DEBATE: RAY GREEK VS. ANDREW SKOLNICK
MAY 1, 2005

MR. SKOLNICK: It's an honor to be here taking part in this debate. I want to thank you Dr. Nathan Nobis and Dr. Ray Greek and others who made this possible.

Is there an echo? I'm getting a -- or am I lisping here?

I am a medical journalist who for more than nine years served as an associate editor at the Journal of the American Medical Association, which gave me a unique position as a journalist and investigative reporter to observe medicine at its best and at its worst.

I understand a lot of what's wrong with the American medical system and also with medical research. But I don't agree with Dr. Greek's arguments that because the water is a little murky we need to throw out the baby with the bath water.

He argues that because animal experiments don't always yield reliable results, animal research must therefore be halted. Dr. Greek's views serve the animal liberationists who support him. I don't believe they serve any human being who is prone to disease. And that's each and every one of us.

I came to Amherst from Chicago a little over a year ago to head a new division of the Center for Inquiry called the Commission for Scientific Medicine and Mental Health. The commission was established to defend science-based medicine and mental health practices against the attacks of medical quacks and other opponents of evidence-based health care. We sponsor two peer-review journals, the Scientific Review of Alternative Medicine and the Scientific Review of Mental Health Practice.

So why am I here defending the use of animals in biomedical research? I'm here because animal experiments are an essential tool for biomedical studies. This vital tool is now being attacked not by researchers but by spokespersons for animal liberation groups, such as PETA -- that's People for Ethical Treatments of Animal -- and its front group, Physicians for Responsible -- I'm sorry, Physician Committee for Responsible Medicine, which is neither a committee of physicians nor an advocate for responsible medicine.

Today science is coming under increasing attacks from a wide variety of groups that have agendas inconsistent with free inquiry and reason, which are what the Center for Inquiry and the Commission for Scientific Medicine and Mental Health were established to defend.

However, today I am speaking only for myself. I am not speaking for either CFI or the Commission because the Commission has not yet adopted a position on these issues. I therefore speak only for myself.

While I reported on the animal liberation movement 10 to 15 years ago for the Journal of the American Medical Association, I haven't kept up with the issues or on the escalating

acts of violence against scientists who use animals in their research. But less than two months ago Dr. Nobis gave a talk at CFI which brought me back to the subject and to agreeing to this debate. I've been working on it in my spare time, and I regret that the talk is only half finished. So you'll have to forgive me later on when I have to wing it.

What motivated me most were the attacks on the March of Dimes that Dr. Nobis, Dr. Greek, and other animal rights extremists are conducting, such as they do in the publication like this magazine published by the PETA-sponsored Physicians Committee for Responsible Medicine, or PCRM.

A few weeks ago on April 12th, I and many others throughout this world celebrated the fiftieth anniversary of the conquest of polio. On that day in 1955 March of Dimes-funded researchers announced the results of the Salk polio vaccine field trial. The whole world rejoiced when it was announced that the vaccine was safe, effective, and potent.

That was just 17 years after President Franklin Roosevelt established the National Foundation for Infantile Paralysis in 1938, which became known as the March of Dimes, following a comment by comedian-actor Eddie Cantor, who told the radio audience that he wanted to see a march of dimes right into the White House to fight this terrible disease.

And march those dimes did. It took the contribution of more than 100 million Americans to do it. But in less than 20 years March of Dimes let researchers develop two vaccines -- not just one -- to conquer polio and wipe it from our planet. But they had to do it with the help of tens of thousands of monkeys and other animals, which is why animal right extremists now despise the March of Dimes.

But let's look at what the sacrifice accomplished. Five years ago only -- I don't think I have -- no, I don't have the slides. Five years ago only a dozen or so countries were reporting cases of polio. And last year that number shrunk. I had slides, but they -- apparently they're not here. There's only a handful of countries now where polio is isolated, India, some parts of Africa. Thanks to international efforts to eliminate the remaining pockets of polio with the polio vaccines, this dreadful disease is close to being completely eradicated the way smallpox was.

Few -- I would say there's probably only one other person here that -- that remembers what the terror of polio was like. Many of you probably don't know anybody who was crippled with polio. Few of you can ever imagine the terror that this disease caused. One of the great polio epidemics struck New York City in 1916 which caused thousands of people to flee the city in a panic, only to be met by armed citizens in the neighboring communities who threatened to shoot them if they didn't turn around and go back.

The epidemic of 1952 was far worse. It crippled or killed more than 58,000 children and adults in the United States alone. And the following year in the fall of 1953, the March of Dimes began the largest clinical trial ever conducted. More than a million school children were vaccinated with the killed virus vaccine that Dr. Jonas Salk developed by using

17,000 monkeys to establish that that vaccine could produce immunity to every strain of polio virus in the world.

