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**Philosophy of Biology**

**6AANA050/7AAN2057**

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**Strand Building S -2.8 Mondays 1600-1700**

**Lecture 9**

**Species Concluded**

Some think that *species* cut nature at the joints, where groupings into genera, orders, classes etc are more up to us.

But this idea isn’t that easy to make good. The closest is *interbreeding populations*. This promises to *partition* extant organisms objectively into distinct groups.

But note it doesn’t apply to non-sexual organisms (bacteria and most protists), where we have to fall back on *common characteristics*, or *niches*, which is again pretty arbitrary.

Even with sexually reproducing organisms, the interbreeding criterion doesn’t work that well over time. (Branching seems neither necessary nor sufficient for the original species to disappear, and the application of the interbreeding criterion doesn’t give clear boundaries.)

Even if we stick to a single time, there are puzzles. The interbreeding criterion gives contradictory answers for “ring species”.

And then there are the merely geographical barriers and psychological barriers to interbreeding. Should we count these cases as two species, or two *races* of the same species?

**Races**

Biological Races

So now we have the biological idea of sub-groups within a species that are differentiated by average genetic differences and some tendency not to interbreed, even though the interbreeding criterion is unequivocal they are one species. (Coastal vs oceanic bottlenose dolphins; fish- vs seal-eating orcas; human head and body lice; pig and human tapeworms; breeds of dog; . . .)

Human Races

This lecture will focus on debates about “human races”. While the idea that humans might be divided into biological races as above is part of this debate, it is by no means the whole of it.

Three Views about Human Races

The positions on human races normally divided into three options:

*Eliminativism* There are no races. The idea implies requirements that are not satisfied by any groups of humans, and so we should reject the whole idea that human races exist. (Appiah, Papineau.)

*Naturalism* Races are biologically real subgroupings of *homo sapiens*. (Andreasen, Spencer)

*Social constructivism* Races are socially grounded groupings of people, recognized and treated differentially by people inside and outside such groups. (Mills, Haslanger, . . .)

Even if ‘race’ has an unequivocal meaning, these options aren’t necessarily exclusive. You could endorse both naturalism and social constructivism about races.

But in truth ‘race’ doesn’t have an unequivocal meaning. The race debate is partly about how to understand the term, and partly about the facts.

Four Kinds of ‘Races’

Roughly following Michael Hardimon’s *Rethinking Race*, let us distinguish:

*(1) Essentialist races* Groups with defining pre-Darwinian essences, which divide humanity neatly into distinct groups, and are responsible for races differing in a range of physical and mental features.

*(2) Minimal races* Groups of people distinguishable by physical traits deriving from their geographical ancestry.

*(3) Biological races* Biologically *significant* subdivisions of the human species based on genetic similarities due to *reproductively isolated* founding populations, akin to subspecies of other species.

*(4) Social races* Groups of human beings treated differentially by society because of appearance/ancestry.

Defusing the Debate

As to eliminativism above, (1) clearly doesn’t exist, and (2) and (4) clearly do. It’s an interesting question whether (3) does.

As to naturalism above, (1) and (4) clearly don’t exist *as* biologically real human groups, (2) clearly does, and again it’s an interesting question whether (3) does.

Finally, as to social constructivism, clearly only (4) are socially grounded groups.

So now we’ve reduced all the debate to whether *biologically significant* human races exist.

A Political Issue

(Still, there remain issues about what most people understand by ‘race’, and associatedly about what’s the most politically effective thing to say about racism.)

I have previously argued for eliminativism (in *Knowing the Score*), on the grounds that the everyday notion aims to refer to essentialist races. But I’m not sure any more.

Which do you feel happiest with?

* I don’t recognise US African-Americans as a race (because the division assumes pre-Darwinian essentialism) – *essentialist race*
* I’m not sure I recognize US African-Americans as a race (because I’m not sure the division is biologically significant) – *biological race*
* I’m not sure I recognize US African-Americans as a race (because many people so-classified have a mix of physical traits due to different geographic ancestries and so aren’t distinguishable in that way) – *minimal race*
* Of course US African-Americans constitute a race (because of the way they are discriminated against) – *social race*

Let’s now turn to the main remaining substantial issue: do *biologically significant* human races exist?

Human Pre-History

*Homo erectus* 2 million y.a. Left Africa . . . *Homo Heidelbergensis*, Neanderthals, Denisovians.

Some used to believe in multiregional origins for modern humans over last million years. (This would certainly have vindicated the existence of *biologically significant* human races exist.)

But DNA studies indicate we all have common ancestors (eg ‘mitochondrial Eve’) about 150,000 y.a. Modern homo sapiens left Africa and spread since then. (Surprisingly there was then significant interbreeding with Neanderthals and Denisovians.)

Since then there has been much movement and merging of human groups (*Who We Are and How We Got Here* David Reich).

To a large extent, cultural changes in a location have been due to population replacement/mixing rather than cultural borrowing.

The spread of Indo-European languages over the last 5,000 years is due to the great success of the Yamnaya from the Black/Caspian Sea steppe. (Note how the Indo-European languages all have the same word for wagon, axle, etc, which we know on independent grounds didn’t exist earlier).

The modern Indian population has a mix of genes from the north and from the south (with each varying between 80% to 20%).

Are Modern Human (Minimal) Races Biologically Significant?

Do these mixed ancestries rule out the idea of human subspecies? Not necessarily. There’s nothing to say a species or subspecies can’t start as a hybrid, and then become distinctive because of reproductive isolation.

Lewontin showed that only about 5% of human genetic diversity is due to variation between traditional races: *African, Caucasian, American, East Asian, Oceanic*.

More recently others (Edwards, Sesardic, Spencer) have come back and argued that if you focus on the way traits are *correlated* within subgroups, we get something like traditional races. Much is made of how the HGDP (Human Genome Diversity Panel) recovered the traditional groupings *African, Caucasian, American, East Asian, Oceanic* when they asked the computer to sort humans in the five groups (K=5) that maximize the within-group similarities. Hochman (J Phil 2013) comes back and says these results are insignificant.

At this stage it’s not clear what the issue is. Some quick points:

* It’s not clear how far these differences are due to selection operating on reproductively isolated populations, as opposed to simply differing ancestral origins.
* The differences don’t show sharp discontinuities, suggesting that even if selective pressures have played a role, they might just be due to graded environmental conditions, rather than any reproductive isolation.
* We might have scientifically recovered a bit of common sense, but that doesn’t show we’ve recovered anything worth calling *subspecies*. The between-group variation remains small.
* There’s nothing special (beyond recovering a bit of common sense) about setting K=5. We could get similar but not so familiar divisions at finer or coarser grains.