

Word up, altruists (the evolution of altruism)

<chorus>

*Hey y'all, you best step up and listen
'cos this be the word on altruism
It ain't no challenge to natural selection
It be based on blood and your reputation*

<verse>

A costly act which benefits the group
It's costly to you but you get to recoup
'cos everyone in the group are altruistic
What goes around comes around, so say statistics
But when cheaters invade, well things get intense
Cheaters livin' it large at everyone's expense
'til all that's left are those with cheaters' genes
No more co-op, 'cos they be lean and mean
Nice groups don't last due to cheater invasion
So out the window goes group selection

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But what if brothers only help out brothers
And mothers and fathers, and all 'em sisters
I'm talkin' blood yo, that's kin selection
Unconsciously determined by gene coefficient
You share half your genes with your parents and sibs
And half your genes with all of your kids
And what if your sisters share more than half your genes?
Haplodiploidy is what I mean
Ants and bees have haploid males
But if you diploid then you be females
One set of chromosomes for all the boys
And a pair for the ladies, like Helen of Troy
For all 'em ants and bees who are queens
All your lil' girls only share half your genes
But you share three-quarters with all your sisters
So wouldn't more sisters be so much better?
So due to this arrangement of the chromosome
It pays to be sterile and just stay at home
And that's how you get to be eusocial, for reals
Better off helping momma than out playing the fields
And that's how it works for the ants and bees
Helping out your momma is the way to be

<chorus>

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What if your sisters and brothers are just like you?
Identical twins, clones through and through
For many living things, that's how it goes down
Slime mould, aphids, bacteria all around
Self-sacrifice dawg, that shit ain't no thing
When it's another you that you'll be helping
But you better not mix it with no cheating strains
'cos those playa be slingin' your hard-earned gains
It be easy to co-op when you have genetic relations
Inclusive fitness is the path to cooperation

<chorus>

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So how about altruism with a stranger
What if your partner cheats, ain't that a danger?
Well, take a tip from my friend the vampire bat
Desmodus rotundus knows where it's at
They're social animals, up to thousands in a colony
Huddling in a cave, they have a blood-based economy
You see this here, a little blood-feeding mammal
Believe it or not, is a compassionate fellow
If it happens to get itself a full blood meal
It'll share it those who missed the real deal
They're like "Yo dawg, unlucky tonight,"
"Have this blood I scored. There, you'll be right."
But like all social animals they have a social brain
To keep track of reputation, lost or gain
To recognise those who helped in times of need
And those who are playas that have been up to misdeeds
That's Karma Police yo, that's what it's all about
Cheater detection lets you to punish the louts
'cos if you let cheaters roam and go unpunished
Remember from before, well your co-op's finished

Yo, just as there be many ways to live in the sea
There are many different ways to live altruistically
So whether it's based on cred like vampire bats
Or it be eusocial like the naked mole rats
There's more to evolution than just competition
There be plenty of room y'all for cooperation