Another 3 million children served as controls. I was one of those children. I was in the second grade. And I remember seeing the volunteer children getting vaccinated in my school's gym. And I remember the news a little over a year later announcing the spectacular success of that vaccine.

It's hard to describe the terrible fear that returned every summer, the season when polio was by far the worst. Parents wouldn't allow their children to go to swim in public pools. And like my parents, many wouldn't let their children go to movie theaters. I was ten years old before I was first allowed to go to a movie theater. And I remember that day. I saw James Cagney in A Man of a Thousand Faces, in case you were wondering. Excellent film.

And it's just -- it's not just the disinformation campaign that animal rights extremists are conducting about the history of the polio vaccine. In fact we saw a slide here saying that the polio vaccine was delayed because of animal research. That's categorically not true.

I am also dismayed by their attacks on the foundation's current efforts to defeat birth defects. After conquering polio, the March of Dimes rolled up its sleeves even higher than it did before and turned its impressive fund-raising and research-granting machinery to the goal of conquering birth defects, all several thousands of them.

I know how impressive this machinery is, because after graduating Columbia University, Graduate School of Journalism, I went to work for the March of Dimes as a science writer. It was my job to study the research funded by the foundation and explain it to the news media and to the public. I worked for the foundation for three and a half years and came away with the utmost respect and appreciation for what this remarkable charity has done and continues to do.

So when I learned about the campaign of disinformation that animal rights extremists are conducting against the March of Dimes, I volunteered to speak up here. Because the March of Dimes refuses to be blackmailed to discontinue the funding of animal research, animal rights extremists are trying to persuade groups to stop donating to the foundation.

Let me -- yes. Many of you haven't seen an iron lung. You may not even know what it is. But back a half a century ago hospital wards were filled with iron lungs that did the breathing for children and young adults. Today they're relics of museums.

This is a Web site that PETA has up, "March of Crimes" Web site, where it vilifies the March of Dimes. And it says what -- I don't have the copy of a letter that Dr. Nathan Nobis, identifying himself as a representative of Physicians Committee for Responsible Medicine, sent to the executive board of the Spanish and Latino Students Association of the City of Rochester in attempt to stop them from raising money for the March of Dimes Birth Defects Foundation.

Quote, "You might not know that the March of Dimes sponsors exceedingly cruel research that in no way helps children," he wrote. Nathan referred the Spanish and Latino Students Association to a Web site run by PETA called the "March of Crimes." PETA and its pseudoscientific front group, PCRM, are also attacking other leading charities that refuse to stop funding animal research, such as the American Cancer Society and the American Heart Association, the Arthritis Foundation, and others.

For example, here's a sidebar published -- oh, by the way, this is a little handwritten note from the March of Dimes campaign coordinator of PETA that was left on the front stoop of the president of the March of Dimes. It's a little intimidation tactic. It mentions how she visited all the neighbors and told them what terrible things the president and the March of Dimes are doing.

Well, you'll find out how intimidating this is when I talk a little bit more about PETA's operations and the people they support.

This is a sidebar that appeared in that Good Medicine magazine of PCRM. It encourages people instead of donating to the Arthritis Foundation, which conducts great research in the treatments and cure of arthritis -- instead it says to donate to the Arthritis Research Institute of America and the Arthritis Trust of America. So let's take a look. Here is the Arthritis Research Institute of America.

First let me tell you, the Massachusetts -- do I have that? -- yeah. Here's the Massachusetts chapter of the Arthritis Foundation. It has a three-star rating. 86 percent of its donations, the people give, goes to funding programs.

Now, let's take a look at the charity that PCRM is recommending. 35.3 percent goes to programs. The rest goes to salaries, expenses, and fund-raising efforts.

Let's take a look at the other organization that they're telling people to donate to. The Arthritis Trust of America, this is a fringe group that claims to have already found the cure for arthritis and other immune diseases. Its Web sites state, quote, "We tell folks how to get well from so-called autoimmune or collagen tissue diseases, such as the rheumatoid diseases and related diseases, by means of physician referral, publications, and when money is available, we fund alternative complementary holistic medical research.

Of course if this foundation does have the cure for so-called incurable arthritis, why would they spend any money on research, alternative or otherwise, when they should be using it to provide the cure to sufferers?

So is this responsible medicine that PETA and PCRM is offering? I'd like to tell you more about PETA and the so-called Physicians Committee for Responsible Medicine, but I first want to tell you about some of the March of Dimes-supported research involving animal studies that have already saved hundreds of thousands of children from death and crippling birth defects.

Respiratory distress syndrome, also known as hyaline membrane disease, was a great crippler and killer of low birth rate babies. Babies born before their lungs are mature enough to function normally would often develop this mysterious devastating disease that would cause their tiny lung sacs to collapse, leading to suffocation. March of Dimes-supported research with animals led to the development of a very effective treatment that has cut the death rate from respiratory distress syndrome in half. It also greatly reduced the incidence of lasting disabilities among survivors of respiratory distress syndrome.

