# PART VI CO OPERATION AND CONFLICT

Chapter 11

1. Consider the table below

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Recipient | |
| Initiator |  | Gains | Loses |
| Gains | A | B |
| Loses | C | D |

Which sequence of terms best accords with ABCD?

1. Parasitism, mutualism, altruism, individualism
2. Mutualism, Selfishness, altruism, Spite
3. Spite, Communalism, parasitism, Altruism
4. Reciprocal altruism, Kin altruism, Parasitism, symbiosis
5. None of the above

1. Which set of statement best describes the significance of the prisoners’ dilemma?
2. It is a model of human interactions that highlights the problem of individual versus collective rationality. It shows how in some situations the pursuit of individual gain can lead to personal and social calamity.
3. It is a metaphor for life. We often have to act when we do not know the consequences of our actions; yet those consequences must impact on the antecedent conditions that make forward planning possible. In effect the dilemma turns zero sum into non-zero sum games.
4. It is a model to show how mutualism can thrive in a world of slefish replicators. It demonstrates how altruism can begin from the tiny interactions of mutualistic prisoners
5. It highlights the guilt that all criminals feel when they have broken social codes.
6. It is a version of Garett Harvestan’s Tragedy of the Cannons. This is when rules cannot be applied because two participants cannot agree to limit their intake of benefits from a commonly held resource.
7. Darwinian grand parenting refers to the study of the care directed from grandparents to their grandchildren. Which answer best describes the predicted level of care from the viewpoint of inclusive fitness and genetic relatedness; where :

PGF = paternal grandfather; PGM = paternal grandmother; MGM = maternal grandmother; MGF = maternal grandfather

1. PGF>MGF>PGM>MGM
2. MGM>(MGF and PGM)> PGF
3. PGF>(MGF and PGM)>MGM
4. MGM>MGF>PGF>PGM
5. (MGF and PGM)> MGM>PGF
6. The following is a list of conditions
7. Low genetic relatedness
8. High resource holding potential
9. High probability of frequent encounters
10. Different MHC systems
11. Ability to recognise each other
12. Ability to flip easily between hawk and dove strategies
13. Ratio of cost to donor/benefit to recipient is low
14. Ratio of cost to donor/benefit to recipient is high
15. High environmental variability

Which set of conditions can be expected to promote reciprocal altruism ?

1. (i), (ii), (iii)
2. (vi), (iv) (ix)
3. (iii), (v) (vii)
4. (ii), (iii), (vi)
5. (v), (viii), (ix)
6. One view of altruism is that it might be an example of “costly signalling”. That can bring direct benefits to the phenotype. Which statement best describes this theory?
7. A costly signal suggests the expectation of a favour to be returned at a future date – thereby promoting reciprocal altruism
8. An altruistic costly signal indicates a high degree of genetic relatedness between the donor and recipient.
9. An altruistic costly signal indicates the strength of a male in any future intra sexual selection encounters
10. An altruistic costly signal suggests to receivers a high degree of genetic fitness or plentiful resources, thereby signalling high mate quality to members of the opposite sex.
11. Altruistic costly signalling is employed in encounters where a player in a prisoners’ dilemma wishes to signal “return to cooperation” as a way of increases the rewards of mutualism.
12. The table below shows rewards for different types of action. Which answer (a-e) best describes what type of game this represents?

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Player B (the other) | |
| Co-operate | Defect |
| Player A (ego) | Co-operate | 4,4 | 2,2 |
| Defect | 2,2 | 1,1 |

1. This is a classic prisoners’ dilemma situation and will promote tit for tat strategies
2. This is called the game of “chicken” one has to defect to avoid mutual disaster
3. This is called time delayed reciprocal altruism – a co-operate move must be reciprocated later
4. This will promote selfish (“always defect”) behaviour since this is the most profitable.
5. This is an expression of mutualism – both do better off by co-operating.

