

World History and Culture
Kailua High School
Social Studies Requirement
2020-2021
Mr. Wilson

February 14, 2017

Today we began with the question of what is IVF and ended with the question why do humans act "god-like"?

IVF was explained as the fertilization of an ovum with a sperm cell in a petri dish.

Egg extraction was briefly explained as a process of a woman receiving hormonal injections that stimulate the ovaries to produce ripe eggs. The donor is anesthetized as a large syringe is used to extract the eggs. The woman is anesthetized because the syringe is long enough to penetrate the abdominal wall and reach the fallopian tubes: a painful process. However, our recent guest speaker told of another method of egg extraction which is done through the vagina, to the uterus, to the fallopian tubes, and to the ovaries.

Another question asked had to do with the nature of the egg and the sperm: why does fertilization that takes place in a petri dish work? The answer was that both the egg and the sperm are cells. These cells are made for one another as the role of the sperm is to permeate the membrane of the egg. However, the process of capacitation, which originates from the ovum, determines which sperm cell's haploid nucleus will join with the haploid nucleus in the ovum. And once the egg is fertilized, the egg starts to internally divide and grow. This early stage of a fertilized egg is called a zygote, and once the zygote grows for a few days, it turns

into an embryo that will be implanted into a woman who will carry the embryo to term and deliver a baby.

The question of twins and other multiple births came up. This led us back to the topic of egg extraction. During egg extraction, several eggs are removed and some women choose to have twins, or triplets. A comment was made that birthing of multiple babies seems to result in premature births as full-sized multiple infants would exceed the capacity of a woman's ability to carry full sized infants.

Another question raised concerning multiple births had to do with the full moon. Are most babies born during a full moon? Perhaps evidence might suggest that hospitals see an increase of births during the full moon, as one student attested that her mom, who is a delivery nurse at a local hospital, sees an increase of births during a full moon. This led to observations by historians that women are tied to the rhythms of nature and have created the first known calendars: engravings onto animal antlers or tusks of the phases of the moon, perhaps to help women keep track of their biological rhythms and menstruate either with the waxing or waning phases of the moon. Even men may be tied to the cycle of the moon and become bloated and moody as the moon pulls the tides of the earth, it also affects the water in our bodies. There are patterns in nature that we are not aware: why do some flowers have curved petals? Because they follow the stars at night!

Someone then remarked that maybe an artificial uterus could be made and we discussed the reality that scientists have already succeeded in creating artificial wombs, artificial sperm, and artificial eggs. We then considered the possibility that engineered humans will take the place

of “natural reproduction” because engineered humans can eliminate diseases, assure survival in a changing environment, and make population of the universe possible, beginning with nearby planets. At this point I remarked that Period 4 may turn out to be the best class I have ever had!

The propensity of humans to act god-like in our considerations of engineering ourselves may be hinted at by considering religion. Why did God kick out Adam and Eve from the Garden of Eden. We talked about how free-will was given to humans so God, like a Great Comedian, joked with the Angels that He gave humans free-will. “You did what?” asked one of the Angels. The event was compared to a teacher bringing in a large tub of students’ favorite ice cream and giving them spoons. Just before digging in, the teacher is called to the office and while going out the door commands the students, “Don’t eat the ice cream!” Upon returning, the teacher sees faces covered with the remains of the ice cream. “Did you eat the ice cream?” “No” the students reply. But God knew Adam and Eve would eat the forbidden fruit, and sure enough, when God was visiting His Creation, Adam and Eve were hiding, because after eating the forbidden fruit they realized they were naked and had fashioned fig leaves to cover their private parts. However, using their free will and eating the fruit is not the reason Adam and Eve are kicked out of the Garden. Remember, the students were reminded, God said “Eat anything in the Garden, except the fruit of the knowledge of good and evil.” In other words, what was the fruit on some other tree that they could have eaten, and still remained in the Garden? The answer was the fruit from the tree of immortality. Had Adam and Eve eaten that fruit, they would have lived forever, but without the divine knowledge of good and evil. However, having eaten the fruit of divine knowledge, God and the Angels could not risk upsetting the order of