The treatment involves coating the baby's lungs with either an animal-derived or artificial sulfactant into the lungs mature enough to produce their own natural sulfactant. This research was conducted on animals first because you can't do this with human babies.

Another great killer of newborns was a birth defect called persistent pulmonary hypertension. This defect causes increased blood pressure in the blood vessels of the baby's lungs and prevents the lung sacs from expanding and contracting normally. A major advance in the treatment of babies with this defect came about through March of Dimes-supported animal research.

The treatment involves a tiny amount of nitrous oxide, a powerful but toxic gas that causes constricted blood vessels to relax. The safe and effective amount of this gas for babies was worked out using animal models for the disease. The treatment has significantly reduced the toll of injury and death from this birth defect.

Patent ductus arteriosus is the most common birth defect involving the baby's heart. Before birth there is an opening between the fetus's aorta and the pulmonary artery to circumvent the lungs, which of course aren't used in utero. In some babies that opening doesn't close after birth, which prevents the baby from getting sufficient oxygen through his or her lungs. Severe cases had to be treated with risky and traumatizing surgery.

Thanks to March of Dimes-funded research involving animal models, the causes of the birth defect were worked out and effective drug treatments were developed to safely close that opening. Animal research showed how prostaglandins keep this opening from closing after birth. And animal research showed that prostaglandin inhibitors could safely close it.

So now drugs like indomethacin are being used to treat babies with patent ductus arteriosus instead of hazardous heart surgery. That same research led to a successful treatment for another common birth defect of the heart that once killed many newborn babies. Hypoplastic left heart syndrome results when the left side of a baby's heart is too weak to pump enough blood through the heart to keep the baby alive. By treating those babies with prostaglandin, doctors now are keeping the baby's ductus arteriosus open instead of closing it. Creating a patent ductus arteriosus in these babies allows the right side of the baby's heart to pump blood through the lungs to keep it alive long enough for doctors to surgically repair its malformed heart.

These are just a few of the many advances brought about by animal research, the research that animal rights extremists insist do not help babies.

Let me -- this old photograph of a miner carrying a canary into the mine, they used to be used as an early warning for miners because they. . .

(End of Side A, Tape 1.)

(Side B, Tape 1.)

MR. SKOLNICK: . . . sensitive to carbon monoxide poisoning than humans. So when the canary staggers and falls off the perch, the miners knew to get the hell out of there. Carbon monoxide is a -- is a odorless, tasteless, colorless gas. It's -- you probably know just how dangerous it is in the home where it can't be detected if you don't have a device.

Well, we didn't have carbon monoxide devices to test for carbon monoxide until recently. So they used canaries because, as Dr. Greek said, the respiratory system of the canary is quite different from humans, but a difference that makes no difference is no different. The fact the sensitivity, the fact that a canary is more sensitive than humans to carbon monoxide allows it to be used as a model, as a safety warning.

And that's exactly what many animal studies are doing. They are not, as Dr. Greek claims, they are not predictors of whether human beings -- whether a drug is safe in human beings. They are models to tell us something about the drug, how it's metabolized, how it's -- how the body of a mouse or a mammal uses it. It gives us the information that we can then use in developing the drugs.

Steps in drug development. Preclinical toxological tests -- I'm sorry preclinical, that involves toxological tests, animal studies. Next comes the phase one clinical trial, which uses -- requires about 20 to 80 healthy volunteers. Then there's the phase two clinical trial, which will use about 100 to 300 volunteer patients. Phase three clinical trials require up to 3,000, 3500, or even more patients. Following the completion of phase three trials, the FDA will review the data submitted.

The animal studies are submitted to the FDA, and they use that too in order to see things about the drug, such as carcinogenicity and teratogenicity, meaning, you know, does it cause birth defects? You can't do -- it's not ethical or legal to conduct a carcingenic test or teratogenic tests on a human being. So they're not done.

So they use those -- they use animal models, a number of different species to learn something to see whether these drugs might -- not will but might cause cancer or birth defects in humans. This is the canary in the mine. This is not the -- not used as a test to see if these things cause cancer or birth defects in humans. This is a misrepresentation of the facts. They are guides to the clinical -- clinical trials.

So put it another way. Animal studies of drugs are not used to determine whether these drugs are safe and effective in humans. They are done to generate hypotheses. The hypotheses are then tested in clinical trials using humans.

This is a graphic to show you just how complex the drug approval process is. But animal testing just collects the information that's useful for doctors and researchers to test them in humans.

Accutane. Accutane is a vitamin A -- it's similar in structure and function as vitamin A. It's -- the actual name is isotretinoin. Accutane is the product name, the trade name. It's insert warns -- very, very, very strong warning -- it causes birth defects. It is a major, a very powerful teratogen causing about -- I think about 20 percent of pregnant women who take this drug during the critical time will have a child with birth defects.

