Case 1

Environmental longitudinal collective action problems (LCAPs) pose potentially severe consequences for human beings, vast arrays of ecosystems, and the entire world we inhabit. LCAPs arise from the combined effects of the seemingly insignificant actions of a vast number of individuals acting more or less autonomously and without ill-intent. The prime example of an *environmental* LCAP is global warming. While global warming is a complex issue involving many contributing factors, a large body of evidence suggests that at least one of these contributing factors is the collective byproducts of human energy consumption.

Driving one's vehicle is an interesting and problematic contributor to this problem, wherein everyone who drives a car does so not to accomplish the end of destroying the environment, but to use an effective means of transportation. Not only this, but because nearly every citizen of legal driving age and with the financial means has a motorized vehicle, there is an immense lack of social pressure for drivers to walk or cycle. For drivers, the impetus to stop driving is, hence, very low. When nobody else wants to stop driving (and it's not illegal), combined with the apparent fact that one individual's act of noncompliance will have virtually no significant impact on global warming, it should be no surprise that drivers are still on the road. This is what is called the *problem of inconsequentialism:* the effects of one individual's not driving are virtually inconsequential.

The problem of inconsequentialism feeds directly into environmental LCAPs such as global warming. If people are convinced of the inconsequential nature of their actions as individuals, and there is no evidence to suggest that "anyone else is doing it," large-scale problems which *require* large numbers of people to solve are at a seeming impasse.

Specific Question: Given the problem of inconsequentialism, do drivers have any moral obligation to ride a bike, walk, or take public transportation?

General Question: Which ethical theory is best equipped to address the nature of environmental longitudinal collective action problems, and why?

Case 2

The Bird Flu (or Avian Influenza) Virus is a highly mutative and pathogenic virus which has been either the definitive or suspected cause of several deadly and worldwide outbreaks throughout history. Currently, an emergent strain of the Bird Flu Virus, called "H5N1," has come under the close observation of researchers and scientists. Owing to its particularly contagious and health-threatening nature, researchers have claimed that H5N1 is possibly at least as threatening, and potentially more threatening, than the Spanish Flu epidemic. Although vaccines are in development, H5N1 is known to continually mutate, rendering such methods of prevention limited or ineffective.

The best-known prevention method is thought to be a "pre-pandemic" vaccine. But since H5N1 continually mutates, researchers must deliberately encourage H5N1 to mutate into a more deadly form; researchers then attempt to create a vaccine to treat that more deadly variant of H5N1. Provided both the deadliness of the virus and the ineffectiveness of current treatment/prevention methods, but also considering the dangers of bio-terrorism and government exploitation (such as stockpiling), many are concerned that the development of a more deadly H5N1 strain carries dangers which far outweigh the potential benefits. Additionally, the government and pharmaceutical companies could seek to gain immense profits from the sale of "pre-pandemic" vaccines regardless of whether or not the claims of deadliness are exaggerated.

Specific Question: Should governments be allowed to fund research of more deadly/toxic strains of viruses like H5N1 Bird Flu virus given that this virus, in the wrong hands, could pose a serious threat to world health?

General Question: Given the research, development, and organizational costs of deadly pandemics, is the government justified in distributing "pre-vaccines" for a profit?

Case 3

In 1970 Denver was awarded the 1976 Winter Olympics, an honor for which most cities strive. But in 1972 the people of Colorado voted overwhelmingly not to fund the games and they were subsequently relocated. Voters around the state were concerned that development for the games would forever change the mountain landscape, and that the existing infrastructure could not support the influx of visitors as there was not yet a major highway into the mountains. Additional concerns grew about whether the economic benefits would cover the cost of building the venues. Currently, Colorado is considering another bid, this time for the 2022 games. The state has undergone significant development in the last 40 years and the mountains have been built up by resorts, but questions persist about the environmental impact of the games. The Winter Olympics also have an inconsistent economic track record in North America, with the success of Salt Lake City in 2002, but the lackluster results of Vancouver in 2010 and Calgary in 1988.

