

## Re: "Genes are followers not leaders". Was: Birds of feather...

**Source:** <http://sci.tech-archive.net/Archive/sci.bio.evolution/2004-12/0235.html>

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CNCabej <cncabej@aol.com> wrote or quoted:

> *The role of genes in heredity is becoming probably the most  
> controversial issue in modern biology. The majority of leading  
> biologists still believe that genes determine the heredity of all the  
> living organisms and their evolution is essentially the evolution of  
> their genes (now the words genetics and genetical have become  
> synonymous to heredity and hereditary!). On the other pole there is  
> a growing minority of distinguished biologists that do not endorse that view,  
> or even reject it, insisting that genes do not do more than what is  
> experimentally known they do: provide information for protein biosynthesis.*

AFAICT, this issue depends on the size of the universe.

If the universe is unbounded, then there is no bound on the quantity of information required to specify one important thing which an organism inherits from its parents: its location – and consequently environmental inheritance will dwarf genetic inheritance.

On the other hand – if the universe is finite, you may well be able to express the spatio-temporal location of the organism fairly accurately in many fewer bits than it takes to specify its genome.

So: the issue of whether genetic or environmental inheritance transmits more information down the generations seems to be mostly in the hands of the cosmologists.

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