This was not discovered in humans. It was discovered in animals. Or I should say it was predicted by animal studies. Vitamin A, high doses of vitamin A, causes birth defects in animals. So when this drug came along and was about to be marketed, the FDA and researchers knew they had to watch this very carefully because vitamin A, large amounts of vitamin A in the body, a small amount of it is turned into isotretinoin, which was a very powerful teratogen.

Well, sure enough, they watched. And when the first defects, birth defects, started to appear in women who had taken isotretinoin, the alarm really went up and they started getting very serious about this warning.

So again, the animal studies was a canary in the mine. It was not a test to see whether it's safe in people or not. Clinical trials are done to determine that.

Vioxx. This -- there's that article in the -- all right, don't have it. There's an article in Good Medicine which blames the Vioxx debacle on animal studies. And Dr. John Pippin, a cardiologist, a member of the so-called Physicians Committee for Responsible Medicine -- by the way, did -- did I tell you the Physicians Committee for Responsive Medicine has very few physicians? Only five percent of the members are physicians. As is often said, Physicians Committee for Responsible Medicine is neither a committee of physicians nor a committee that advocates responsible medicine.

Dr. Pippin, cardiologist, wrote, "Good science could save consumers from the next Vioxx because -- but that won't happen unless the government stops relying on antiquated animal tests." And he said, "As a first step to keeping consumers safe, the FDA must stop pretending that animal tests accurately predict results in human."

If you take a look at the labeling, FDA-approved labeling, that goes with Vioxx and try to find anything in there about animal studies, except for teratogenicity and carcinogenicity, you'll find nothing because the approval of Vioxx by the FDA was not based on the animal study; it was based on clinical studies, phase one, phase two, phase three. Animal studies

use about 14, 1500 animals. That's the preclinical research that's necessary. Following that, as I said, there's the clinical trials, up to 3500 people.

Now, the problem with Vioxx had nothing to do with animal studies, contrary to what PCRM and it's propagandists have been saying. The problem with Vioxx is two-part. One is the advertising. In the old days before drugs were advertised on television, all over the place, it took time for a new drug to get out into the market. By then doctors tended to see adverse effects. Now a million, 10 million people are taking the drug within a year. So lo and behold, there are rare events, adverse events. They show up in large numbers as it did with Vioxx.

How were they to detect a serious adverse effect that occurs in one in 10,000 people when they're only testing it on 3500 people? That's the problem.

There's also a problem with postmarketing surveillance. It's inadequate in this country. It's not required by the FDA. There's no real good system for it. That has to change. That's the problem with Vioxx. That's the problem with all the other drugs that Dr. Greek talked about that pulled off the market. Had nothing to do with animal research, because the clinical study, the studies that the FDA required, were done in people, with the exception for testing for cancer and birth defects because you can't do that with people, although some people now are arguing that we should. I do not agree.

One of the things that Dr. Greek says over and over is that 20 percent of -- what was it? When drugs are tested, when they enter clinical trials, about 80 percent of them fail. Only about 20 percent get through the approval process. And he blames animal studies. Claims that's the problem, because the animal studies didn't show that 80 percent of the drugs are -- have serious adverse effects with humans or may not be effective.

Well, he's not discussing the other numbers. The other numbers are this. When drug companies are trying to develop a drug, they'll go through 5,000 different compounds screening. Only 250 will make it into the laboratory, for the preclinical research involving in vitro studies and animal studies. And of the 250 the in vitro studies and the animal studies will show that 245 of them, 98 percent of them, are ineffective or too toxic. They will not be used on human beings. So that's the number that he doesn't like to confront you with.

Yes, 80 percent of the medicines, new drugs that enter clinical trials don't get through. But that's not because animal studies failed. What the animal studies did was it highlighted, it told the researchers what to look for, what organs may be affected. So that in the clinical trials they watched more carefully looking for signs of toxicity. And that's the reason many of these drugs do not get through phase one or phase two or later on phase three.

Science moves by making mistakes and then correcting them. What opponents of science love to do is to shift through the scientific record and pull out studies that were wrong while ignoring or even denying those that were right. Dr. Greek unfortunately does this.

He's filled three books with things taken out of context, things misconstrued, and things just plain falsely stated.

I am going to jump to some examples. Before I do, I wanted to say -- tell you what Dr. Thomas Starzl, the noted pioneer for transplantation, said about animal studies. He said about his own pioneer work for animal -- for organ transplantation, he said that the first study he did most of the subjects died. He learned from that and adjusted his technique. And the second round of studies for the transplantation experiments he did, most of the subjects actually survived, a majority did. The third set of experiments that he conducted there was only one or two deaths. Nearly all the other subjects survived.