Specific Question: Would the economic and social benefits of hosting the Olympics outweigh the environmental concerns?

General Question: Do the lackluster results of recent winter Olympics bring into question the overall viability of the winter Olympics?

Case 4

The ethics of the modern meat industry have been criticized for issues ranging from animal rights to overusing natural resources, but scientists have proposed growing meat synthetically as an alternative to raising livestock that could avoid such pitfalls. Though genetically identical to real meat, synthetic meat currently lacks the customary texture and appearance of meat and is not currently ready for production, but it is progressing quickly. Researchers believe that commercial scale production could make synthetic meat economically feasible in the near future, but is not likely to be a solution to world hunger as it's expected to be substantially more expensive than live meat production. Critics are also concerned about the ethical implications of growing animals, and the impact this would have the existing meat industry.

Specific Question: Assuming the taste, texture and appearance of synthetic meat were made identical to that of natural meat, would a mandated switch away from conventional meat production be justified?

General Question: Irrespective of its being "unnatural," do the consequences of producing synthetic meat outweigh those of naturally produced meat?

Case 5

Sightseers flock to Colorado's Rocky Mountain National Park (RMNP) for its spectacular peaks, but recently the attraction of the park's wildlife has been gaining popularity. An enormous elk population has made the safety of RMNP their home, and at the peak there were an estimated 3,100 elk in the area, far above the ideal population of 1,600-2,100. This density has led to an outbreak of chronic wasting disease, a rare illness similar to mad-cow disease, affecting as many as 1 in 9 elk in the park. Chronic wasting could spread from the park, putting nearby domesticated cattle and elk at risk, as well as wild animals around the state. Elk populations are properly regulated in most places by hunting and predators, but no hunting is allowed in National Parks and there are few large predators in Colorado. Park rangers have been culling elk with sharpshooters and with lethal injections, but these methods have offended park guests and require a long term commitment to human intervention. Other proposals include reintroducing wolves to the area, introducing chemical birth control for the elk, and some have suggested that chronic wasting disease could provide population control on its own.

Specific Question: What would the best method for managing elk in Rocky Mountain National Park be?

General Question: To what extent should humans be involved with intervening in and controlling natural processes?

Case 6

Among the challenges facing parents of developmentally disabled children is the prospect of how to care for their children as they grow. When a child is a young and small, parents can often handle basic daily care tasks like moving, feeding and bathing. The bigger the patient, the harder these tasks are, and when the parents are no longer able to handle it on their own, the family is frequently stuck finding out-of-home placement and transitioning from the pediatric to the adult medical system. To avoid this, hormone therapy has been proposed to control the size (i.e., stunt the growth) of profoundly disabled children who might pose safety risks to themselves and their caregivers if they become too large for home care. High-dose estrogen treatments are known to be effective for controlling growth, but the long-term results and side effects of this treatment are unknown. Though unusual, hospital ethics committees have authorized use of hormones for growth attenuation, citing the child's best interest. But disability advocates have raised concerns about the medical system's history of sterilization and eugenics for disabled patients, and fear that growth attenuation could be implemented on a large scale.

Specific Question: Do the concrete benefits of hormonal growth attenuation for the parents outweigh the possible harm to the child?

General Question: Do severely developmentally delayed individuals have a right to grow to physical maturity?

Case 7

In 2001, a study was released that suggested there might be a link between early childhood vaccinations and autism. Several follow up studies have proven the first study to be erroneous, however, the damage had already been done and the rate of early childhood vaccinations fell around the globe. As a result, diseases once thought extinct, such as whooping cough and measles, began to reappear.

With the risk of these diseases becoming a real threat again, doctors struggle with a dilemma: those families who choose not to immunize are at risk for exposure to deadly and highly contagious illnesses that could expose other children in doctors' offices. Doctors must decide where their obligations lie: to the single (unvaccinated) patient or to the bulk of their patients.