Chapter 12

1. Which statement best expresses why sibling v. sibling conflict can be expected to occur form a knowledge of r – the coefficient of genetic relatedness?
2. The r value between siblings is 0.25 this is less than the 0.5 value that promotes altruism
3. The r value between sibs will be 0.5. The r value between uncles/aunts and nephews/nieces will be o.25; the r value between a sibling and its direct offspring is 0.5 so siblings will have more interest in their own offspring than those of their sibs and might conflict with their sibs to secure resources from their parents.
4. The r value between sibs will be 0.5. The r value between uncles/aunts and nephews/nieces will be 0.125; the r value between a sibling and its direct offspring is 0.25 so siblings will have more interest in their own offspring than those of their sibs and might conflict with their sibs to secure resources from their parents
5. Parents will naturally favour the elder sibling as having higher reproductive value and so conflict will emerge for access to scarce resources from the parent
6. Siblings are related by r = 0.5 this value suggests that 50% of encounters will be altruistic and 50% result in conflict.
7. Why, according to Trivers (1974) will parent-offspring conflict take place?
8. Parents are related to their children by r = 0.5 this value is the same as between siblings and so conflict will flow in equal measure from parents to offspring and from offspring to parents.
9. As parents age so the value of future offspring become higher and so eventually parents will value new-borns higher than existing children – leading to conflict.
10. Parents will have a roughly equal interest in giving resources to each offspring and to future offspring, but each offspring will prefer a greater share of resources to themselves than to their sibs. Hence offspring will eventually demand more resources than it is in the interests of parents to give.
11. The grandchildren of parents will fight for resources from their parents forcing their grandparents to make difficult decisions about the allocation of resources.
12. Because of paternal uncertainty siblings will potentially be more closely related to each other than either is to their father. This leads to siblings demanding excessive resources form their fathers.
13. Which statement best describes the maternal –foetal conflict theory of David Haig?
14. Because of the obstetrical dilemma a foetus will wish to remain longer in utero than the mother desires for her own health. Therefore there will be conflict over the timing of birth.
15. A foetus is more interested in its own welfare and its future offspring than any future offspring of its mother. Therefore the foetus will require more nutrients than is optimum for the mother to give.
16. The high blood pressure experienced by women during pregnancy is especially dangerous to the foetus so the foetus will secrete hormones to try to lower blood pressure. The mother will resist by increasing blood pressure.
17. Glucose levels rise during pregnancy; this is excessive for the foetus which secrets insulin to try to reduce these levels.
18. Both foetus and mother send insulin signals causing blood glucose to fall after a meal – this leads to a dangerous escalation.
19. Wilson and Daly found a connection between the age of a mother and rates of infanticide committed by the mother. Which statement best describes their findings and reasoning about this phenomenon?
20. As the age of a mother increases so infanticide increases due to the lower reproductive value of offspring as they age.
21. As the age of the mother increases so rates of infanticide fall as they become more experienced at handling children.
22. As a mother ages rates of infanticide increase as the mother becomes more stressed due to existing children
23. As a mother ages so rates of infanticide rise since the mother already has children and so the reproductive value of any one child is proportionately less.
24. As a mother ages so rates of infanticide fall since each new child represents a larger portion of any residual reproductive value of the mother as she approaches the menopause
25. Wilson and Daly found a connection between the age of a child and rates of infanticide committed by parents on that child. Which statement best describes their findings and reasoning about this phenomenon?
26. As a child ages so they become progressively harder to kill and so infanticide rates fall
27. As a child ages they become more stressful and so rates of infanticide rise
28. As a child ages so its reproductive value to a parent rises and so rates of infanticide fall.
29. As a child ages so its reproductive value decreases and so rates of infanticide rise
30. As a child ages so its reproductive value decreases due to the arrival of other children and so rates of infanticide fall.
31. Daly and Wilson investigated infanticide by step parents – a phenomenon they called the Cinderella syndrome. Which statement best describes their findings and reasoning about this.
32. Infanticide by step parents declined with the age of the child as the child’s reproductive value rose.
33. Infanticide was greater from natural parents since they spent more time with the children and experienced more stress from family life.
34. Infanticide from step parents was higher than from natural parents since the step parent sample would have contained men and women who were already socially difficult.
35. Infanticide form step parents was much higher than form natural parents since the reproductive value of a child to a step parent is near zero whereas to a natural parent it is higher.
36. Infanticide from step parents rose with the age of the child as resentment from low r values between step parents and step children built up.
37. Which statement best describes the age crime curve and a possible functional explanation of its pattern?
38. The crime rate rises rapidly for men in their teenage years, it peaks around 20 years of age and then falls. It is higher for men than women in all age groups. This could be a reflection of male risky behaviour to impress partners or obtain resources related to reproductive success.
39. The female crime curve for males peaks much later than that for females and this is a reflection of the slower rate of sexual maturity for males compared to females.
40. The female age crime curve peaks at a much later age (30yrs) than that for men; this is a reflection of the growing need for resources as women age and have children.
41. The age crime curve for both men and women rises rapidly in the teenage years and then remains steady for the years that follow. This is a reflection crime as a frequency dependant strategy such that some personalities are inherently antisocial and remain so throughout their lives.
42. The age crime curve is a reflection of detection rates. It rises in early years since then offenders have most chance of being caught. As offenders learn to avoid detection so the rate per age group falls. It is a reflection of detection and prosecution rather than age related crime per se.
43. Which statement best describes “Strategic Interference Theory” basis for understanding sexual conflicts between men and women.
44. Intra sexual selection will occur between males leading to male v. male aggression and violence. This will be higher than violence between women
45. Sperm completion will encourage polyandry and so fuel male v. female aggression
46. The two sexes have different strategies to secure their reproductive interests. This means each sex will act so as to advance their own strategy at the expense of the other. This will lead to deception, conflicts and inherent cognitive biases.
47. The two sexes both have an interest in healthy offspring and so each will manipulate the other into devoting more care to an offspring than would be optimal for a single individual.
48. Strategic interference theory explains how a high operational sex ratio (M/F) leads to higher levels of sociosexuality in women – higher in fact than desired by their male partners.
49. Several researchers have demonstrated how jealousy is a sexually dimorphic emotion. Which set of statements best describes this effect and its possible underlying evolutionary basis?
50. Women get more jealous than men do in relation to physical infidelity since it could signal a loss of affection and withdrawal of support.
51. Men get more jealous than women do in relation to physical infidelity since it could signal a loss of affection and withdrawal of support
52. Men or more concerned about emotional infidelity than women since it suggests their partner may leave them taking their offspring with them – thereby reducing their reproductive output.
53. Men get more jealous than women do in relation to physical infidelity since it could signal the fact that any offspring may not actually be those of the male partner.
54. Both men and women experience the emotion of jealousy but women generally have stronger feeling for all types of jealousy since they are physically weaker than men and more dependent of male support than men are dependent on female support.