

Cloning, DNA Manipulation & Corrupting The Seed

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We have created human-animal embryos already, say British team



THE TIMES of LONDON [News Corporation/Murdoch] - Mark Henderson, Science Editor - April 2, 2008

Embryos containing human and animal material have been created in Britain for the first time, a month before the House of Commons votes on new laws to regulate the research.

A team at Newcastle University announced yesterday that it had successfully generated "admixed embryos" by adding human DNA to empty cow eggs in the first experiment of its kind in Britain.

The Commons is to debate the Human Fertilisation and Embryology Bill next month. MPs have been promised a free vote on clauses in the legislation that would permit admixed embryos. But their creation is already allowed, subject to the granting of a licence from the Human Fertilisation and Embryology Authority (HFEA).

The Newcastle group, led by Lyle Armstrong, was awarded one of the first two licences in January. The other went to a team at King's College London, led by Professor Stephen Minger. The new Bill will formalise their legal status if it is passed by Parliament.

Admixed embryos are widely supported by scientists and patient groups as they provide an opportunity to produce powerful stem-cell models for investigating diseases such as Parkinson's and diabetes, and for developing new drugs.

Their creation, however, has been opposed by some religious groups, particularly the Roman Catholic Church. Cardinal Keith O'Brien, the head of the Catholic Church in Scotland, described the work last month as "experiments of Frankenstein proportion".

The admixed embryos created by the Newcastle group are of a kind known as cytoplasmic hybrids, or cybrids, which are made by placing the nucleus from a human cell into an animal egg that has had its nucleus removed. The genetic material in the resulting embryos is 99.9 per cent human.

The BBC reported that the Newcastle cybrids lived for three days, and that the largest grew to contain 32 cells. The ultimate aim is to grow these for six days, and then to extract embryonic stem cells for use in research.

Once the technique has been tested, scientists hope to create cybrids from the DNA of patients with genetic diseases. The resulting stem cells could then be used as models of those diseases to provide insights into their progress and to test new treatments.

It is already illegal to culture human-animal embryos for more than 14 days, or to implant them in the womb of a woman or animal, and these prohibitions will remain in the new legislation.

Using cow eggs reflects a short supply of human eggs. There are also ethical difficulties involved in collecting human eggs for research, as the donation process carries a small risk to women.

Professor John Burn, a member of the Newcastle team, told the BBC: "This is licensed work which has been carefully evaluated. This is a process in a dish, and we are dealing with a clump of cells which would never go on to develop. It's a laboratory process and these embryos would never be implanted into anyone.

"We now have preliminary data which looks promising but this is very much work in progress and the next step is to get the embryos to survive to around six days, when we can hope-fully derive stem cells from them."

The Newcastle team's decision to announce its success on television, before its results have been published in a peer-reviewed journal, will also trigger criticism from scientists.

Medical researchers said last night that the experiments were important, but that they wanted to see published details before passing judgment on their merits.

[Original Report Here](#)

British researchers create human-animal hybrid embryo amid political row

AGENCE FRANCE PRESSE - April 1, 2008

For the first time in Britain, researchers at Newcastle University said Tuesday they had created human-animal hybrid embryos, amid a political row over a disputed embryo research bill in parliament.

According to the northern English university, the research, which was first presented at a lecture in Tel Aviv on March 25, has yet to be published or verified, with a spokesman for the university telling AFP that the institution "wouldn't claim it to be final at all."

The revelation comes with British MPs engaged in a fierce battle over the Human Fertilisation and Embryology Bill, which allows the creation of human-animal hybrid embryos for medical research.

Prime Minister Gordon Brown's governing Labour Party conceded in March that its party lawmakers with moral or ethical objections would be allowed to vote against parts of the proposed legislation when it comes before parliament this year.

The embryos were created by injecting DNA taken from human skin cells into eggs derived from cow ovaries with almost all their genetic material stripped away, and lasted for three days in a laboratory. The Newcastle University spokesman said that the research would likely be published in "months rather than weeks".

At present, researchers wanting to create such embryos have to apply for a license from the Human Fertilisation and Embryology Authority, which currently regulates the practice in Britain, and hybrid embryos have to be destroyed after 14 days.

