

Animal/Human Hybrids

Editor's Note: The bulk of Heather Zeiger's study in bioethics has focused on the major issues addressed in American media, politics and science, such as stem cells, cloning and euthanasia, which is why she so anticipated this year's theme for the Center for Bioethics and Human Dignity Conference: Global Bioethics. The global context brought a broader perspective on the issues surrounding bioethics: India's medical tourism and black market organ donations, treating AIDS/HIV in Africa with limited resources, and euthanasia laws in Australia. One country that has been at the forefront of bioethics news is Great Britain because of their lenient legislation on issues concerning human dignity and "human exceptionalism" (the idea that humans have a higher moral status than any other species). This is the first article emerging from her studies and experience at the Global Bioethics conference.

Dr. Calum MacKellar of the Scottish Council on Human Bioethics, who has represented Scotland at the Council of Europe and UNESCO, discussed human/animal hybrids, which can be legally created for research purposes in Great Britain. This article reports the major points of Dr. MacKellar's lecture and unless otherwise noted, all facts and statistics are drawn from his extended report on the Scottish Council on Human Bioethics Web site (www.schb.org.uk).

What Are Hybrids? What Are the Possibilities?

True Hybrids are embryos formed when the gametes (egg and sperm) are from different species. For example a human/chimp hybrid would be formed from the combining of a human egg with a chimpanzee sperm, or vice versa. These true hybrids create a new entity or species. One familiar example brought about by

breeding is a mule, which is produced from horse and donkey gametes. In nature animal/animal hybrids tend to be less fit than their parents. Experiments to combine human and animal gametes have not been successful.

Cybrids are formed when the nucleus of an egg from one species is removed and filled with the nuclear material of another species. This mimics the technology of cloning, except one is using nuclear material from one species and a cell from a different species. The term *cybrid* comes from the combination of “cytoplasmic hybrid” because the genetic material in this new embryo is 99.9% of the nuclear species and 0.01% of the species that donated the egg [Michael Cook, “Soft Cell: How Scientists Are Easing away Opposition to Animal-Human Hybrids” *Salvo*, Issue 4, Winter 2009]. Most genetic material is found in the nucleus, but a little bit is left in the cytoplasm of the egg. Scientists have been able to insert human genetics (a nucleus) into a cow’s egg (an enucleated egg). The resulting embryo survived for twelve days. Other experiments have involved inserting human genetic material into a frog’s egg and into a rabbit’s egg. Neither of these survived beyond a week and never reached the blastocyst stage.

Chimeras (kī-‘mir-uhz) are formed when the cells of one species are added to the embryo of another species. This results in an animal that has distinct parts from one species or the other. Think of the centaur in fantasy fiction. Fictional centaurs exhibit distinct parts that are human and distinct parts that are horse. This has actually been done in the lab with a goat and sheep. The resulting animal did survive and had distinctive goat legs and a distinctive sheep head.

Transgenic embryos are created by adding a few genes from one species into the embryo of another species. However, only a few genes can be added before the embryo collapses, providing self-limitations for this technique. Scientists have inserted human genes into pigs to create human insulin for diabetes

patients. Scientists have also attempted to replace damaged human heart valves with animal heart valves. This is using animal parts in a mechanistic sense, and is known as *xenotransplantation*.

Although the media and legislation discuss human/animal hybrids, they are really talking about human/animal cybrids. While there are examples of hybrids in nature, thus far all experiments with human/animal hybrids have proven unsuccessful, even using *in vitro* fertilization technology.

Is This Legal?

