



## Cloning Update with Clonaid's Brigitte Boisselier, Ph.D., and Luigi Mastraianno, M. D., *In Vitro* Fertilization Expert.

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**January 10, 2003 Philadelphia, Pennsylvania** - Last Friday, January 3rd, while I was reporting on *Coast to Coast AM* radio and Earthfiles.com (see **previous report**) about the cloning or hoaxed cloning? - controversy that now surrounds Clonaid and the Raelian movement, another baby clone was supposed to have been born that very night to a Dutch mother and her female partner. Again, the location is not disclosed and no proof has been provided, but Clonaid's Chief Executive Officer and analytical chemist, Brigitte Boisselier, told me this week by phone that she will show the world irrefutable DNA proof "soon."

As I reported last week, she and her spiritual leader, Rael, decided not to allow the DNA testing of the first alleged baby clone born on December 26 because Florida attorney, Bernard Siegel, filed a lawsuit in Broward County to declare any cloned baby to be an abused child which should have a court-appointed guardian. An arraignment on that case will be heard on January 22, with or without the presence of Dr. Boisselier, Rael, the parents and the alleged baby clone girl.

That legal development brought to a screeching halt whatever steps were being taken by the independent science group that was supposed to sample DNA from the first baby clone and her mother. Then the journalist who was organizing the independent science team - former ABC television producer, Michael Guillen - went on television talk shows to defend his eroding credibility and say it could all be a big, bad hoax.

Whatever the truth finally is, Clonaid is not the only group claiming to be making baby clones. Reproductive fertility specialist, Dr. Severino Antinori in Italy, says he also has cloned babies about to be born. So, Dr. Boisselier and Dr. Antinori are competitors, each trying to go down in history with the first *proven* cloned human. That means in this New Year of 2003, to clone - or not to clone humans is an issue that's here to stay.

This week I asked Dr. Boisselier about her competition with Dr. Antinori, the lawsuit in Florida, criticisms from the mainstream medical community that cloning human babies is "outrageous," "premature" and "reckless," and what other birth announcements Clonaid expects to make in the near future.



Brigitte Boisselier, Ph.D., Chemist, and Chief Executive Officer, Clonaid, sitting next to Rael, leader of the worldwide Raelian Movement. Photograph © 2003 by Associated Press.

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## **Interview:**

**Brigitte Boisselier, Ph.D., Analytical Chemist and Chief Executive Officer, Clonaid, main headquarters address not disclosed, but there is an office in Montreal, Quebec, Canada:**

"WHAT ARE YOU EXPECTING TO HAPPEN NOW BEYOND MID-JANUARY?"

Well, there are three more babies due by February 5. That's the latest we expect. The next one should be born around January 20, if everything goes well. But it could happen any time.

ARE THESE ALL OUTSIDE THE UNITED STATES?

There are three coming to us from outside the United States.

ANY IN CANADA AND THE UNITED STATES?

Well, two are from Asia and one is from North America.

WHAT HAPPENS NOW WITH THE FAMILY OF BABY EVE, AS SHE IS CALLED, WITH THE JANUARY 22ND ARRAIGNMENT SCHEDULED IN BROWARD COUNTY, FLORIDA, AND THE ATTORNEY BERNIE SIEGEL WANTING THE COURT TO DESIGNATE ANY CHILD FOUND TO BE CLONED AS AN ABUSED CHILD AND NEEDS A GUARDIAN OF THE STATE FOR PROTECTION. WHAT HAPPENS TO THIS AMERICAN FAMILY NOW?

The parents were shocked when they heard that. We discussed this at length. They discussed it with their attorney, with mine, and they have several options. One is that they don't declare the baby as a U. S. citizen. That is still a possibility. This is terrible for them. They are U. S. citizens and they are feeling so bad to imagine that their loved baby couldn't be a U. S. citizen. They are still working on that, what is the best solution. We will find a way, I think.

ARE YOU AND THE PARENTS GOING TO SHOW UP AT THAT ARRAIGNMENT ON JANUARY 22?

Again, I don't know exactly what will be the decision. We will probably make that decision a few days before. I will certainly be represented.

IF THE PARENTS DO NOT SHOW UP, DO YOU UNDERSTAND WHAT THE POSSIBLE CONSEQUENCES COULD BE DEPENDING UPON THE JUDGE'S RULING?

I think my attorney knows everything. There are so many things we have to deal with. We are dealing with that. The parents will make a decision, but they are going as far as saying, 'Maybe we should live in another country.' I would like you to realize how far this is going. They want to keep their baby, but they might have to live in another country.