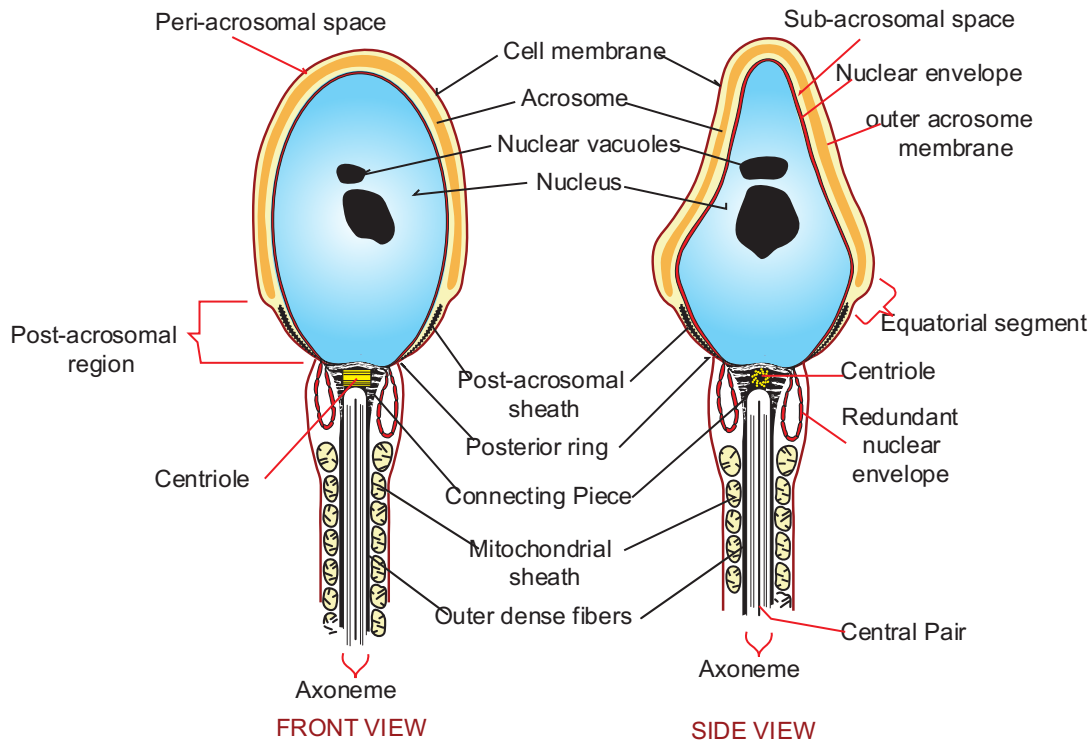
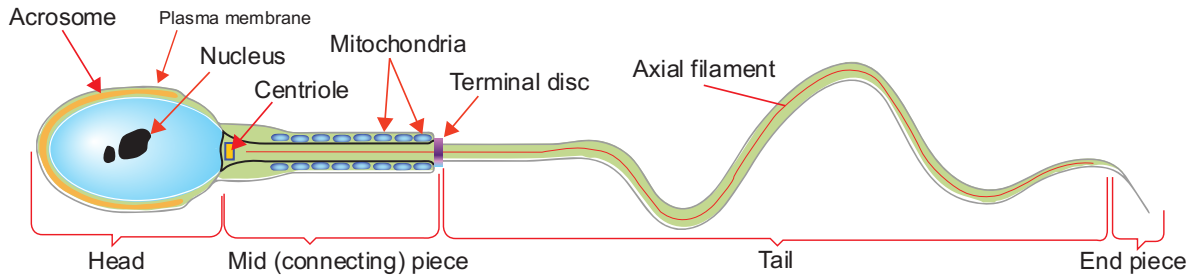
the universe by allowing Adam and Eve to possess both divine knowledge and immortality, as they would "have become Gods as we are." Although Adam and Eve were driven from the Garden, they took with them divine knowledge and the will to achieve immortality. Hence, the drive to engineer human existence!

Adding to the propensity of engineering our own kind is that human reproduction is too unpredictable for our own survival. Presented to the class was the prediction that by the time students are the teacher's age, regular human reproduction through natural sexual intercourse may be outlawed and in its place humans will need a permit from the government or a corporate authority to have children. One reason for this prediction is that most humans, at least in the USA, and especially teenagers, who have sex, do not engage in sexual intercourse for the purpose of procreation. Instead, the phrases of intimacy sound like this: "I love you." "Okay, but don't get me pregnant." In other words, most humans engage in sexual intercourse for pleasure rather than as a purposeful act to create children. This widespread activity of sex for pleasure, although not new to current populations, is for the first time in history conducted against the background of scientists creating artificial wombs, artificial sperm, and artificial ova. Young adults will see in their lifetimes the total separation of bodies, which have served the purpose of sexual reproduction, into bodies that are only for pleasure. Reproduction as a human activity will become an authorized act within the confines of governments and corporations.

Capacitation: <https://en.wikipedia.org/wiki/Capacitation>

<https://pubmed.ncbi.nlm.nih.gov/9159227/#:~:text=Physiologically%20occurring%20in%20the%20ofemale,specific%20interaction%20with%20the%20oocyte.>

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[artificial wombs:

http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.2011.05999.x/epdf?r3_referer=wol&tracking_action=preview_click&show_checkout=1&purchase_referrer=onlinelibrary.wiley.com&purchase_site_license=LICENSE_DENIED_NO_CUSTOMER]

[artificial sperm:

<http://www.sciencealert.com/scientists-have-made-the-best-artificial-sperm-yet-and-they-re-breeding-mice-with-it>]

[artificial eggs:

<http://www.sciencealert.com/scientists-have-made-the-best-artificial-sperm-yet-and-they-re-breeding-mice-with-it>]