> *No.*

>

> > *savannah as opposed to anything mentioning the dreaded 'a' factor, is it*

> > *somehow suddenly ok?*

>

> *Hominids *walked* across the Africa (australopiths are found from > southern Africa to Chad) unless you think they swam or waded. There would've*

> *been areas of little to no food so fat deposits would've been an aid...*

So you accept that humans *are* fatter than other primates after all! Funny. I thought a moment ago you were arguing against the idea. Funny how the explanation of the trait has such a profound affect on your willingness to accept that the trait even exists. If I argue for an aquatic explanation, you try to deny that there even *is* a difference to explain. Once the savannah explanation is invoked – all's fine and dandy, 'we're fat, of course we are!'

> > > *There is some flesh between the thumb and first finger. This is not*

> > *webbing.*

> >

> > *So, it's flesh, is it? Funny, on me it's just skin. But flesh sounds*

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> > *less like webbing so let's use that word instead, right? Whatever it*
> > *is, we have more of it there than chimps do.*
>
> *You need to look at the hand and its muscles:*

>
<http://www.vh.org/adult/provider/anatomy/atlasofanatomy/plate13/06palmarlh.html>
>
> *That ain't skin. It's for our grip.*

Nice image, thanks. Look, when I pinch the flap of skin between my thumb and index finger of my left hand with my right, I can feel about 5mm of skin. I'm sure some people have more and some people have less. Similarly there's a small flap of skin between each individual finger. I note that chimps tend not to have anything like as much. Clearly, we couldn't have much more skin there or our grip would be impeded and we are largely terrestrial mammals with complex use of our hands. But... we can also swim, so there's some kind of evolutionary compromise that's obviously been going on there.

> > > *That's a desperate stretch of the imagination especially when one*
> > *considers*
> > > *a chimp's palm is relatively bigger and would consequently make a*
> > *better*
> > > *paddle.*

> >
> > *A chimp is arboreal so one would expect it to have big, strong hands.*

> > *They're not as flexible as ours, though. They can't rotate their*
> > *metacarpals to make their hands into a cup shape.*

>
> *They can't?*

>
>

<http://ipsapp008.kluweronline.com/IPS/content/ext/x/J/6671/I/26/A/3/abstract.htm#>

> *ETHOLOGICAL STUDY OF MANUAL LATERALITY IN THE CHIMPANZEES OF THE MAHALE MOUNTAINS,*

> *TANZANIA*

> *Behaviour*

> *138 (3): 329–358, March 1 2001*

>

> *From the pdf*

>

>

<http://ipsapp008.kluweronline.com/IPS/content/ext/x/J/6671/I/26/A/3/type/PDF/article.htm>

> ...

> *8 of 9 individuals were statistically significantly Right-preferent in drinking water from*

> *a moat using the cupped hand*

> ...

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>

>

> *The article referenced at*

>

>

>

> <http://taylorandfrancis.metapress.com/app/home/contribution.asp?wasp=hb5lqpmvx12t2qmlhg71&referrer=parent&ba>

>

> *(which I don't have access to) is also supposed to have mention of cupped hands usage.*

>

>

> <http://library.primate.wisc.edu/collections/avkidvid.html>

> ...

> *VT0479 Animals and Me: Eating*

> ...

> *Children's video exams the eating habits of elephants, bears and chimpanzees. The 8*

> *minute segment on chimpanzees (Pan troglodytes) shows tree climbing, drinking water*

> *with cupped hand, parenting, play, grooming, aggression and reconciliation.*

> ...

>

>

>

> *And monkeys can do it too:*

>

> <http://www.nal.usda.gov/awic/pubs/primates/4n3kelly.htm>

> ...

> *When we injected the gum into a wide, circular depression on one of the feeders,*

> *both species of tamarins were observed using their cupped hand to scoop up the gum*

> *and eat it. This is the same method used in the wild to obtain rainwater from the*

> *cups of bromelids.*

> ...

>

> *And you can find references to gorillas using cupped hands (as in chest beating).*

>

> *Or perhaps you're using a different definition of cupped hands from the rest of*

> *the world...*

That's very good Rich. Thanks for you efforts in correcting me. Until I can read all these papers in detail, I stand corrected on the ability for chimps to cup their hands.

I was going on a tutorial we had on Marke's (2000) paper about the evolution of hominid hands. I was sure Leslie Aiello had said that the ability to rotate the metacarpals was a distinctly human trait, but

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clearly I was wrong.