DO YOU THINK THIS ATTORNEY WOULD HAVE ACTED IF YOU HAD PRESENTED AT THE PRESS CONFERENCE THE HARD DNA PROOF WITH A RESPECTED MEDICAL TEAM THAT WAS SUPPORTING WHAT

HAD OCCURRED AND THAT THE ANNOUNCEMENT HAD HAPPENED IN A MORE CREDIBLE AND MEDICALLY AND SCIENTIFICALLY ACCEPTABLE WAY?

I don't think that this man is doing that because he wants the proof. He is saying that this child is abused and that's the reason why he is doing it. I don't think he needs any proof. He wants probably some fame and show how good he is and he forgets there are human beings behind.

ONE OF HIS MAJOR CONTENTIONS IS THAT CURRENTLY THE TRACK RECORD OF CLONING IN ANIMALS HAS PRODUCED SO MANY PROBLEMS. THEREFORE, HE SAYS ANY POTENTIAL HUMAN BABY CLONE IS FACED WITH MANY BIOLOGICAL AND MEDICAL PROBLEMS.

It's funny that a lawyer could say something about science. I have been saying all along that they should look at the results on the animal cloning in a different way. There is a different way to look at these things. Animal cloning that have been born with defects show exactly the same defect that the animals born through in vitro fertilization do. This means that these defects are not related to cloning, but to assisted reproduction in those species. I have been saying that for two years now and talked with animal experts and still the media likes to say there will be defects and there is a low success rate. Of course, they have low success rate. They implant everything and they don't care. This is not how we proceed with assisted reproduction of humans. And we have had in vitro fertilization clinics running for 24 years. We know how to prepare human embryos. We know how to check them. We know so much on how to prepare the women before. That's the main difference.

When people are saying we should improve the cloning of animals before doing anything with humans, this is wrong, because we know so much more about assisted reproduction in humans. The moment you see this baby and everything will be shown on TV, people will realize that there has been misinformation for the last two years. Completely irrational information!

SO, WHAT YOU ARE SAYING IS THAT THE CLONING PROCEDURE, FROM YOUR POINT OF VIEW, IS AS EASY OR COMPLEX AS IN VITRO FERTILIZATION WITH THE SAME PROBLEMS?

Absolutely. Once you know how to handle the egg which is tricky, but there are hundreds of technicians who can do that. Once you know that, once you know what is the right media that you need for the activation of the embryo, then it fits in what has been defined in IVS and will benefit from this huge experience IVS has developed."



Cloning embryos. Photograph courtesy Clonaid.

Brigitte Boisselier's reference to in vitro fertilization (IVF) is the medical procedure in which fresh semen is obtained from the husband or male donor and combined with a female egg in a lab dish where fertilization occurs. The resulting embryo is then transferred to the mother's uterus to grow into a baby.

In vitro fertilization was used successfully for the first time in the United States in 1981. Since then, more than 45,000 in vitro babies have been born in America, averaging about \$8,000 per fertilized egg implantation into the uterus. Often, several cycles of implantations are necessary to produce a healthy

pregnancy.

The success rate of in vitro fertilization is similar to the 20% chance of a normal, healthy baby from natural reproduction. Children resulting from in vitro fertilization have the same incidence of birth defects as children conceived naturally.

One of the world research pioneers behind in vitro fertilization is Dr. Luigi Mastroianni, Professor of Obstetrics and Gynecology at the University of Pennsylvania Medical Center and member of the Ethics Committee for the American Society of Reproductive Medicine. This week I asked him about Brigitte Boisselier's argument that the cloning procedure is not much different than in vitro fertilization.



**Luigi Mastroianni, M. D., Professor of Obstetrics and Gynecology at the University of Pennsylvania Medical Center and member of the Ethics Committee for the American Society of Reproductive Medicine:** "No, it's entirely different. It's an operative procedure on the egg itself and the nucleus of the egg is removed and it is replaced by the nucleus from the skin cell or another somatic cell, and that is quite different from introducing a sperm into the egg in order to produce a fertilized egg. You see, this is not in vitro fertilization at all. It doesn't involve any fertilization. Therefore, it is an entirely new approach to the process of assisted reproductive technology. Therefore, we have to be careful that what we are doing is not going to produce an abnormal offspring. How are you going to face that child who is delivered grossly abnormal simply because you were cavalier in your efforts to obtain fame and fortune using a technique which hasn't been clearly established as safe in the laboratory?"

YOU ARE MAKING A VERY IMPORTANT POINT BECAUSE WHEN YOU CLONE, YOU ARE TAKING ALREADY EXISTING CELLS IN WHICH THE CHROMOSOMES ARE AGED, VERSUS SPERM THAT UNITE WITH AN EGG IN NATURAL REPRODUCTION THAT IS A FRESH FORCE OF LIFE.

