

5.6 CHROMOSOMAL INHERITANCE- Read and Discuss

Genetic Variation is key to all life forms, for in variation is the greater ability to handle whatever environmental challenge that an organism may face. Our society is no different whereby in order to address and be successful in a rapidly changing world we have diversified in many professions, specialist if you will. If a farmer has a 1000 acres and he plants just one type of crop, he becomes very vulnerable should something stricken that crop such as a disease. To plant a diversification of crops makes him less vulnerable to environmental challenges. By GENETIC DIVERSITY organisms are given a greater chance to survive. DNA, CHROMOSOMES, GENE CROSS OVER, ALELLE IN THE LAW OF INDEPENDENT ASSORTMENT, MEIOSIS CELL DIVISION 23 DAD/23/MOM, GENE POOLS, SPECIE IMMIGRATION, EMMIGRATION, MULTIPLE ALELLES, mtDNA in animals and cDNA in plants, all assure GENETIC DIVERSITY. Furthermore, the challenges of nature such as climate, water, predation, catastrophic events, gradual change and disease constantly keep the forces of genetics in check and challenge ; REMEMBER THE BULLY BOSS and THE WIZARD WITCH analogy from our GOLDEN DOCTRINE: “ THE PHYSICAL AND CHEMICAL MECHANISMS OF PLANET EARTH DICTATE THE DISTRIBUTION AND DISPOSITION OF ITS LIFE FORMS” .

So, much like CO-EVOLUTION where predators and prey are constantly improving their skills and abilities to hunt or escape, such is the root of it all at the CELLULAR LEVEL – IN THE DNA OF CHROMOSOMES, MITOCHONDRIA AND CHLOROPLASTS.

MUTATION: “Live by the sword! Die by the sword” . When nature/DNA screws up it is often lethal. However, if the timing is right, a certain mutation may be favored in a current environment- the” RIGHT STUFF” by luck. A good example is our specie, Home sapiens, the 18th human-like ape as per fossil and DNA records indicate. What made the other 17 species not make it? Well recently they discovered that WE- human like ape #18 have something in our DNA that the 17 prior and extinct human-like apes did not have. We have the gene that allows us to digest ethyl alcohol (the kind you can drink). This enabled us not only to increase our range of easy food possibilities because we could gather and eat fermented/rotting vegetable matter, but because ethyl alcohol has antiseptic qualities, our eating the fermented/rotting fruits etc. indeed protected us against bacterial infections.

REMEMBER; THE PEPPERED MOTHS in our evolutionary study?

IMMUNITY : When an organism faces a severe specie survival level microbial, chemical or environmental enemy/challenge, 5% of a population will have some immunity by nature of exposures over generations. This can be thought of as a Mutation of sorts which is now an

advantage in the “current environment”. This is why pesticides and antibiotics are constantly evolving and expanding; answering to the 5% immune surviving population which by virtue of Natural Selection will rise to become the genetic norm of new resistant/immune generation. When you are prescribed an antibiotic for a bacterial infection, you are noncontagious after 24hrs of taking your first dose. The reason why you must continue to take for days after is to keep addressing this 5% surviving population until they are reduced to simple work by our many warrior cells of our immune system. The AIDS virus mutates so fast that we are constantly monitoring patients to determine which drugs used are most affective and which are not or less affective against the virus. They do not let the virus have exposure to a medication for too long so that it cannot analyze the medication and develop and immunity towards it. This why a patient must be regularly analyzed and are often subject to being given a COCKTAIL of DRUGS composed of the AIDS medications which there immune system is best responding to at that point in time. This is a constant process subject to change as per each person’s biochemical/immune abilities.