His fourth experiment every one of the subjects survived. The difference, the most important difference between these study was that the first three were done on animals; the fourth one was done on babies.

But Ingrid Newkirk, cofounder and president of PETA, says there's no rational basis for saying that a human being has special rights. A rat is a pig is a boy is a dog. And ask Dr. Starzl. Let me get to this.

PETA spokesman Bill Marr, I love his politics more or less, but he's a staunch spokesman for PETA, and he conducted a campaign against Columbia University recently calling on them to stop their Frankensteining of primates. Unfortunately, Marr doesn't believe in vaccination either, he says. That's another theory that I think is flawed. And that we go by the Louis Pasteur theory, even though Louis Pasteur renounced it on his own deathbed, and said that Beauchamp was right. It's not the invading germs; it's the terrain.

David, did you know that Pasteur said that on his death bed? Yes.

He doesn't believe in the germ theory of disease. And he says, "To those people who say my father is alive because of animal experimentation, I say, yeah, well, good for you. This dog died so your father could live. Sorry, but I am just not behind that kind of trade-off."

Well, that's what PETA and that's what PCRM is all about. PCRM is a front group. It's funded and it's basically run by PETA.

Physicians Committee -- the AMA in 1991 censored -- cenured PETA -- sorry, PCRM, saying, "The Physicians Committee for Responsible Medicine has been formally censured by the AMA for purposely misrepresenting the critical role animals play in medical research."

I wanted to make a comparison -- but I'm running out of time. So I'm going to rush ahead -- between some of Dr. -- because I spent a lot of time reading through Dr. Greek's books, and I tracked down his references. And I found so many examples where he left things off, misquoted, misrepresented, distorted or made things up.

He quotes Stephen Schneider, this noted biologist -- environmentalist, saying, "Each of us has to decide what the right balance is between being effective and being honest" as a way of showing how some scientists are a little less than honest. Only he left out the last part of the quote, "I hope that means being both."

In one of his books he has a reference to show that dog -- research with dogs did not lead to information, knowledge about diabetes. He quotes some obscure publication. And he says in 1995 Hansen (ph) (inaudible) reviewed the literature and found 72 cases of diabetes accompanied by lesions of the pancreas.

Well, several years before they were -- experimented on dogs where they removed the pancreas and the dogs became diabetic. So I don't know what this reference is supposed to mean. This is not -- this is not legitimate scholarship.

Yeah, that was that. Okay.

Dr. Greek in one of his books says that there has been no -- despite all these animal researches there's been no improvement in the overall mortality, the adjusted mortality, of cancer in humans.

Well, let's take a look at the facts. Look at the cancer incidence of -- and death rates in children. The incidence from 1975 to 2001 has gone up, but look at the mortality. Dropping.

Adult males. Even lung cancer is taking a sharp turn beginning in 1990. And most of the other cancers are going down.

Adult females. Likewise. You could see how lung cancer went up, but it's flattened out, and it's on its way down, as most of them are. And if you look at combined cancer death rates, it's dipping down. What Dr. Greek said is simply not true.

Perhaps he doesn't think someone like -- there are people like me that are actually going to check these things out.

"Nicotine withdrawal symptoms were scientifically confirmed in humans in the 1970s. Nevertheless rats were still being studied for signs of nicotine withdrawal in 1994." Well, I looked up that reference. And it wasn't to see if rats can become addicted to nicotine. What it was was it was a test to see if a drug called -- I can't say this right -- nic --

UNIDENTIFIED MALE: (Inaudible)

MR. SKOLNICK: Thank you.

-- whether it can interfere with nicotine addiction. And that was done in 1994. And as a matter of fact, a year later they moved on to clinical trials in humans.

That representation that Dr. Greek did, he took -- you know, you didn't think people were going to go and look that reference up. Well, I did. And it didn't say what he said it did.

Okay. Listen to Dr. -- here is a debate in 2004 -- 2002, between Dr. Greek and Dr. Robert Speth. It doesn't work. Well, Dr. Greek corrected or -- Dr. Speth said that about a -- that many veterinary medicines are human medicines because of the similarities. Human beings and animals, or pets, share about 200 of the same diseases.

Well, Dr. Greek said, "Well, they were already using animal -- human medicines because no pharmaceutical company will invest any money to develop drugs that they don't have to. There's no money in coming out with new drugs." Well, just look at all the current dog vaccines available. There's something like 11 -- well, one, two, three, four, five, six, eight, nine, ten, eleven -- about eleven different vaccines that are just developed for cats and dogs. And this is something that's new.

Now, Dr. Greek's wife is a veterinary doctor. Why doesn't he know this?

Here's a new tablet for dogs. One a month, and it prevents fleas. It interferes. It's a novel drug. Interferes with chitin, formation of chitin, insects use. Their exoskeleton is made out of chitin. The flea drinks the blood, gets the inhibitor, can't make chitin. The eggs are sterile. And they've got an injection. Once every six months for cats.

