

To: Jeffrey Epstein[jeevacation@gmail.com]
Cc: Alan Rogers [REDACTED]
From: Gordon Getty
Sent: Tue 11/26/2013 8:58:54 PM
Subject: Re:

Sounds right.

On Nov 26, 2013, at 2:39, Jeffrey Epstein <jeevacation@gmail.com> wrote:

my funded attack on indiv fitness

On Mon, Nov 25, 2013 at 6:48 PM, Alan Rogers <[REDACTED]> wrote:

My paper was about the evolution of menopause. George Williams had argued years before that as women age, the risk of childbirth mortality increases. Eventually, that risk outweighs the potential fitness gain from another child. My paper showed that this doesn't work--the risk of childbirth mortality is too low. I saw more promise in a hypothesis having to do with opportunity cost. To do these calculations, I needed an age-structured theory of kin selection with a time delay between the investment (forgone pregnancy) and the return on that investment (ability to care for one's previous children). So the model had economic pretensions, and I eventually used it to study the evolution of time preference. It was the time preference work that brought me into contact with Gordon G.

Alan

On Mon, Nov 25, 2013 at 2:20 PM, Jeffrey Epstein <jeevacation@gmail.com> wrote:

risk of death in childbirth?

On Mon, Nov 25, 2013 at 5:05 PM, Alan Rogers <[REDACTED]> wrote:

Charlesworth and Charnov published an age-structured theory of kin selection in 1981 (JTB 88:103) and Taylor and Frank did it a different way in 1996 (JTB 180:27). I added time delays to the Charlesworth-Charnov model in 1993 (Evolutionary Ecology 7:406). These models all grow out of the ideas that Hamilton introduced in his "Moulding of senescence" paper in 1966. But Hamilton 1966 didn't do kin selection. He did however argue that reproductive value is not the right way to formulate the problem. His model (and also those mentioned above) use the numerator of reproductive value, but the normalization is different. To put this differently, the reproductive value at age

x needs to be weighted by l_x , the probability of surviving to that age. This weighting is missing from the formulation directly in terms of reproductive value.

Alan

2013/11/25 Gordon Getty <[REDACTED]>

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Jeffrey Epstein

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