Marzke, Mary W; Marzke, R F (2000). Evolution of the human hand: approaches to acquiring, analysing and interpreting the anatomical evidence. Journal of Anatomy Vol:197 Pages:121-140

... but they still can't swim as well as we do!

> > > > > [...]

> > > *Considering what poor swimmers we are...*

> >

> > *Compared to a chimp, we're rather good.*

>

> *We're better at dancing and gymnastics too. What's special about swimming?*

Swimming is one of the standard modes of animal locomotion through one of the basic substrates on the planet.

Dancing and gymnastics, and riding bicycles and playing musical instruments are cultural phenomenon.

[.. snipped (conceded lost) argument about chimp hands being unable to be cupped like human hands are]

> > > > > [...]

> > > *Happens to be a very good argument. Sexual selection can be a very*

> > > *powerful factor. But you might wish to couple that with this*

> >

> > *Yes, when you have some sexual dimorphism, like with peacock tails.*

> > *Not, though, with noses.*

>

> *Why not?*

Because human males don't have huge noses like proboscis monkeys. When there's little sexual dimorphism it's hard to justify it's anything to do with sexual selection. It's just special pleading.

> > >

> >

http://nmhm.washingtondc.museum/collections/hdac/Chimpanzee_Tree_Comparative.htm

> > >

> > > *Chimp embryos. Check out the noses...almost human like, eh?*

> >

> > *Nice images thanks, but what's this got to do with this debate?*

>

> *Preference for neotenous features. Notice also the lack of supraorbitals and the*

> *rounder head and the less prognathic face.*

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Fine, but adult chimps don't look like that. I don't see the point of your argument here.

[..]

> > > *It doesn't matter because whatever miniscule effect that MIGHT*

> > *provide*

> > > *is more than negated by the broad none streamlines head...*

> >

> > *Then why do boats, even those that are very broad, have pointed bows?*

>

> *Uh, we're talking about heads here. Why aren't our heads shaped with pointed*

> *bows? They're not. They're broad and flattish.*

The 'sagittal keel' is a characteristic of some He heads, I believe. But if you're swimming with your face pointing forwards, somewhat, it's predominantly the nose that acts like a bow.

[..]

> > > *I save this part: what about the BEARD on males? Oops.*

> >

> > *Beards *are obviously* to do with sexual selection. Suddenly, I*

> > *suspect, you don't like the idea of sexual selection any more, right?*

>

> *Nope.*

>

> > *Odd that. When we have a trait where men and women have similar*

> > *anatomies (the nose) – then it's explained by sexual selection, because*

> > *we can't think of anything better and it sure as hell can't be anything*

> > *to do with swimming. When it comes to beards, it suddenly can't be*

> > *sexual selection even though there's clearly an absolute male–female*

> > *difference. No, because if we pretend it's not sexual selection, we*

> > *can*

> > *use this as even more evidence against the idea that we might have*

> > *swam. Your arguments are so pathetic and transparently biased.*

>

> *You're missing the point. You want the hair line to be the result of us*

> *looking down in the water (lord knows how many hours a day THAT would*

> *require for some evolutionary effect), but the beard doesn't follow*

> *that principle.*

It does if you invoke the concept of costly signalling and sexual selection.

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- > > *I think beards are some kind of sexual selection based on the principle*
- > > *of costly signalling: 'Look at me, girls, I've got this bloody great*
- > > *beard slowing me down in water, but I'm so big and muscular, I still*
- > > *can outswim anyone in my group.'*
- >
- > *Beards signify sexual maturity (along with pubic and other hair) along*
- > *with such things as breasts in females. They also have a social function*
- > *and they have a visual effect in aggression/defense.*

- > *The hairline allows social expression too. Which is more likely, an effect*
- > *that is with us all day (and night) long, or some small unknown*
- > *amount of time under water?*

First we need to explain the generality of human nakedness. I think dip-sweat cooling and drag reduction whilst swimming are the best explanations we have. In all humans, apart from mature males, the hairline of the scalp appears to follow the water-line whilst swimming. The presence of a beard may be explained in terms of sexual selection anyway, with or without aquatic factors. But as I invoke aquatic factors I have to try to explain it in that context. I do so by invoking the principle of costly signalling.

- > > *If you went for a swim and you didn't have eyebrows it would be a pain*
- > > *stopping the water dripping in your eyes whenever you looked up. Of*
- > > *course they have secondary (or even primary) effects on top of that.*
- >
- > *If I ever run across anyone with shaved eyebrows and eyelashes I'll ask*
- > *them. Since all you can offer in this respect is an unsubstantiated claim*
- > *we'll have to drop it.*

One of my fellow students at UCL (an aquasceptic, of course, I might add!) told me the story. Her 'mates' shaved her eyebrows off once for a stunt and it affected her swimming and her experiences of taking a shower.