It is. And as far as the sperm goes, it is clearly a fresh force of life because spermatogenesis is a continuing process in the male. Those are fresh sperm. Those sperm haven't been hanging around forever. The ones that are sitting around in the male reproductive tract and don't get out in time are dead or dying. These are nice fresh sperm. So what we have then is Nature's way of protecting us from some of these abnormalities of aging. We are learning a great deal about the cellular biology of aging these days. It's quite clear there are major chromosomal changes that occur as a result of aging that can result in abnormalities."

**Brigitte Boisselier, Ph.D.:** "DID YOU HAVE THAT PRESS CONFERENCE WITHOUT EVIDENCE BECAUSE YOU FELT PRESSURE TO BEAT, SO TO SPEAK, IN A RACE WITH DR. ANTONARI IN ITALY TO HAVE THE ANNOUNCEMENT OF THE FIRST CLONED HUMAN BABY?"

Not at all. If you remember, Eve was born on December 26 and it takes about 5 days to do the test. So, we could have done the announcement some time in January 1 or 2 without any problems. Dr. Antonari said his babies would be born in January. So, if you look at that, there would be no pressure.

BUT ON FRIDAY WHEN I INTERVIEWED RAE, I ASKED HIM THIS SAME QUESTION AND HE SAID, 'YES,' HE THOUGHT THERE WAS COMPETITION BETWEEN YOU IN CLONAIID AND DR. ANTONARI IN ITALY.

There are competitions and you can tell how they reacted to me, but the reason I said that on December 27 was not because of competition, but from pure joy.

WHAT ABOUT THE LESBIAN COUPLE IN HOLLAND? YOU ARE NOT FACING THE LAWSUIT AND ARRAIGNMENT IN FLORIDA THERE. WILL YOU HAVE OBJECTIVE, SCIENTIFICALLY ACCEPTABLE DNA PROOF THERE?

Yes. Yes.

HOW? AND WHEN?

This is underway.

NOW THAT THERE IS SO MUCH SKEPTICISM, HOW ARE YOU GOING TO PROVE THAT THE CELLS ARE TAKEN FROM THE MOTHER AND FROM THE BABY AND NOT SOMEHOW AS THE SUGGESTION IS NOW THAT CELLS COULD BE TAKEN FROM THE BABY TWICE OR THE MOTHER TWICE AND PASSED OFF AS BEING THE CELLS FROM A MOTHER AND BABY?

Yes, it has to be from an independent expert. I have several proposals from different scientists. So, there will be those tests performed. And also on the third one. It's only a matter of time and I am feeling very comfortable.

WILL YOU HAVE TO PUT ON TELEVISION OR VIDEOTAPE NOW THE TAKING OF THE CELLS FROM THE BABY AND THE MOTHER SO THAT EVERYONE CAN SEE THE PROCESS OF THE REMOVAL OF THE TISSUE AND THEN HAVING SOME DOCUMENTATION THROUGH THE ANALYSIS?

I don't think I will grant access to any cameraman. With the whole circus around that, I believe they deserve more respect. But the independent experts will be at such a level that you cannot doubt what he says, 'I did those samples.'

WHAT HAPPENS, DO YOU THINK, IF BABY EVE OR ANY OF THEM BEING BORN NOW IN YOUR PROGRAM OR DR. ANTONARI'S PROGRAM IN ITALY AND IN A MONTH OR TWO OR A YEAR THEY DEVELOP SOME SEVERE MEDICAL PROBLEMS?

So far, there are no indications of anything like that. But a baby is born like any other baby and we are watching very closely. When they are a baby born with a severe defect by natural reproduction, people say 'This is terrible and I try to help them.' They will never say it's because the mother has been drinking during the pregnancy and things like that. So, these baby clones will be watched very closely and if anything happens, the whole world will say, 'This is terrible.' But there are deformities born every day because people are not taking care of their child. So, I am pretty sure that there will be less problem with the cloned baby than with naturally conceived babies.

**Luigi Mastroianni, M. D.:** "You cannot assume that simply because an embryo progresses in vitro to the blastocyst stage which means it's five or six days old that it is a normal embryo. There is no way to tell. In fact, there is very good evidence that many of these may be abnormal. Even under normal conditions of reproduction, when years ago the famous Dr. John Roth of Boston Harvard and others looked at implanted embryos in people, he found there was a substantial number of abnormal development in these embryos.

there is no way to be absolutely sure that the embryo is normal. Furthermore, if you have additional evidence on top of it that the animals are not normal, how can you in conscience even think about proceeding to this kind of experimentation in a human being? It's outrageous. It's wrong!"



