

# A DECLARATION OF MEANING

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I have composed the following form as a required declaration of meaning for an sbe meaningful discussion of a model or theory applied to fictitious or real data.

I have filled the form in with my own answers. In this case the form outlines Hamiltonian questions. However its generality is not confined to this model. I request all participants to fill it in with their own answers and return it for public display ASAP. The form comprises two parts. The first part deals with three basic principles. The rest of the form is comprised of seven questions. The answers anybody provides remains their own business.

This form or something like it has become a necessity because of major misunderstandings and misreading by participants within sbe debate. Unless we all lay our cards on the table we are just wasting each others time. I am happy to make any reasonable adjustments to the form that may be requested. Please note: The answers given in this form can be criticised OUTSIDE of the form but not WITHIN THE FORM. This last point is critical because the form is just a declaration of meaning and not a thesis. I have attached two notes to clarify my answers. Please make sure that added notes are easily understood to be such within the form.

\_\_\_\_\_ start of Form \_\_\_\_\_

I declare the following as a true statement of meaning for all ongoing discussion.  
If I change any declared meaning that appears

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within this declaration I will explicitly acknowledge that this point of meaning I have provided may have been refuted where refutation can be proven via either, logical invalidity or a confirmed point of refutation.

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### DECLARATION OF PRINCIPLES:

A) What is the purpose of processing only fictitious data?

To test the validity of any set of definitions used to process data.

B) What is the purpose of processing non fictitious data?

To test the validity and discover an experimental result that only real data can provide for any set of definitions used to process that data.

C) What do you state is the difference in principle between any relative and any absolute measure?

All relative measures are minimally, a bilateral comparison but all absolute measures are strictly unilateral. A absolute measure can comprise a completed total, maximal/minimal/constant value.

### DECLARED DEFINITIONS:

(i) DEFINE ABSOLUTE FITNESS and describe how it can be measured.

FOR HAMILTON et al:  
No definition was provided by Hamilton et al for absolute fitness.  
No measure is provided within Hamilton's rule for absolute

fitness.

(ii) DEFINE RELATIVE FITNESS and say how it can be measured.

Within Hamilton's rule the two fitnesses being compared are inclusive fitness (rb) and Darwinian fitness implied as just the cost (c).

The full cost,  $c_{max}$ , is equal in value to Darwinian fitness as I have defined it below. These fitnesses are compared within the inequality known as "Hamilton's Rule":

$$rb > c$$

(iii) WHAT IS THE PURPOSE OF FORMING AND COMPARING FITNESSES?

For Hamilton et al, to measure when fitness associations can evolve.

(iv) DEFINE ALL THE TERMS EMPLOYED.

Within the rule:

r: relatedness IBD

b: all resources transferred from the donor to the recipient where the donor is also referred to as "the actor".

c: the cost of b

(v) DEFINE ALL THE CONSTANTS EMPLOYED.

No constant term exists within Hamilton's inequality.

(vi) WHAT ARE ALL THE COMBINATIONS OF VARIABLES THAT THE PROPOSITION ALLOWS?

The rule allows for ten different combinations of just three variables: r,b and c:

- (a) +r +b +c
- (b) +r +b -c
- (c) +r -b -c
- (d) +r -b +c
- (e) -r +b -c
- (f) +r +b +c
- (g) -r -b -c
- (h) -r -b +c
- (i) -r +b +c
- (j) -r -b -c

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Note 1:

-r: It is biologically meaningless  
to allow r to become less than zero  
reducing the number of valid combinations  
to five.

-b: Can be EITHER the removal of resources  
from the recipient to the donor OR just the wanton  
destruction of the resources owned by the recipient  
via the donor. In the former case the donor makes  
a gain but in the latter both sustain a loss.

Note that both acts are mathematically identical  
but they are not biologically identical.

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Note 2:

$$-r(-b) > c$$

is mathematically equivalent to:

$$rb > c$$

However, they are not  
biologically equivalent.

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(vii) WHAT ARE THE  
SUPPOSED BIOLOGICAL  
STATES THAT THE  
PROPOSITION IS  
SAID TO BE ABLE TO  
MEASURE

Out of the ten possible  
logical combinations  
Hamilton et al only define  
four as biologically  
meaningful:

Spite: +r -b +c

Mutualism: +r +b -c

Altruism:  $+r +b +c$

Selfishness:  $+r -b -c$

For the majority of cases  
 $-b$  and  $-r$  are simply ignored.

For this majority of cases:

Mutualism: any case of  $-c$

Altruism: any case of  $+c$

## 2.EDSERIAN DEFINITIONS:

(i) **ABSOLUTE FITNESS:** The total number of fertile forms reproduced into one population by a parent. I will refer to this total as "Darwinian fitness". Fertility is determined in the normal way, i.e. via a simple inspection of the reproductive system. The living form is not required to reproduce an infertile to prove fertility.

(ii) **RELATIVE FITNESS:** The two fitnesses compared within the rule are inclusive fitness  $rb$  and Darwinian fitness measured as the cost  $c$ , where total Darwinian fitness has the value  $c_{max}$  (the maximal cost to the actor). They are compared using the inequality commonly known as "Hamilton's Rule".

(iii) As above

(iv) As above

(v) As above

(vi)

Because no constant term is present within the rule absolutely no frame of reference exists for any unambiguous comparisons between  $rb$  and  $c$  within the rule. This being the case no difference between a reduced positive  $c$  and a negative  $c$  exists within it. Not a single case exists within the rule where this failure remains insignificant re: biological interpretation. Not a single case within the 10 possible cases that exist remain unambiguous disallowing as invalid all cases of Hamilton's rule.

However, just intuitively, mutualism as any case of a negative  $c$  where spite is disallowed, remains valid if and only if,  $c$  gains to the actor are concrete gains and not just a wanton destructive act on the recipient/recipients.

The rule fails because the Darwinian fitness of the actor  $K$  was not included.  $K$  has the same value as  $c_{max}$ . For any absolute measure of fitness for the actor altruism is only proven when:

$$rb > K$$

However, this case only produces sterile like forms. The actor donating  $K$  does not die, it works maximally for the recipient/recipients reproductive benefit so it has to fail to reproduce itself, entirely. Such an actor may be fully fertile but will act as if was sterile, i.e. it becomes the equivalent of a sterile form.

The only possible way the rule may work is when  $c$  is reintroduced:

$$rb > K - c$$

$$rb + c > K$$

The above revision of the rule remains speculative. I will argue that absolute fitness mutualism will replace it where both  $K$  for the actor and  $K$  for the recipient/recipients, increases. Here no rule needs to be articulated because the logic is obvious.

For the revised rule above, at least the actor is not now forced to become sterile like. Here the donation of  $b$  and the cost  $c$  of donating it must exceed the absolute fitness of the actor (Darwinian fitness) for the gene to spread.

Without  $K$ , Hamilton's rule cannot measure any difference between a cost  $c$  that becomes an investment because it returned more than the cost

c to the actor and a true donation that returns less than the cost  $c$ . Thus the rule confuses sham altruism (an investment) with proven altruism (an absolute fitness loss). Thus any conclusions that people reach re: the evolution of altruism using the rule are mostly sustained by hidden mutualism, i.e. such conclusions constitute invalid self contradictions. If any proposed rule cannot discriminate between the extremes of an absolute loss and an absolute gain then it is a proven failure.

\_\_\_\_\_end of form \_\_\_\_\_

Regards,

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