Very few countries have passed specific legislation pertaining to any kind of combination of human and non-human material. Most laws either single out humans or animals. However, several recent initiatives have been discussed:

- **Council of Europe: *Embryonic, Foetal and Post-natal Animal-Human Mixtures, Doc. 10716*** (October 11, 2005)—This document encourages the participating states to consider the ethical ramifications of creating human/animal hybrids, and also encourages the formation of a steering committee within the Council of Europe to address these ethical issues.
- **Canada: *Assisted Human Reproduction Act 2004*** —This act prohibits the creation of a chimera or a hybrid and prohibits the transfer of a chimera or hybrid into a human being or a non-human life form.
- **USA: *Draft Human Chimera Prohibition Act of 2005 (S.1373)*** —This draft, introduced by Senator Sam Brownback, would prohibit “any person to knowingly, in or otherwise affecting interstate commerce: (1) create or attempt to create a human chimera; (2) transfer or attempt to transfer a human embryo into a non-human womb; (3) transfer or attempt to transfer a non-human embryo into a human womb; or (4) transport or receive for any purpose a human chimera.” In this case, some

hybrids would fall under the category of chimera.

- **United Kingdom: *Human Fertilisation and Embryology Act (1990)***—This legislation states that the creation of human/animal entities would exist in a “legal vacuum” and hybrids could be formed if a proper license is obtained. The importance of this act is the fact that it makes it unclear whether the human/animal entities fall under human or animal legislation.

What Are the Consequences of Using This Technology?

Legal Consequences

There are several legal issues to consider, but probably the most troubling is whether the entity produced should fall under human or animal legislation. Several questions follow this, such as “What percentage of the being needs to be human to fall under human legislation? What if the human/animal entity began as 30% human and 70% animal, but the human cells grew faster and the entity ended up being 70% human and 30% animal?” Dr. MacKellar preferred erring on the side of caution and giving the entity the protection and dignity entitled to a human being, however this is only a protective declaration and does not solve the myriad legal issues surrounding the creation of this new entity.

Societal Consequences

The formation of an entity that is both animal and human raises questions of personhood and challenges our definition of humanness. These beings will inevitably be met with challenges that go beyond identification with a minority group. Would protections such as the Fourteenth Amendment apply to these creatures, and how human would they have to be for them to possess rights and privileges? Would society want to grant them rights and privileges? Would the military want

to create a human/ape hybrid soldier in hopes that they would be bigger, stronger, and easier to feed? Given human history, the temptation to relegate these beings to a lower class would be inevitable.

There are risks associated with diseases that may cross the species barrier. As Dr. MacKellar pointed out, we have several examples of diseases crossing the species barrier including HIV, swine flu and bird flu. We also know that these diseases can sometimes be more harmful or even fatal to one species than they were to another. If an entity is part human and part animal, and a disease is very contagious among either type of animal it shares characteristics with, it will likely infect the hybrid. At this point, the disease may adapt to human DNA, posing a great health threat to all humans, not just hybrids.

Do Hybrids and Cybrids Have Souls?

I believe, from a biblical perspective, the creation of hybrids, cybrids, and chimeras is unethical. However, some instances of transgenic technology, namely *xenotransplantation*, may be ethical, especially since there are built-in biological limitations regarding how many genes can be inserted into another species.

Do these procedures violate the sanctity of human life?
Several thoughts:

- Humans are created in God's image (Gen 1:26);
- We were created separately (Gen 1:25, 26). We were created differently than the animals ("Let the earth bring forth living creatures..." Gen 1:24; "then the Lord God formed the man of dust from the ground and breathed into his nostrils the breath of life, and the man became a living creature" Gen 2:7);
- We humans were given dominion over the animals (Gen 1:29, 30). Therefore, these procedures do seem to violate the

sanctity of human life as revealed in Scripture.

Are scientists attempting to bridge the gap in created kinds?

God directly created animals according to their kind, and it is implied in the flood account that He intended for them to reproduce according to their kind (Gen. 1:21; Gen. 8:17).

The Bible indicates that man has dignity and worth. If we try to create a being that might be less-than-human by combining it with animal cells or gametes, this would diminish such God-given qualities. It is from a naturalistic perspective that people believe animals are better than man because they seem to be stronger, faster, or heartier. This is not the Biblical perspective.