Now, I can go on with numerous other examples of how he's misrepresenting the facts. This is not science. This is -- oh, here's a -- here -- oh, this is -- this was a good one. Maybe I'll get to it. Oh, no, I don't get a rebuttal. Well, maybe in the question-and-answer period.

Let me -- and I can't play sound. Well, I wanted to play you the -- what Dr. Jerry Vlasic, an associate of Dr. Greek's, said at an animal rights conference where -- it is an incredible chilling soundbyte where he's recommended the assassination of animal researchers. Not low ones but the higher up ones. Send a message to stop this.

Well, Dr. Vlasic has been a partner of Dr. Greek and in fact he was your science advisor, I believe, and in fact as of last summer your newsletter has him listed as a science advisor. This man and his wife have been barred from Great Britain because he's a danger.

I don't have time to show you all the other people that are associated with PETA, that work for PETA, that work for PCRM who are involved with arson, who support arson, violence, intimidation. This is all a plot to stop people from abusing animals in their minds.

Thank you.

(Applause.)

QUESTION: I have a question for Ray Greek. And when I was listening to Andrew Skolnick's presentation, one of the things that spoke to me a bit is that animal trials are not used to prove the efficacy of drugs but they're used to narrow down or to perhaps weed out what trials should go into clinical trials, that it's really clinical trials that prove the efficacy of drugs.

And I wonder if you could speak to that and clear that up or say how that's relevant to this.

MR. SKOLNICK: Well, let me show you why we do and why we're required to do preliminary studies on laboratory animals before we do the studies on people. Here are some of the pictures that became evidence in the Nuremberg trials of the Nazi doctors. You may be surprised to know that the only modern country to totally outlaw animal experiments, animal studies was Nazi Germany. Adolph Hitler in 1933 outlawed it.

I'm not saying that that's the reason he turned to humans. He had other reasons to turn to humans. These were people whose lives were not worth living. These were the infirm, the mentally retarded, the handicapped, the Jews, the gypsies, the war prisoners, and anyone else that got in his way.

Hyperthermia experiments where these Nazi doctors submerged people in ice water until they died. Then these -- to research for, you know, like pilots, their Luftwaffe pilots bailing out at high altitudes, they -- they put prisoners into decompression chambers.

And this was a cute one where they just starved the women and then removed their genitalia, their ovaries and sent them to the universities for study.

Out of the Nuremberg -- out of the Nazi holocaust and the Nuremberg trial came a code that the judges at the Nuremberg trial drew up that defined what is ethical for human experimentation. No. 3 states, "The experiments should be so designed and based on the results of animal experimentation as a knowledge of the natural history of the disease or other problem of the study that the anticipated results will justify the performance of the experiment."

And from the Nuremberg Code, which was written in 1949, in 1964 modified several times, the latest in 1983 and accepted by all, by the World Medical Assembly, which represents over 80 -- the medical societies of over 80 nations, they drafted the Helsinki Declaration moving -- oh, I don't know if I have it. It moved the rule to No. 1, all human experiments to be ethical must be done based on a thorough review of the medical literature, of the scientific literature, "and after properly conducted animal studies." That has been the basis of our laws and the laws of most countries. That's why we do the studies.

Dr. Greek in his book says, well, it's the greedy pharmaceutical companies. They don't want to be sued, so they're going to do these animal studies so they can defend themselves in court. Well, that's nonsense. Anyone who follows litigation with drugs knows that

toxicology studies, preclinical studies with animals will not save the drug company. A great example has been dectin. This was the most well studied drug in pregnancy.

Am I -- am I (inaudible)? Oh, I'm sorry.

QUESTION: My question is regarding polio. Could a cure for polio have come about without animal experimentation? And if so how long would it have taken?

DR. GREEK:

MR. SKOLNICK: All right. Please forget what you just heard. Sabin had been very -- up to his dying day had been very upset about how his testimony before Congress had been taken out of context and has been misused. He has always -- he always defended animal research as having been essential for his work and for Sabin's work -- Jonas Salk's work.

The mistake that happened -- by the way, it wasn't because of the animal studies that an error had been made. The error had been made not because they used animals but because it was misunderstood. There was plenty of evidence already going back quite a while that showed that the gut did get infected. What happened was Sabin, in the late '30s, had conducted an experiment on fetal human tissue. Not animals. He got a fetus, and he made cultures of the cells for different organs of the fetus. It was an aborted fetus.

And unfortunately he got a strain of the vaccine -- remember I said there's well over a hundred strains of polio virus that were extant throughout the world? He got one that was a laboratory specimen. It was grown and grown and grown, not in nature. It was growing in a laboratory for many generations. And it lost its ability to infect the gut. He didn't know that. So he used this strain from Rockefeller University to -- and it did not infect anything but nerve tissue. It was an unlucky break. He could have used a hundred different strains. He picked one that didn't infect nerve tissue (sic). It was a mistake that set them back for about 14 years.

