Scientists Create New Life Form in Lab

Scientists around the globe are expressing alarm after news broke that a U.S. biologist has created a new life form, nicknamed “Synthia,” in his laboratory.

London’s *Daily Mail* is reporting that Craig Venter of J. Craig Ventor Labs in Maryland and California has built a synthetic cell from scratch which he says could be used to revolutionize healthcare and help to clean up the environment.

The research, published in the current issue of *Science*, explains how Dr. Venter, who was instrumental in sequencing the human genome, recreated the entire cache of DNA of a mycoplasma mycoides, a bug that infects goats, then inserted it into a bacterium from a different species. A new species sprang to life and began to grow and multiply, thus producing generations of bugs that were completely artificial.
Ventor, a 63 year-old Vietnam War vet said, “We are entering a new era where we’re limited mostly by our imaginations.”

He and his team of 20 scientists, which include a Nobel laureate, say it took 15 years and millions of dollars to achieve. Their hope is to use the process to manufacture artificial organisms designed for specific tasks such as producing clean biofuels or mopping up carbon dioxide or toxic waste.

Notwithstanding the possibility that this technology could one day be used to create synthetic humans and animals, scientists say the new life form, nicknamed “Synthia,” opens an ethical Pandora’s box that poses unprecedented risks to mankind.

Dr Helen Wallace from Genewatch UK, an organization that monitors developments in genetic technologies, told *BBC News* that synthetic bacteria could be dangerous.
“If you release new organisms into the environment, you can do more harm than good,” she said. “By releasing them into areas of pollution, [with the aim of cleaning it up], you’re actually releasing a new kind of pollution. We don’t know how these organisms will behave in the environment.”

Kenneth Oye, a social scientist at the Massachusetts Institute of Technology told the *Daily Mail*: “Right now, we are shooting in the dark as to what the long-term benefits and long-term risks will be.”

Pat Mooney, of the ETC group, a technology watchdog with a special interest in synthetic biology, called the breakthrough “a Pandora’s box moment” similar to the splitting of the atom which led to the creation nuclear weapons and the cloning of Dolly the sheep whose potential for abuse is still being realized.

“We will all have to deal with the fall-out from this alarming experiment,” Mooney said.

Dr David King, of the Human Genetics Alert watchdog, said: “What is really dangerous is these scientists’ ambitions for total and unrestrained control over nature, which many people describe as ‘playing God’.”

However, Dr. Ventor is brushing off these ethical concerns. “So far at least, we are only reconstructing a diminished version of what is out there in nature.”

But he does admit that the breakthrough has changed his views on the definition of life.

“We have ended up with the first synthetic cell powered and controlled by a synthetic chromosome and made from four bottles of chemicals,” he said.

“It is pretty stunning when you just replace the DNA software in a cell and the cell instantly starts reading that new software and starts making a whole new set of proteins, and within a short while all the characteristics of the first species disappear and a new species emerges. That’s a pretty important change in how we approach and think about life.”

The Vatican has been cautious in its reaction to the news. Monsignor Rino Fisichella, the Vatican’s top bioethicist and head of the Pontifical Academy of Life, told state run television that if the breakthrough “is used toward the good, to treat pathologies, we can only be positive” in their assessment. “If it turns out not to be … useful to respect the dignity of the person, then our judgment would change.”

The Church teaches that human life is a gift from God, a gift created through natural procreation between a man and woman.

“We look at science with great interest. But we think above all about the meaning that must be given to life,” Msgr. Fisichella said. “We can only reach the conclusion that we need God, the origin of life.”

Cardinal Angelo Bagnasco, the head of the Italian Bishops Conference, told the *ANSA* news agency that he thinks the breakthrough is a “further sign of intelligence, God’s gift to understand creation and be able to better govern it.
“On the other hand, intelligence can never be without responsibility. Any form of intelligence and any scientific acquisition … must always be measured against the ethical dimension, which has at its heart the true dignity of every person.”

Another official with the Italian bishops’ conference, Bishop Domenico Magavero, is concerned about scientists being tempted to play God.

“Pretending to be God and parroting his power of creation is an enormous risk that can plunge men into a barbarity,” Mogavero told *La Stampa*. ” . .. In the wrong hands, today’s development can lead tomorrow to a devastating leap in the dark.”