The government says that the scientific advantages of allowing the creation of hybrid embryos for research purposes could help millions of people to recover from illness or disease.

Religious leaders, however, have argued against the bill, with the leader of Catholics in Scotland, Cardinal Keith O'Brien, using his Easter Sunday sermon to brand the bill a "monstrous attack on human rights, human dignity and human life" which will allow experiments of "Frankenstein proportion".

[Original Report Here](#)

Cow-human cross embryo lives three days

HERALD SUN [News Corporation/Murdoch] - By Grant McArthur - April 3, 2008

HUMAN-cow embryos have been created in a world first at Newcastle University in England, hailed by the scientific community, but labelled "monstrous" by opponents.

A team has grown hybrid embryos after injecting human DNA into eggs taken from cows' ovaries, which

had most of their genetic material removed.

The embryos survived for three days and are intended to provide a limitless supply of stem cells to develop therapies for diseases such as Alzheimer's, Parkinson's and spinal cord injuries, overcoming a worldwide shortfall in human embryos.

Dr Teija Peura, director of human embryonic stem cell laboratories at the Australian Stem Cell Centre, said somatic cell nuclear transfer (SCNT) had been done between animal species, but the "99 per cent human" embryos could boost research.

"If successful, they would provide an important additional research tool to help realisation of stem cell-based therapies for human diseases," Dr Peura said.

"All avenues of research, including SCNT --- need to be encouraged if we want to fulfil the promises of stem cell technologies."

But her colleague, Dr Andrew Laslett, warned the process was yet to yield a stem cell line and so it remained only an academic possibility.

In January, the Fertilisation and Embryology Authority gave Newcastle University a licence to do the work, but the British Parliament would debate the longer-term future of such research next month.

Under the licence, embryos are not allowed to be developed beyond 14 days.

Preliminary findings of the embryo program were presented in Israel last week, and the head of the university's Institute of Human Genetics, Prof John Burn, said further evaluation would be done before the full details were published.

"If the team can produce cells which will survive in culture, it will open the door to a better understanding of disease processes without having to use precious human eggs," Prof Burn said.

"Cells grown using animal eggs cannot be used to treat patients on safety grounds, but they will help bring nearer the day when new stem cell therapies are available."

The Catholic Church in Britain branded the creations as "monstrous" - a view supported by Caroline Chisholm Centre for Health Ethics director Fr Kevin McGovern.

"An almost-human embryo is being created and then it's being destroyed," he said.

"I cannot see that that respects human life or the dignity of human life."

"Human beings - or even almost human embryos - are not just things that you can use in a laboratory experiment."

"What is being created is life."

"No one knows exactly what would grow from these embryos."

"If this is approved in the UK, there will be renewed pressure to permit it here, and we will travel further down the slippery slope of allowing just about anything."

It is not the first time hybrids have been created.

The method was pioneered by Dr Hui Zhen Sheng's team at the Shanghai Second Medical University, China, where she fused human cells with rabbit eggs to produce early stage embryos, which in turn yielded human stem cells.

[Original Report Here](#)

British scientists create first animal human hybrid despite ongoing ethical storm

LONDON DAILY MAIL [Associated Newspapers/DMGT] - By David Derbyshire - April 2, 2008

Scientists have created the first part-human, part-animal embryo.

A team at Newcastle upon Tyne University inserted human skin cells into the hollowed-out egg cells of a cow - and jolted the egg into life.

The resulting embryo, which will eventually be used to investigate and treat diseases, survived for three days.

The scientists were only given permission to carry out the controversial experiment in January and the speed of their success has astonished scientists. - - - -

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Stem cells may not help fight off Parkinson's

ST. PETERSBURG TIMES [Times Publishing Company] - By Lisa Greene, Times Staff Writer - April 6, 2008

TAMPA - Fifteen years later, scientists are still learning from a woman who risked her life to be part of a controversial experiment to treat Parkinson's disease with fetal cells implanted in her brain.

The woman died last year, and an autopsy surprised scientists. The transplanted cells showed unmistakable signs of Parkinson's. That means the disease is able to spread inside the brain, migrating from the woman's own cells to the transplanted ones.

