**G6PD:**

-an enzyme called glucose-6-phosphate dehydrogenase

-gene that is responsible for G6PD production is found in the X chromosome

-present in every cell in the body

-important in red blood cells, where it protects cellular integrity

-G6PD also rids the body of free radicals

-free radicals are essentially molecules or atoms with unpaired electrons

-unpaired electrons seek to pair with electrons in other molecules, they cause chemical reactions

-reactions can disrupt cellular chemistry and lead to the cell’s early death

-if a person doesn’t have enough G6PD the free radicals can cause red blood cells to burst

-causes anemia

**European clover/sheep breeding crisis:**

-in Western Australia in the 1940’s healthy sheep weren’t getting pregnant or were losing their young before birth

-agricultural specialists discovered the culprit- European clover

-clover produces a potent phytoestrogen called formononetin as a natural defense against grazing predators

-phytoestrogen mimics the effect of animal sex hormones such as estrogen

-the overload of estrogen like compounds wreaks havoc reproductive capability

**Capsaicin/birds and mammals:**

-burning sensation from a hot pepper is caused by a chemical called capsaicin

-mammals are sensitive to it because it tickles the nerve fibers that sense pain and heat

-birds aren’t affected

-the digestive system of mammals destroy its seeds

-birds however don’t destroy chili seeds when they eat the pepper- and they aren’t affected by capsaicin

-mammals leave the peppers for the birds

-the birds take the seeds to the air, spreading them along

**Malaria/air conditioning:**

-malaria is an infectious disease that infects as many as 500 million people every year

-doctors believed the disease was caused by unhealthy vapors emanating from still water

- they called these vapors miasma

-actually caused by mosquitos that thrive in these environments

-John Gorrie noticed that malaria was significantly more common in warmer areas

- he figured he needed a way to eliminate the bad warm air

-Dr. Gorrie’s malaria fighting invention pumped cool air into the malaria hospital ward

-led to air conditioning

**Fauvism/fava beans:**

-Pythagoras supposedly warned a flock of future philosophers about the dangers of consuming fava beans

-cult called Orphic believed the fava plant contained the souls of the dead

-an Italian schoolteacher is said to notice a seasonal lethargy that settled on her students every spring and lasted for weeks

- recalling Pythagoras’s warning, she connected the problem to flowering fava plants

-fauvism is an inherited enzyme deficiency carried by 400 million people

-the most common enzyme deficiency in the world

-people who have fauvism and eat fava beans experience rapid, severe anemia

**"Life is such a compromise":**

-along with good things, comes the unwanted

-organic celery farmers don't use pesticide, so insects infiltrate the celery stalk

-natural defense of the vegetable is psoralen

-stops the insect invasion but puts the consumer at risk

-ordinary farmers use pesticides that potentially hazardous to human health

-life always has a compromise