- [..]
- > > *The discussion is about speech. To make a bark vocalisation a dog can*
- > > *stretch its larynx down and, presumably, to make screech, so can a*
- > > *chimp. But it's not lower normally. Dogs (and I presume chimps) are not*

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> > *mouth breathers, humans, at least whilst swimming, are.*
>
> *You wanted a descended larynx for big gulps of air. I showed non*
> *swimming chimps can do that too, thus indicating it's not much of an*
issue.

You showed that they might descend their larynx whilst screeching, not that they might do it to mouth breath during locomotion.

> > *Maybe they're subjective but the fact that we can speak shows we*
have
> > *finer control over our breathing than they do. The question is did*
the
> > *evolution of speech cause that fine breathing control or was there*
some
> > *other reason for its evolution before speech, which acted as a*
> > *precursor to it. Swimming fits that role perfectly.*
>
> *Hmmm. It does? Can you show this "finer control over our breathing"*
in
> *proboscis and swamp monkeys????*

Well, it would be a prediction of the 'speech though swimming–induced fine breathing–control' hypothesis that any regularly swimming primate should exhibit finer breathing control than sister taxa that had no such aquatic exposure. I'm not sure how one might test it though.

[..]
> > > *Very good. You're learning that your attempt to do a one size*
fits
> > *all*
> > > *doesn't work.*
> >
> > *No, I'm showing how absurdly unparsimonious your 'explanations' are*
to
> > *the very same difficulties that the AAH answers with consummate ease*
on
> > *one fell swoop.*
>
> *The lack of parsimony is more in your strained fitting of square pegs*
> *in round holes. The plethora of counter examples and explanations*
that I
> *and others have shown illustrate that.*

I accept that we of the 'more aquatic' persuasion have a tendency to expect examples of aquaticism where sometimes they are perhaps not there. (Witness Elaine Morgan's 'salt tears', my 'rotating metacarpals' and Marc's 'bottom diving homos'...:-D) BUT, it's only because it's reasonable to expect that greater swimming ability should be reflected in such traits. Ok, we might get a few wrong (3 is hardly a plethora) but it's undeniable that humans move through water better than chimps

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and there must be solid reasons for that, based on our phenotype.

The big three: bipedalism, nakedness and adiposity are clearly perfectly fitting round pegs in perfectly round holes in my humble opinion. I think it's you who have the square pegs for those.

[..]

> > *But humans can rotate their metacarpals whilst chimps cannot.*

Leslie

> > *Aiello gave us a whole seminar on the subject. Presumably you wouldn't*

> > *disagree with her, as long as you knew that her favoured explanation*

> > *(for making stone tools) was the only thing being considered. As soon*

> > *as I come a long and suggest (outrageous, I know) that swimming might*

> > *have caused it, then the very idea of that humans', but not chimps',*

> > *hands can be cupped has to be thrown out as a 'contortion'.*

Pathetic.

>

> *See above about the now non issue of cupped hands...and since we and*

> *our ancestors DID make modified tools, well...*

I concede the point that chimps can cup their hands. At least until I read those references you kindly gave in full, I'll assume I was wrong.

> > *Wading, swimming, diving. This is no secret. I've been arguing for them*

> > *now for at least six years on this newsgroup. It's really not*

> > *encouraging that, almost 1,300 posts later, you still don't get even*

> > *that much. Marc's written over 3,000 – didn't you get the message there*

> > *either? Morgan wrote five books on the subject, didn't you read them?*

> > *What on earth are you doing wasting our time, if you haven't even got*

> > *past the first line of text?*

>

> *My dog can swim and wade. My dog is aquatic! Two out of three!*

If most breeds of dog were poor in water whilst yours was a good swimmer wouldn't it be reasonable to conclude that the difference was due to some kind of selective breeding? Or would you just argue – hey, my dog can do lots of things, it can't be due to selective breeding, it's just a smart dog.

> *And proboscis and swamp monkeys do all three!*

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Then, compared to most primates, perhaps we need an aquatic monkey hypothesis too.

What's your problem with the idea that there are some differences between humans and the rest of the ape clade and most of the primate clade, in our abilities in water and that they might, shock horror, be due to some mild selection? Why is this prospect so appalling?

> *It would appear that those movements aren't*
> *compelling...*

Not at all.
[.. snipped repeated argument, answered above]

Algis Kuliukas