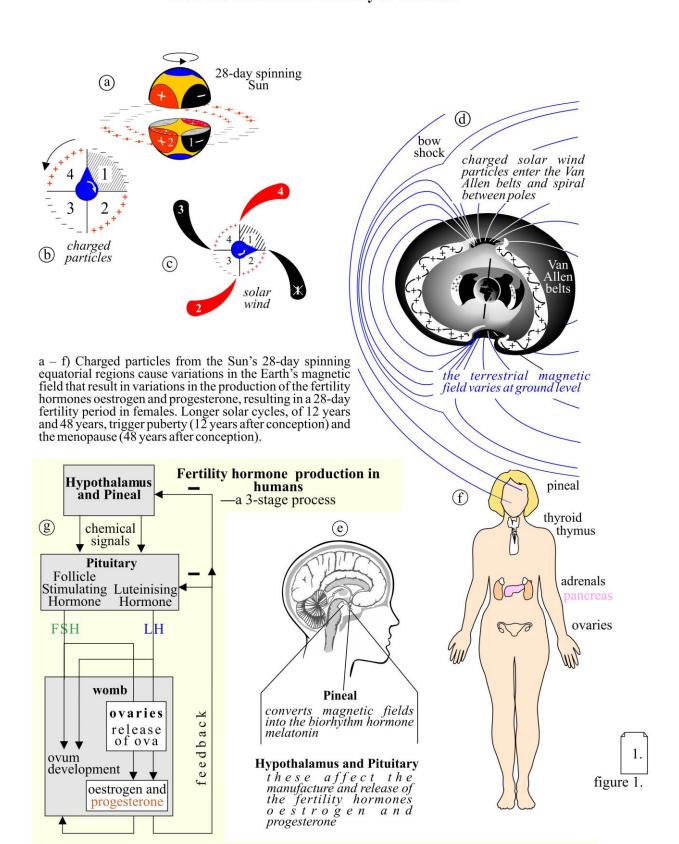
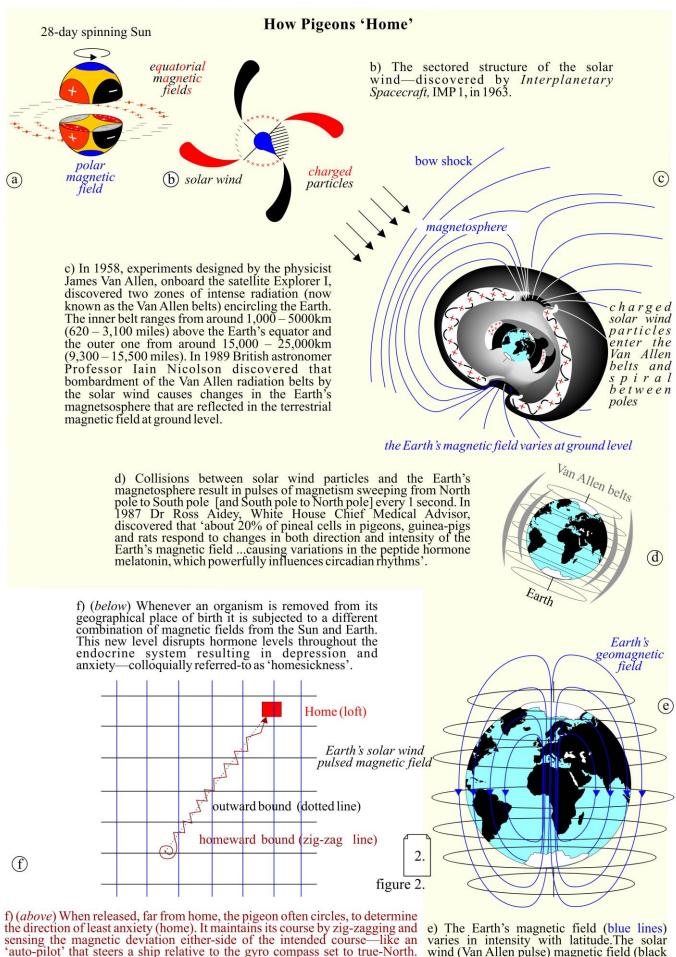
## How the Sun affects Fertility in Humans



g) Summary of hormonal control of the ovarian function: The hypothalamus sends chemical signals to the so-called master gland, the pituitary, which manufactures and releases the follicle stimulating hormone (FSH) and the luteinising hormone (LH), both of which are essential for the release of eggs from the ovaries. Ovaries stimulate the production of oestrogen and progesterone. When sufficient levels of these have been produced a feedback signal to the pituitary, hypothalamus and pineal switches-off the production of FSH and LH. This schematic shows how the 28-day solar-inspired magnetic variations stimulate the hypothalamus and the pituitary causing changes to the duration of the fertility cycle.



f) (above) When released, far from home, the pigeon often circles, to determine the direction of least anxiety (home). It maintains its course by zig-zagging and sensing the magnetic deviation either-side of the intended course—like an 'auto-pilot' that steers a ship relative to the gyro compass set to true-North. Disruptions in the Earth's magnetic field or that of the solar wind magnetic fields from Sunspots, solar flares or prominances will cause concomitant changes in hormones and the inability to navigate. The pigeon appears to have an 'erasable programmable memory' capable of being reset with a prolonged period of relocation.

e) The Earth's magnetic field (blue lines) varies in intensity with latitude. The solar wind (Van Allen pulse) magnetic field (black lines) varies with longitude, East to West, relative to the time of sunrise, resulting in varying amounts of the timing hormone melatonin, resulting in 'Jet-lag'.

Earth's orbital path around the Sun

## Earth moving towards the Sun. (a) Sun Earth (a) summer Earth moving away solstice from the Sun. solstice solar radiation phase shift (b) hormonal change— inspired by a phase-shift in solar radiation on June melatonin levels 21st, the summer solstice (c) 0 time

The change in hormones on the summer solstice causes anxiety in migratory song birds, causing them to stop singing. Hence, the 'dawn chorus' ceases within around 7 days of the summer solstice. The birds, later, migrate and are unaffected by the winter solstice. When they return, in the spring, the dawn chorus recommences. Pigeons (and whales) navigating around that time (+/-1) or 2 days either-side) of the summer solstice suffer the same hormonal changes causing them to lose their navigational bearings.

figure 3.

3.