WILL MODERN MEDICINE KILL US ?

Influence of a small fraction of individuals with enhanced mutations on a population

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Good things have their disadvantages:

Steaks produce cholesterin

Bordeaux wines produce liver disease

Antibiotics can cause resistance

Hormone replacement therapy can causes disease

Thats why medication should only be used if necessary: Elvis Presley, Michael Jackson

Test-tube babies by in-vitro fertilisation circumvent sperm PRESELECTION: Only the fastest sperm cell fertilises the egg cell in the natural process while this preselection is omitted during in-vitro fertilisation. Thus some bad mutations (= dominant hereditary diseases) appear six times more often in test-tube babies than normally. Does this matter for the population as a whole if only two percent of the births use in-vitro fertilisation?

Can a small cause have a big effect? (Critical point)

Assumptions:

2 % probability of in-vitro fertilisationi; in each such fertilisation the probability of a bad mutation is increased by a factor 4. Too many bad mutations kill the individual.

These new assumptions are built into the 1995 sexual Penna model of ageing, with genomes represented by one maternal and one paternal bit-string of $L = 8$, 16, 32, 64 bits.

3 criteria for Darwinian selection of the fittest population: Number of individuals in population, life expectancy at birth, fraction of women in reproductive age. Determine ratio without to with test-tube babies. (In some cases also both populations were simulated together, and the better population won.)

RESULT:

Im most cases, the 2% input produces a danger of the order of 2 %. But at the critical point (transition from purification to complementary bit-strings) the danger is much higher.