ON FRIDAY I ALSO INTERVIEWED DR. ROBERT LANZA, WHO IS A CLONING EXPERT AT ADVANCED CELL TECHNOLOGY IN WORCESTER, MASSACHUSETTS. HE SAID THAT WITHOUT THIS BEING CONDUCTED THROUGH SOME KIND OF CORROBORATION OF THE NATIONAL ACADEMY OF SCIENCES OR SOME IMPECCABLE SCIENCE AND MEDICAL GROUP, THAT THERE IS GOING TO BE A BACKLASH NOW IN THE AMERICAN CONGRESS TRYING TO SHUT DOWN ANY CLONING EFFORTS AND THAT WILL SWEEP UP INTO THAT CONGRESSIONAL EFFORT, A BANNING EVEN ON CLONING OF STEM CELLS. IT SEEMS THAT DISTINCTION IS BEING LOST IN THE FUROR OVER A HOAXED CLONING PROCESS. COULD YOU COMMENT ON HIS CONCERN?

I think it's easy for Dr. Lanza to say what he says because then he looks like the good guy who is saying what is good to do. But I am pretty sure that in a few years from now if we discuss with Dr. Lanza, he will have a different perception. Hopefully, he will agree.

COULD YOU ADDRESS HIS CONCERN THAT THE CLONING OF STEM CELL RESEARCH TO APPLY TO THERAPEUTIC CLONING WILL BE BANNED OUT OF THIS CONCERN IN CONGRESS THAT YOU, CLONAIID, ARE HOAXING CLONING FOR MONEY AND COMMERCIAL PURPOSES AND THAT CLONING IS NOT SAFE, THEREFORE, ALL CLONING SHOULD BE BANNED?

How can people say we are hoaxing for money? How can people say that? I never took any money and there are no money coming into the company. So, this is easy to demonstrate. Even the FDA went through our records before and they could still do it and they will see there is no money. But ACT is having a lot of money with stem cells. So, who are the ones talking about money and dealing with money? His concern about stem cells being banned I don't think they will. I think the Congress has more they know what is at stake with stem cells. And I don't think they will.

ON THE MONEY ISSUE, YOU DID SAY THAT CLONAIID HAS RECEIVED QUITE A BIT OF MONEY FROM INTERESTED INVESTORS IN ORDER TO MAKE THIS CLONAIID EFFORT POSSIBLE?

This is correct.

YOU HAVE INVESTOR MONEY AND YOU ARE MAKING THE DISTINCTION THAT YOU HAVEN'T BEEN CHARGING ANY CURRENT PARENTS THAT YOU'VE GONE THROUGH THE CLONING PROCESS?

Yes, there is a distinction between building a company and having shareholders and having customers. I never had any customer in this company. We are a research company with investors putting money into the research. We have good results. There will be more research done and experiments done at the end of January. The real commercial activity in our plan should start some time in June or July.

IN JUNE OR JULY 2003, YOU WILL START CHARGING COUPLES TO GO THROUGH THE CLONING PROCESS?

This is correct, yes.

DO YOU KNOW NOW WHAT YOU WILL CHARGE?

No, not yet. It will depend on how much we will spend in between. Obviously, the legal aspects will cost more than the scientific aspects.

YOU'RE GOING TO HAVE TO COVER LEGAL COSTS AS WELL AS MEDICAL COSTS?

Yes."

If Dr. Boisselier and Clonaid do not prove their claims of human cloning, what did she and the Raelian movement have to gain? Professor Arthur Caplan, Director of the Center for Bioethics at the University of Pennsylvania, offers his perspective.

**Arthur Caplan, Ph.D., Director, Center for Bioethics, University of Pennsylvania, Philadelphia, Pennsylvania:** "What's to gain for the cult is publicity, the possibility of new members and money. They can get people to give them \$200,000 to \$300,000 a try to make babies. They have done that in the past. They haven't produced any babies, but they certainly have taken the money. Their name is everywhere, so they have become well known. If they can string the hoax along by saying, 'Well, you know, there are reasons why we can't give you proof,' they may actually be able to come out of this at most leaving the issue of evidence unsettled. So, they get the PR, they get the attention and it actually doesn't cost them much in terms of reputation lost.

Then maybe the public will pay attention to cloning and realize that the battle that is in front of them is not about cloning people. That's off in the distance somewhere, maybe never. But using cloning for research that the Chinese, the Indians, the people and scientists in Singapore, and scientists in the United Kingdom are doing. And that's very real. And the question becomes: Should we be doing that? Or do we want to prohibit that? If we are going to prohibit that, then we are faced with the choice will we prohibit cures that might pop up in those other countries from coming in to this country? That's the issue I think should have our attention."

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## Websites:

<http://www.humancloning.org/>

<http://www.bioethics.gov/cloningreport/>

<http://www.clonaid.com/>

<http://www.cs.virginia.edu/~jones/tmp352/projects98/group1/how.html>

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