Because of the effectiveness of immunization some have suggested that it might be necessary to remove the biased opinion of parents and simply mandate that all children must receive all legally-mandated vaccinations. In the United States, children must be vaccinated in order to attend public school. As a result, the U.S. rate for most vaccinations is over 90%, while the U.K. rate, which has no such laws, is under 90% and has even dipped below 80% at times over the last decade.

Specific Question: Should parents be forced to vaccinate their children from certain diseases that are highly pathogenic and dangerous?

General Question: Should doctors be allowed to deny care to families that refuse to vaccinate their children?

Case 8

In 2007, South Korea started working on a charter to create a code of ethics surrounding the future of robots. And the South Korean government has a plan in place right now to ensure that every South Korean household will have a robot in it by 2020. It might appear a bit premature to be talking about the future of robot ethics, but the more we learn about the human brain, the more we seem to find that there is nothing all that ghostly about consciousness. It is simply the firing of certain patterns in the brain, patterns that one day people will most likely be able to mimic in an artificial brain.

But at what point do robots stop being machines and start being considered a form of artificial life? Given the human penchant for abuse, are there not dangers in creating robots that think, look, and act as humans do? In 2006, EURON (The European Robotics Research Network) said that a code must be created, which considers the possibilities of hostility to and from robots, how to avoid accidents, trace robots, ensure the secrecy of their data, and monitor the nature of their intelligence defined them as, "an alien sort of intelligence."

Specific Question: Should robotic scientists attempt to install a code of ethics into robots as their intelligence grows?

General Question: Given the human penchant for abuse, are there not dangers in creating robots that think, look, and act as humans do?

Case 9

Super Bugs are defined as bacterial strains that are resistant to many different antibiotics and/or radiation. In 2010, there were cases of Super Bugs in 35 different states with fatality rates ranging from 30-60%. Many scientists and doctors today believe that antibiotic misuse is the cause of the growing number of Super Bugs. When doctors continually prescribe antibiotic medications to patients that do not need it, it allows the bacteria to evolve and adapt so that the next time the bacteria strikes, using antibiotics will not kill it. 90-95% of all illnesses are caused by viruses or low-yield bacteria that do not need antibiotic medication, and yet nearly 50% of all infections are treated with antibiotics. Some scientists have even suggested that if the world continues down this path of over-utilizing antibiotics that in 50 years, there will no longer be effective ways to fight illnesses such as pneumonia and meningitis, which are highly infectious and deadly bacterial diseases.

An example of the frightening rate at which these diseases evolve can be seen with the bug *Staphylococcus aureus*. In 1941, every strain of *Staphylococcus aureus* could be treated with Penicillin. Now, 70 years later, less than 5% of the strains can be cured with Penicillin. This is occurring not only because doctors prescribe drugs when they shouldn't, but also because they prescribe a large spectrum of antibiotics, which allows these bacteria to become resistant faster and to a much larger gamut of drugs than they otherwise would. So, as long as doctors continue to prescribe antibiotic medication at an alarming rate, and as long as they continue to prescribe a broader spectrum of antibiotics than is necessary, it seems certain that bacterial infections will continue to evolve until antibiotics will no longer be useful anymore.

Specific Question: Do doctors have an ethical duty to not prescribe medications to patients if there is only a small chance that the drugs might help?

General Question: Given that pharmaceutical companies, doctors, and patients all contribute to this practice of over medication, who should be held most accountable?

Case 10

Some clinicians prescribe prenatal dexamethasone to pregnant women suspected of carrying a 46,XX (female) fetus with 21-hydroxylase deficiency, a form of congenital adrenal hyperplasia (CAH). Such girls make extra androgens, and in the womb this may cause their genitalia to look like something in between a female's and male's. Prenatal dexamethasone does nothing to prevent or treat the CAH. Instead, it is used to try to engineer normal-looking genitalia.