Well, anyway -- so Dr. Greek blames that on animal studies. It had nothing to do with animal studies. In fact it was grown in human tissues.

QUESTION: What I heard Dr. Greek say that Sabin said something about animal experimentation. What I hear Andrew Skolnick say is that Dr. Greek made a statement about animal experimentation. And what you're saying by saying that is that Sabin didn't say that. And what you're saying is that Sabin said that. Yes, what you said was that's what Dr. Greek said this about animal experimentation. And Dr. Sabin believed and said something else. But what you said was that Sabin said it. So I'd just like a clarification of what did Sabin say?

DR. GREEK:

MR. SKOLNICK: Sabin said that, but it was taken out of -- it was -- you know, he was speaking before Congress. It was taken out of context and misused. He had rebutted the

misuse many, many times. And Dr. Greek had been misrepresenting what was said, not misquoting.

Anyway, the 1990, speaking of 1990, in Dr. Greek's third book he has a list of the last 20 years of Nobel prizes. It leaves out 1990. When he was debating Dr. Speth on radio in 2002, Dr. Speth talked about kidney transplantation being essential using a dog model. Dr. Murray had won a Nobel prize for that.

Well, Dr. Greek said, "Oh, Dr. Speth, you should know better than that," something to that effect. "The first successful transplant was in humans, was only successfully done in dogs five years after."

Dr. Speth was dumbfounded. He didn't know enough to contradict him to say that's not true. Unfortunately, it was not true. Might be why Dr. Greek did not put 19 -- the year 2000 Nobel prize in his book. Not 2000, 1992. Because if you look at the 1992 Nobel prize, it was to Murray for doing the first successful human transplant after developing the procedure in dogs. Check out -- go to the Web site. If you doubt this, go to the Web site, look up the Nobel data log and look up medicine 1990. Dr. Murray had worked on dog model to perfect his technique.

QUESTION: The question I have is for Mr. Skolnick. For me in terms of the issue of going forward, what I'm most interested in in terms of the two different viewpoints here is the predictability of one model or another. Do you have available any statistics in terms of the predictability in favor of using animals as models for disease or animals as subject for testing?

MR. SKOLNICK: I don't have data to answer that question, but I do have this observation. There is no -- there is little predict- -- there's inadequate predictability. When they do a clinical trial of 5,000 people here, there is inadequate predictability of how the drug is going to work in the marketplace.

Let's put it this way. I grew up with peanut butter and jelly sandwiches being served in school. Well, one -- there's 3 million Americans who would die -- possibly die eating the peanut butter and jelly sandwich. People -- I mean the 6-plus billion people on this planet are very diverse. And you have -- you have atypical reactions.

Animal studies are not perfectly predictable. It's not that accurate as prediction. But that's not what animal models are mostly used for. They're used to give insights and generate hypotheses for clinical testing.

INTERVIEWEE: I can give some examples of very important predictability. Let's take a look at 1960. Some farmers, turkey farmers, in England had just devastating loss of turkeys. They were dying of what they -- they didn't know what to call it, but they called it turkey X disease.

Turns out what it was, after much research, using animals, using birds -- it wasn't just turkeys. Ducks and other fowl got the disease. What it was they were -- their liver was destroyed by a liver toxin that was produced by a mold that was growing on the feed, aflatoxin.

Well, sure enough, epidemiological studies later found that aflatoxin is a human carcinogen. It is causing a large number of liver cancers, primarily liver cancers, in humans. And it's something that now they're trying to keep out of our food supply. Now, another more recent, in the '90s. This is about ten years ago. They found that a cyano bacteria, blue-green algae, produce a toxin. And this toxin is liver toxic in animals and carcinogenic. And lo and behold they did epidemiological studies in China, Africa, and other countries where the main water supply comes from surface water. And it is carcinogenic in human beings too.

QUESTION: Mr. Skolnick, if I could comment. I encourage those kind of examples. And No. 7 on one of the very first slides, I interpreted that as animals (inaudible) ideas opposed to what I was asking about (inaudible) animals (inaudible)

DR. GREEK:

MR. SKOLNICK: Well, what I said was that they didn't go back and test turkeys for aflatoxin toxicity. They didn't go back and test animals to see if they also get cancer from pond water. These were the canaries that alerted scientists of the problem in human beings. They predicted.

Now, I said in my talk that animal research is not primarily used to predict human reactions. They're used to provide insights and generate hypotheses that are tested in clinical trials. Now, we can't give people suspected carcinogen. Dr. Greek kind of misrepresented we know there's -- actually there's about 90 pretty strongly linked -- pretty strongly implicated carcingens for humans, maybe 30 that have been definitely confirmed. But there's thousands that are suspected because of the animal studies. We can't do the studies to find out if they are indeed carcingenic in humans. It's unethical.

