

## Malthus, chs. 1 and 2

### • Ch. 1

- 4 – caricatures A and B (**can you think of a current example of this?**)
  - § ‘the advocate for the present order of things’
  - § ‘the advocate for the perfectibility of man’
- 5 – two postulata
  - § ‘That food is necessary for the existence of man’
  - § ‘that the passion between the sexes is necessary and will remain in its present state’
- 5 – ‘assuming then my postulata as granted, I say, that the power of population is indefinitely greater than the power in the earth to produce subsistence for man.’ (**can you critique the logic of this statement?**)
- 6 – ‘Population, when unchecked, increases in a geometrical [=exponential] ratio. Subsistence increases only in an arithmetical ratio.’ [**a critique** = Haber Bosch process of atmospheric nitrogen fixation, hybrid corn - example of I=PAT]
- ‘The race of plants and the race of animals shrink under this great restrictive law. And the race of man cannot, by any efforts of reason, escape from it. Among plants and animals its effects are waste of seed, sickness, and premature death. Among mankind, misery and vice.’ (**what is the assumption here?**)

### • Ch. 2

- 7- ‘population, when unchecked, goes on doubling itself every twenty-five years’ (using frontier USA as a template)
- ‘if I allow that by the best possible policy, by breaking up more land and by great encouragements to agriculture, the produce of this Island may be doubled in the first twenty-five years’ (using England as a template)
- ‘let us take the whole earth, instead of one spot, and suppose that the restraints to population were universally removed’ (**what’s the problem with this logic?**)

## Darwin, ch. 14

- 1 – ‘the theory of descent with modification through natural selection’
- ‘natura non facit saltum’ (‘nature doesn’t make jumps’)
- 2- ‘Why does not every collection of fossil remains afford plain evidence of the gradation and mutation of the forms of life?’ ... ‘the geological record is far more imperfect than most geologists believe’ (**why else might this be true?**)
- 4 – ‘under domestication we see much variability’
- 5- ‘man does not actually produce variability; he only unintentionally exposes organic beings to new conditions of life, and then nature acts on the organization, and causes variability. But man can and does select the variations’
- 10 – ‘on this view of migration, with subsequent modification, we can see why oceanic islands should be inhabited by few species, but of those, that many should be peculiar.’ (**why does this follow if you accept natural selection?**)
- 11 – ‘we can see why certain characters are far more serviceable than others for classification – why adaptive characters, though of paramount importance to the being, are of hardly any importance in classification; why characters derived from rudimentary parts, though of no service to the being, are often of high classificatory value; and why embryological characters are the most valuable of all.’ (**what is this saying?**)
- 12 – ‘the mind cannot possibly grasp the full meaning of the term of a hundred million years’
- 16-17 – closing paragraph: ‘it is interesting to contemplate an entangled bank...’

## *New Scientist* chapter-by-chapter overview

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| 1) Variation under domestication | 8) Hybridism                                       |
| 2) Variation under nature        | 9) On the imperfection of the geological record    |
| 3) Struggle for existence        | 10) On the geological succession of organic beings |
| 4) Natural selection             | 11) Geographic distribution                        |
| 5) Laws of variation             | 12) Morphology, embryology, rudimentary organs     |
| 6) Difficulties on theory        | 13) Recapitulation and conclusion                  |
| 7) Instinct                      |  |