Do these procedures have something in common with bestiality?

One could argue that the creation of human/animal hybrids may constitute an instance of bestiality. Biblically, bestiality is a type of fornication with animals; it is a type of intimacy that perverts the real intimacy that God designed between a husband and wife. I find bestiality to be a particularly distasteful subject, and perhaps we get an indication of God's distaste for this since it is a sin that was punishable by death (Ex. 22:19; Lev. 18:23; Lev. 20:15, 16; Deut. 27:21). Procreation and consummation are not distinctly separate in the Bible. It is only through modern technology that procreation can occur in the laboratory apart from consummation. I think an argument could be made that procreation with human and animal gametes is a connection with animals that man was not meant to experience.

But what about...?

This article is a short report on hybrids and variations on combining human and non-human species, but we have not even discussed the multiple questions that arise from this type of experiment, such as:

- Why are scientists doing this?
- What are the implications for common descent if human and animals can breed?
- How does this affect the definition of species?

Also, I did not really deal with whether hybrids have souls or not because we just don't know. Personally, I think it will be biologically impossible to create a true human/animal hybrid, but cybrids may be a possibility. I think that, much like clones, a cybrid that grows beyond the embryonic stage would be very unstable and unhealthy as well as incredibly expensive and inefficient to make. And much like clones, I can't answer [if they would have a soul](#).

I am thankful for groups like the Scottish Council on Human Bioethics for addressing this topic in secular language within the public square, but with an underlying Biblical perspective. It is groups like this that enable us to interact in a well-informed way in our places of influence. Whether it is voting for legislation or simply talking with our friends at Starbucks, you don't have to work for the Council of Europe to champion the Biblical perspective within the public square.

You can find Dr. MacKeller's full report on the Scottish Council of Human Bioethics Web site: www.schb.org.uk.

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Marriage Reminders

Numerous books, essays, magazine articles, radio and television commentaries, and sermons have been dedicated to the subject of Christian marriage. In light of the tragic

divorce rate and the continuing struggles that are experienced by many couples, this is not surprising. Marriage is a subject that has immediate application to a large portion of the population. The comments that are offered in this essay are not necessarily intended to provide new perspectives. They are intended to serve as reminders to all of us, no matter what our marital state may be. After all, few of us can stay “on track” at all times. We sometimes need a gentle or not-so-gentle nudge to return to what God intends for His creation: marriage.

Foundational Truths About Marriage

The first reminder focuses on what we will call “foundational truths.” These truths are found in two passages in the first two chapters of Genesis.

The first passage is Genesis 1:26-28. It states that both the man and woman were created in God’s image. Among many results of such a statement, this affirms the dignity of both sexes among all mankind. Human beings are the zenith of creation; men and women are blessed uniquely by God.

The second passage is Genesis 2:18-25 which asserts several truths that are applicable to the marriage union. First, the woman was fashioned from the fiber of the man, and she was created as an equal but opposite helper for him. Upon observing the newly created woman, the man reacted in a way that indicates he recognized her very special significance. We can only imagine his joy and excitement when he first caught a glimpse of her. Second, God affirms the marital union by commanding that couples are to leave their parents. The priorities are changed; a new family is to be formed. Third, the couple is to cleave together and become one flesh, an affirmation of the sexual union in marriage.

But it is to be much more than simply a sexual union; it is to be a holistic union, a union of the total person, both

material and immaterial, a “oneness.”

These two passages from Genesis should spur us to better appreciate how highly God values marriage and how we should as well. The fact that we are made in God’s image means we should “reverence” and “respect” each other. If it is true that my spouse is made in God’s image, that should prompt me to treat her with great respect and honor. She is not an accidental being; she is specially related to the Creator of the universe. When I treat her with reverence I am paying homage to God.