So there's nobody except maybe Dr. Greek thinks there's only 30. There's a hell of a lot more. The same thing with teratogens. Many suspected ones; only about 20, 30 that are known to be teratogenic in human beings, causing birth defects. We can't do those studies. We can only infer from the animals because we have no better means.

DR. GREEK:

QUESTION: You had stated in your presentation that humans die from medical research or drugs as a result of the human -- or the animal models that they use. But wouldn't that be able to be flipped easily where as if there were no animal models, then more humans could also die due to that?

DR. GREEK:

(End of Side B, Tape 1.)

(Side A, Tape 2.)

DR. GREEK:

MR. SKOLNICK: Here we go again. The French -- when the French prevented -- well, let me back up a second. This representation of why the hemophiliac patients in France got infected with HIV is false. The French did not allow -- let me back up.

The United States had marketed a test for HIV to make the blood supply safe. It was used in the United States and other countries. France would not allow it because its own company, the Pasteur Pharmaceutical Company, was working on one and they asked the government to keep it out.

They knew that you get -- can get HIV infection from blood supply because it was already marketed in the United States and other countries, a test to prevent it. So this is just another misrepresentation.

Page 81, Doctor, on his specious size, which is appropriately named, he says that animal -- "while animal-based nutrition research typifies the ineffectiveness of animal model protocols. For instance, the need for animals -- the need for vitamins A, D, and nicotinic acid, so powerful in maintaining immunity was discovered in humans."

No it wasn't. They were -- all three vitamins were discovered with dog -- dog -- vitamin A, dogs, mice, and dogs. You know what is really dangerous? spurious science, false science, science that's misleads and prevent us from finding more effective treatments.

QUESTION: I was just wondering how if Dr. Greek thought it was ethical like how exactly you would give the drugs to the human population. What tests would need to be conducted if the animals aren't reliable and if it's ethical to do that?

DR. GREEK:

MR. SKOLNICK: That may be the first thing I agree with Dr. Greek about, is that we need to slow down the dissemination of drugs once they've been approved. It's just ridiculous what's happening.

But I disagree with what he said that drug companies want to do animal research. In fact I don't -- drug companies do not want to do almost any of these precautionary, slow, methodic studies. As a matter of fact, they're pressuring the FDA -- and the FDA has actually put forth -- this is hard to believe -- on behalf of the drug companies, they have put forth a proposal that they will allow drug companies to test new drugs abroad among the developing nations without abiding by the Declaration of Helsinki.

Look, animal -- the pharmaceutical companies are not doing animal testings because they want to. And quoting one or two drug company representatives saying, "Gee, we don't want to do animal studies," that's not good enough science to show that you don't need animal research.

QUESTION: Thank you. I want to believe that science kind of accommodates some level of false positive or false negative. That's when we talk about probability. Okay, my question in that regards to Dr. Greek is, could you kind of give us an idea of gain, what gain are we going to make if we stop animal experimentation, in terms of drug development, either gain in time, gain in we being able to reduce the false positive or false negative that we are coping with now?

And also to Mr. Skolnick, I would appreciate if you could also tell us what we lose if we stop animal experimentation in terms of, you know, positive, false positive or false negative. Thank you.

DR. GREEK:

MR. SKOLNICK: You would lose a very valuable tool for gaining many important insights into how animals, including humans, work, how chemicals interact with genes, how genes work. It's a viable research tool to give us insights.

It's also a valuable prescreening tool to test for extreme toxicity.

When Stossel -- look, how many of you would like your -- you need a surgical procedure that's brand-new that's never been done before, a genitalia transplant or something, anything -- a brain transplant. How many of you would like to be the first guinea pigs for this surgeon to develop the technique? They use animals before they turn -- and see if they can do this and if the animals can survive. If they can't, they don't go on to human beings.

Stossel's first experiments in organ transplants killed the subjects. His first subjects were dogs, not children.

I want to say there's something that we can agree on, something else that Dr. Greek and I can agree on. And that's if one must judge a scientific argument based on opinion, beware the vested interest. Dr. Greek says he's not involved with the animal rights people. Unfortunately, that's not true. He's -- Americans for the Medical Advancement is funded by the National Antivivisection Society.

DR. GREEK:

MR. SKOLNICK: If the KKK offered me money, I'd throw it in their faces.

I just wanted to say one thing I wanted to correct. And that was a statement that the terrorist promoter, Dr. Jerry Vlasic, who used to be, along with you, a spokesperson for Physicians Committee for Responsible Medicine, he was on your mast -- on your

magazine. Your magazine has him as a science advisor summer, just last summer. He made those comments that blew up in their -- the animal rights promoters' faces about going out and killing animal researchers. He made those comments in 2003, I think over a year before.

(End of debate.)