



Exobiology

The Selfish Alien

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In Astrobiology, we've illustrated scientific concepts using ideas from science fiction. While science fiction can prove remarkably accurate on technological development, it falls well short of reality when it comes to biology and behaviour. In our article about the physical appearance of aliens, we discussed how many of the 'bug-eyed monsters' we see depicted in movies, books and comics are not only very unlikely but also completely unfeasible.

“ *Aliens are all too often charmingly naive about such things as violence and love* ”

Yet it's not just their look that is wrong. The errors made by science fiction writers go far deeper, into how these aliens think and behave. All too often we read enthralling descriptions of ultra-violent societies or completely peaceful civilizations - all too often do we see charmingly naive aliens ask questions such as 'What is this "love" you speak of,' or 'We know no such thing as violence.'

Before I examine this, though, I'd like to point out that I'm only criticizing their efforts from the viewpoint that science fiction aliens are supposed to be realistic. It's very clear that in many cases science fiction authors are not attempting to be realistic (after all, can we really expect such advances as Star Trek transporters, Babylon 5 jumpgates and Death Stars in Star Wars?). But it is wrong to think that if there are aliens out there, they necessarily have to act in an alien manner.

Now, life can be defined in many ways, but basically it involves an organism reproducing. If you believe that evolution is true (and many people, it seems,

do not) you'll realize that organisms gradually grow more complex due to natural selection and survival of the fittest. This applies to all life.

So why isn't it possible for there to be a society where organisms are peaceful all the time?

Richard Dawkins posed this very same question in his acclaimed book, the *Selfish Gene*, using an example called the Conspiracy of Doves, and the terms Evolutionary Stable Strategies. The way it goes is a little like this:

If you have a society where organisms never compete against each other, eventually, during reproduction, one of those organisms will have a mutation that will cause it to act a little violent towards the other organisms. Since the other organisms aren't genetically 'geared' towards violence, they'll naturally lose any fights with this mutated, violent organism. This means that the mutated organism will have a greater chance of surviving in this society, and so will reproduce more - so you'll get more and more violent individuals 'taking advantage' of the non-violent ones. Essentially, an entirely peaceful society is inherently unstable because there will always be a mutation that will cause someone to take advantage.

How about a society that's violent all the time, then?

Again, this society is unstable. Either all the organisms will end up killing each other, or more likely, some of the organisms will have a mutation that makes them run away from fights - non-confrontational organisms, like the ones mentioned above. These mutated organisms will therefore have a greater change of surviving since they don't get into as many fights (they run away all the time) and so they'll reproduce and more non-confrontational organisms will proliferate.



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Essentially, both the extremes are invalid. In the real world, you're more likely to get something in between the extremes. It might be that a supremely advanced alien civilization might be able to suppress all violence by genetically engineering themselves and schooling all their children, but then you're talking about real science fiction.

(Please note that I don't believe that complete peace is unachievable - I certainly hope it is. With good enough education and the right social conditions, much of the violence we have now could be eradicated. But in a civilization that is at our stage of technological progress, it is almost inevitable that you will neither have a completely peaceful society.)

The bottom line is, it's too easy to take advantage of an extreme situation. If, in your hypothetical alien society, everyone is friendly and peaceful, there's simply too much to gain for an individual who decides to go 'against' the rules (either by mutation,

“ *A Klingon would be more likely to stay alive if he stayed out of trouble* ”

or by breaking the laws) and starts to be violent to get what it wants. Again, in the numerous 'fighting' societies you see on television (like the Klingons in Star Trek) you'll find that aside from all talk of 'honour' and such rubbish, a Klingon would be far more likely to live to have children if he stayed out of all the fights he could than trying to be as violent as possible.

If we ever do find an advanced alien civilization, I think that we'll find more similarities between us than differences; they're not so alien - aliens will be just like us.