Second, God’s foundational instructions should lead us to live with our spouses with a sense of commitment that transcends any other earthly relationship. If we are to leave our parents, if we are to cleave to our spouses, and if we are to be one flesh, then we must remember that such concepts are unique. Thus I am giving myself to the most important person in my life. I don’t think of returning to my parents physically or emotionally; I don’t cleave to anyone else the way I cleave to my wife; I am not one flesh with anyone other than her. And the beauty of all this is that God has related these commands for our good. They constitute the first steps to marital fulfillment.

Biblical Symbiosis

Our second marriage reminder centers on what we call “biblical symbiosis.” An illustration of symbiosis from the animal kingdom may be helpful here. There is, for example, a particular species of fish that spends its life in close proximity to the mouth of a shark. In fact, it eats from the shark’s teeth. (This keeps the shark from making too many visits to the dentist.) This is an illustration of symbiosis, or “two different organisms living in close association or union, especially where such an arrangement is advantageous to both.” On the other hand, most of us have had to deal with the irritating results of a mosquito’s attack. The mosquito is an

example of parasitism, "a relationship in which one organism lives off another and derives sustenance and protection from it without making compensation."

Which of these two illustrations should serve as an example of Christian marriage? Surely most of us would reply that symbiosis, not parasitism, should be the correct model. Unfortunately, this model is not always lived out among spouses. The results of a parasitic relationship are devastating, to which many can testify.

The Bible, of course, provides insights that remind us of how the proper model for marriage should be constructed. First, Galatians 3:28 asserts that there is "neither male nor female" and all are "one in Christ Jesus." And 1 Peter 3:7 states that the husband should treat his wife as "a fellow-heir of the grace of life." Thus Christian couples should remember that they are spiritual equals with sexual differences.

Second, we should follow Christ's model. The Lord put Himself in subjection to His earthly parents (Luke 2:51-52) as well as the heavenly Father. He adapted Himself to earthly orders. Even though He was total deity, He humbled Himself for our benefit (Phil. 2:1- 11). In addition, 1 Corinthians 11:3 indicates that Christ modeled the concept of "necessary headship" in that "God is the head of Christ."

Third, we need to be reminded that all things are subjected to Christ (Eph. 1:22-23). This includes His body, the church, of which the Christian couple is a part. Thus a proper view of authority and subjection begins with our allegiance to Christ, the head of the church.

Several thoughts come to mind in regard to these Biblical perspectives, and all of them revolve around the attitude and character of Christ Himself.

Wouldn't it be odd to think that Christ views us based upon whether we are male or female? He didn't die for males before

females, or vice-versa. In our relationship to Him there is no sexual distinction. The Christian couple should take this to heart; there is not to be a “lording over” each other; there is to be no spiritual pride.

It is clear that both spouses are to remember that subjection is the responsibility of all Christians. The Lord has demonstrated this most perfectly. The couple begins with this foundation; then they discover how to combine subjection with a proper view of authority within the family, a concept we will discuss in the next portion of this essay.

Let’s return to our definition of symbiosis: “Two different organisms living in close association or union, especially where such an arrangement is advantageous to both.” Christian marriage should be composed of two different people in a loving union that is based upon subjection first to Christ and then one another. And surely such an arrangement will prove to be advantageous to both.

Responsibilities

What’s a wife to do? What’s a husband to do? Does the Bible provide specific guidelines for each? The answer is a resounding, “Yes!” Our continuing review of “Marriage Reminders” brings us to the third reminder, which we will simply call “responsibilities.”

The wife’s responsibility is most succinctly stated in Ephesians 5:22-24. The term “subjection” is the summary word for her. She is to submit to her husband. Before we continue, though, it is important to note that the verb for subjection is found in verse 21; then it is implied in verse 22. And verse 21 states that all Christians are to “be subject to one another in the fear of Christ.” As we stressed earlier, subjection applies to all of us. But verse 22 does stress that the wife is to have a particular attitude toward her husband.