There is evidence from animal studies that prenatal dexamethasone treatment leads to brain cell death. Evidence from human studies indicates an increased risk to the children of problems with working memory, speech processing, and anxiety. Because the steroid is given before the sex of the fetus can be known, and because only some of the fetuses will have CAH, 87.5 percent of the pregnant women started on dexamethasone for this use are not even carrying an affected child. (In fact, half of the fetuses started on the treatment will be males.) This means almost 90 percent of those fetuses are being given a steroid that might harm them and can do them no good whatsoever.

Specific Question: Should this be done so that the 10 percent of children who can be helped will have normal-looking genitals?

General Question: Is it ethical for the parents to decide to engineer the hormones of fetuses in the prenatal stage of life for cultural or medical reasons?

Case 11

Before the accident, Candace frequently expressed her desire to one day get married and have children, so as to continue the family line. She even came up with names for any children she would have in the future. However, at 18 years old, she suffered a traumatic accident which left her with the cognitive and communicative abilities of a 5 year old. Today, her mother and father provide care for her. Neither of the parents is capable of producing any more children, but for both cultural and personal reasons, they desperately don't want the family line to end with them. They ask their doctor if he would arrange for their daughter's ovaries to be stimulated so her eggs could be harvested for fertilization with donor sperm and the resulting embryos brought to term by a contract birth-giver. They plan to rear their resulting grandchild themselves.

Specific Question: What would constitute relevant consent from the patient in this case?

General Question: Is it morally acceptable for doctors and parents to harvest the patient's eggs for the purpose of reproducing?

Case 12

Due to an accident at birth, Renée suffered anoxia, and as a result, her upper brain was destroyed. She is completely unresponsive to pain, noise, light, and physical contact. Her doctors explain to the parents that she is in a persistent vegetative state from which she cannot recover, and discuss stopping the ventilator. The mother wants to wait another day, just to be sure, so at the end of 24 hours the baby is withdrawn from the ventilator. Renée continues to breathe on her own, however. The doctors explain that her brain stem is still intact so that, while she might breathe on her own for quite a while, she will still never become conscious, as she has no upper brain function. They suggest withholding fluids and nutrition to allow Renée to die. When the parents learn that this strategy would not bring about death immediately, and that Renée would take from 5 to 10 days to die, they are very distressed. They ask if she can be given a "general anesthesia" so that she will die more quickly. The doctors can ensure minimal pain on the part of the infant, but it will still take about a week for the infant to die. The doctors tell Renee's parents that they, the doctors, are not allowed to give the infant lethal amounts of drugs, even if they wanted to.

Specific Question: Irrespective of what the law says, is it morally permissible for doctors to take direct measures to end the life of an infant in order to alleviate the suffering of the parents?

General Question: Irrespective of what the law says, is there a morally relevant difference between withdrawing the infant from the ventilator and administering lethal doses of anesthetics?

Case 13

In the aftermath of Hurricane Katrina two years ago, more than a thousand bodies were recovered in the city of New Orleans. Among the dead were 34 patients from Memorial Medical Center, a hospital that was stranded, isolated, in ten feet of water and without power for four sweltering days.

Louisiana's attorney general stunned the city when he claimed that four of Memorial's dead did not die from illnesses or even from the horrific conditions but that they were murdered. Even more stunning, a highly respected doctor and two nurses were arrested.

Patients lay soaking in squalor. Nurses broke windows for air and fanned patients. The seventh floor was most critical. A separate company called Lifecare ran an acute care facility for the severely ill. When their doctor didn't show, Dr. Pou and a handful of other doctors and nurses did what they could.

There were sporadic evacuations, but it took a tremendous effort. Patients had to be carried down as many as seven flights of stairs, then back up again to a helipad on a garage. It was a battlefield and several died in the process.

"The hospital, you have to remember, was pitch black. We couldn't see our hands in front of our face. We had to examine patients using flash lights," Dr. Pou remembers. "The patients realized there wasn't a whole lot that we could do for them, except to provide the most basic care and they were worried, you know. You know, 'I don't feel well. When am I gonna get out of here?'"