There is another very important element of this verse that is not stressed often enough. We cannot honestly approach this verse without emphasizing the latter part of it: "as to the Lord." The wife's subjection is first of all to the Lord, then to her husband, because this is the Lord's pragmatic plan for marriage. She is to respect the headship of her husband because this is God's idea, not her husband's. This is not demeaning. It is Godly. Her self-esteem is not based upon her husband; it is based upon her place in the sight of God. There is an important analogy here. She is to recognize that her husband is said to be her head "as Christ also is the head of the church" (verse 23). The wife should recognize this analogy and realize that her husband has been compared to the compassionate and perfect Christ. He has a grave responsibility, and she needs to encourage him by following God's design for her.

Compared to the wife's responsibility, the husband has a sobering and challenging one. His role is also outlined in Ephesians, verses 5:25-33. The most important aspect of this role can be found in the Greek term "agape" (love), which is used to describe how a husband is to respond to his wife. It is important to note that the word is used in the imperative mood. Thus it is a strong command which involves action, not just "feeling." This love is demonstrated, just as God demonstrated His love by giving His son (John 3:16). Also, a humbling analogy is given. The husband is to "agape" his wife as Christ "loved the church and gave Himself up for her." This entails action and sacrifice. The husband is to show his wife that he loves her because she is worth sacrificing himself on her behalf. What an awesome responsibility—a responsibility that should be humbling for those husbands who would use their authority as head of the home to treat their wives in a tyrannical manner. This does not imply that the husband's authority is weakened. The husband is still in a position of headship, but that headship should be used to treat his wife as a "fellow-heir of the grace of life" (1 Peter 3:7). As with

the wife's role, the husband's role demonstrates God's pragmatic plan for marital life.

So the responsibilities are clear: the wife is to submit "as to the Lord;" the husband is to love as Christ loved.

Communication

Most married couples are in need of another very important reminder. That is, their relationship requires communication. The joy of marriage stems from a commitment that is communicated. This vital principle can be related in many ways. We will share three of them.

First, the couple must learn to talk with one another. Perhaps that sounds simple, but don't let its simplicity fool you. Actually too many couples have experienced and are experiencing a deteriorating relationship because they have lost their ability to relate verbally. In my many years of experience in the ministry it has become obvious that one of the major flaws in Christian marriages is a lack of conversation involving anything beyond the absolute necessities. Too many couples don't really know each other. They are often total strangers.

Each spouse has a need to express the deepest longings of the heart and soul with his or her lifetime companion. Sometimes this requires a great deal of effort and courage, especially for a partner who is not accustomed to being vulnerable. But the effort required offers wonderful results. Sharing words that contain a spouse's thoughts, ideas, complaints, doubts, fears, expectations, plans, dreams, joys, and even frustrations can lead to a deepening bond that in turn leads to a stronger marriage.

This type of communication requires concentration. It should be done without interference. Each spouse should give undivided attention to the other. If one is talking, the other

must listen. That's the only way this form of communication can be successful.

Second, couples need to be reminded to communicate better sexually. God has given us the freedom to experience the joy of expressing marital commitment by "becoming one flesh." This rich phrase is certainly meant to refer to sex in marriage, but we cannot forget that the type of sex that we are designed to experience involves more than just a physical act. It also involves the most intimate form of human communication. The Song of Solomon, for example, is full of expressions that indicate the beauty of communication that include, but also transcend the physical. Proverbs 5:15-19 contains many expressions of intimacy, such as forms of the words "rejoice," "satisfaction," and "exhilaration" which emphasize both the physical and non-physical aspects of sexual intimacy. 1

Thessalonians 4:4 states that a spouse is "to possess his own vessel in sanctification and honor," words that entail something beyond the physical. It would be difficult, for example, for a man to honor his wife sexually without communicating love, appreciation, patience, compassion, and many other attitudes that are much-needed by his spouse.

Third, most marriages can benefit from communication that is unspoken and nonsexual. Meaningful glances, unexpected flowers, cards sent for no reason other than as an expression of love, a gentle touch; these are the ways of communicating that can sometimes mean the most. They are the types of things that are stored in a couple's memory bank to be withdrawn again and again.

It is helpful to note that nonverbal communication often leads to or reinforces verbal and sexual communication. A certain glance can be very romantic to some; an unexpected flower can remind one of a very special day; a card can spur significant verbal communication.

The couple that learns to communicate verbally, sexually, and nonverbally will experience the joy of marriage.

Little Things Mean a Lot

“Little things mean a lot” is a maxim with a lot of meaning for marriage. Most husbands and wives can benefit from being reminded of this. The following lists include some of those “little things.” They are offered with the hope that they will encourage you to consider which of them could be helpful in your marriage. Wives, in particular, are usually deeply touched and encouraged through such things. And husbands can certainly be positively affected when their wives take the time to do the little things that mean so much.

We begin with suggestions for wives.

- *Pray for your husband daily.*
- *Show him you love him unconditionally.*
- *Tell him you think he's the greatest.*
- *Show him you believe in him.*
- *Don't talk negatively to him or about him.*
- *Tell him daily that you love him.*
- *Give him adoring looks.*
- *Show him that you enjoy being with him.*
- *Listen to him when he talks with you.*
- *Hug him often.*
- *Kiss him tenderly and romantically at times.*
- *Show him that you enjoy the thought of sex.*
- *Show him you enjoy meeting his sexual needs.*
- *Take the sexual initiative at times.*
- *Express interest in his interests.*
- *Fix his favorite meal at an unexpected time.*
- *Demonstrate your dedication to him in public.*
- *Do things for him he doesn't expect.*
- *Show others you are proud to be his wife.*
- *Rub his back, legs, and feet.*

- *Stress his strengths, not his weaknesses.*
- *Don't try to mold him into someone else.*
- *Revel in his joys; share his disappointments.*
- *Show him your favorite times are with him.*
- *Show him you respect him more than anyone.*
- *Don't give him reason to doubt your love.*
- *Leave "I love you" notes in unexpected places.*
- *Give him your undivided attention often.*
- *Tell him he is your "greatest claim to fame."*
- *Let him hear you thank God for him.*

Now here are suggestions for husbands.

- *Say "I love you" several times a day.*
- *Tell her she is beautiful often.*
- *Kiss her several times a day.*
- *Hug her several times a day.*
- *Put your arm around her often.*
- *Hold her hand while walking.*
- *Come up behind her and hug her.*
- *Always sit by her when possible.*
- *Rub her feet occasionally.*
- *Give her a massage occasionally.*
- *Always open doors for her.*
- *Always help her with chairs, etc.*
- *Ask her opinion when making decisions.*
- *Show interest in what she does.*
- *Take her flowers unexpectedly.*
- *Plan a surprise night out.*
- *Ask if there are things you can do for her.*
- *Communicate with her sexually.*
- *Show affection in public places.*
- *Serve her breakfast in bed.*
- *Train yourself to think of her first.*
- *Show her you are proud to be her husband.*
- *Train yourself to be romantic.*

- *Write a love note on the bathroom mirror.*
- *Call during the day to say "I love you."*
- *Always call and tell her if you will be late.*
- *Let her catch you staring lovingly at her.*
- *Praise her in front of others.*
- *Tell her she is your "greatest claim to fame."*
- *Let her hear you thank God for her.*

Of course these lists are not exhaustive. The number of things that can be done to build up a marriage may be limitless. When our imaginations are active, we can discover exciting and uplifting ways to experience the wonder of marriage.

In summary, we have seen that marriage needs to be built on God's foundational truths, that marriage should be a relationship that blesses each partner, that specific responsibilities are given to the wife and husband, that communication is one of the important building blocks of a strong marriage, and lastly we have been reminded that "little things mean a lot."

May God bless us as we strive to put these reminders into practice.

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