By Thursday morning, another ten patients were dead. Then something worse happened: word spread that no organized rescue would be coming.

Dr. John Kokemor was stunned. "That was actually what was told to us, that help was not on the way," he recalls.

The attorney general says in an affidavit that several witnesses claim that Dr. Pou, along with nurses Budo and Landry headed up to the Lifecare facility on the seventh floor, where there were nine patients that doctors say were too sick to be moved.

Dr. Pou said, "a decision had been made to administer lethal doses" to patients who probably were not going to survive. Witnesses claim that Dr. Pou said she took "full responsibility." And then, according to Foti's affidavit, the doctor and nurses were seen entering patients' rooms with syringes and vials of drugs.

"I mean they had 'do not resuscitate,'" one nurse remarks.

"Some did, some didn't. Do not resuscitate does not mean do not rescue," the attorney general argues. Though no longer facing life in prison, the three women still face civil lawsuits brought by the families of those who died.

Specific Question: In this specific circumstance, does a patient's "do not resuscitate" order imply that resources should not be diverted to rescue them?

General Question: Generally, under what conditions would "do not resuscitate" entail "do not rescue"?

Case 14

John and Peggy R. of Seattle, Washington, were married in April 1992. When they married, both of them wanted to have children. After several years of trying unsuccessfully to have a child, the couple visited a fertility clinic, where Peggy was induced to produce several eggs. The eggs were then fertilized with John's sperm and several 8-celled embryos were artificially produced in a glass test tube. Peggy then underwent surgery and was implanted with the embryos for a total of five different times. None of the attempts to have a child were successful.

John and Peggy began to have marital problems after a few years. The clinic had frozen 10 of the embryos made by John and Peggy during a happier time in their marriage. Peggy decided to keep the embryos to use in future procedures to try and have a baby. She felt that the embryos were her last chance at being a mother. John, however, decided to never have children with his ex-wife and wished to donate the embryos to research.

Both John and Peggy had signed a consent form at the fertility clinic that stated that any unused embryos would be donated for research, but the embryos could not be released without the consent of both donors. The agreement said, in the case of divorce, ownership would be determined in a property settlement or decided by a court.

The potentially precedent-setting dispute over the fate of the frozen embryos has ended up in the U.S. Supreme Court. The nation's highest court is scheduled to hear the case. The case will decide whether the frozen embryos deserve the protection received by a fetus or that of mere property. The court decision could affect as many as 20,000 frozen embryos across the country. John won in Washington's lower courts.

Specific Question: To whom should custody of the embryos have been granted?

General Question: To what extent do our moral obligations towards property and our moral obligations towards non-property differ?

Case 15

For families who wish to adopt a child, international adoptions often seem much more appealing than adopting within one's own country, particularly within the U.S. Wait times can often be significantly shorter for international adoptions, and the chance of a birth parent resurfacing to legally reclaim an adopted child is often significantly reduced with international adoptions. However, international adoptions are not unproblematic. In some parts of the world, particularly in Eastern Europe where disreputable orphanages appear to be widespread, forces have mobilized to exploit the ability to foster children cheaply in order to turn a greater profit by selling to foreign bidders.

Additionally, children are abandoned in poorer countries not only because of poverty; AIDS, genocide, and political policies yield a substantial number of abandoned children all across the globe. But if wealthier families' motivation in adopting internationally is at least partially to help these children, they might do so more effectively by donating money to reputable aid organizations.

Further, even though internationally-adopted children most likely stand to benefit in many ways by being raised in a wealthier nation, they are plucked from the culture of their birth; a proper redistribution of resources would enable communities around the world to raise children in accord with their own cultural heritage and family ties so that many families simply wouldn't need to give up their children.

Specific Question: If one's goal in adopting internationally is to aid a child (and not necessarily to build a family), is it morally preferable to adopt a child or donate money through a reputable organization?

General Question: Under what conditions, if any, is it morally acceptable for families from wealthy nations to adopt children from poorer countries?