It also raises questions about whether stem cell transplants could become the best treatment for Parkinson's, because the disease might spread to affect the new cells.

The study was published online Sunday in the journal Nature Medicine. It's the latest result from a controversial trial with surgeries performed at the University of South Florida by Dr. Thomas Freeman, medical director of the Center of Excellence for Aging and Brain Repair.

"We have learned a lot about Parkinson's itself," Freeman said. "This type of trial is a road map for how to make stem cell therapies, when they become available, even better."

Parkinson's affects part of the brain that controls movement. Brain cells that produce a chemical called dopamine die or don't work properly. People with Parkinson's may have uncontrolled movement, such as trembling, or difficulty moving, with stiffness, slowness and poor balance.

The study transplanted brain cells of aborted fetuses into the brains of Parkinson's patients. The woman in the most recent study was 61 when she underwent surgery in 1993. She had had Parkinson's for 22 years.

After surgery, she had fewer motor control problems and needed less medicine until 2004, when her health again began to decline.

Unlike later patients of Freeman, this woman knew she had surgery. In the later research, Freeman did "sham" surgery on some patients, drilling holes part way into their skulls. He then did real transplants on other patients, but neither they nor their doctors knew which were which.

Some patients improved after the treatment, but some got worse. Overall, it didn't show a benefit. Future research in this area would likely be with stem cells, rather than fetal cells, scientists say. Although embryonic stem cells get the most attention, stem cells come from many places in the body. They can transform themselves into almost any type of cell.

Still, the latest results may help researchers learn more about what causes Parkinson's. - - - -

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Minnesota plan: Clone embryos and kill them!

State House also would force taxpayers to fund program

WORLDNETDAILY- March 5, 2008

Lawmakers in Minnesota have given their endorsement to a University of Minnesota plan to clone human embryos for "research," force taxpayers to pay for it, and then kill those embryos when the "research" work is finished.

The preliminary approval came on a recent 68-62 vote in which representatives rejected an amendment would be a true ban on cloning, and the "Kahn Cloning Bill, S.F. 100" could be brought up for a further vote at any time, opponents said.

The amendment provided language that would have promoted ethical adult stem cell research with a true ban on cloning human embryos, but that was rejected in favor of S.F. 100, sponsored by Rep. Phyllis Kahn, DFL-Minneapolis.

That plan has been described by supporters as a cloning ban, but it only bans "cloning" that results in a human being, not cloning that results in living human embryos. - - - -

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Catholic leader attacks "monstrous" embryo research

REUTERS [Thomson-Reuters] - By Peter Griffiths - March 21, 2008

LONDON - Research using hybrid human-animal embryos for experiments is "monstrous" and should be banned, the leader of the Roman Catholic Church in Scotland said on Friday.

Cardinal Keith O'Brien said a proposed new law -- the Human Fertilization and Embryology Bill -- should outlaw the practice.

The House of Lords rejected attempts earlier this year to include a ban on hybrid research in the draft legislation.

"This Bill represents a monstrous attack on human rights, human dignity and human life," O'Brien will say in his Easter Sunday sermon, according to extracts published in Friday's Daily Record newspaper. "In some other European countries, one could be jailed for doing what we intend to make legal."

In an interview with BBC radio on Friday, he added: "This is Frankenstein science and it must be stopped."

Scientists said the cardinal did not understand the issue properly and accused him of "scaremongering". Supporters of hybrid research say it will give scientists the large number of embryos they need to make stem cells to help find cures for a range of diseases.

Researchers create inter-species hybrids by injecting human DNA into a hollowed-out animal egg cell.

The resulting embryo is 99.9 percent human and 0.1 percent animal. - - -

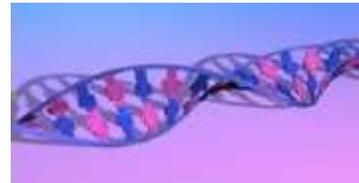
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Newborns' DNA targeted for state research, profiling

'What good is the privacy law if government warehouses data'

WORLDNETDAILY - By Bob Unruh - April 19, 2008

The state of Minnesota has advanced a plan to own the DNA of newborns, preserving it in a warehouse for use in genetic research, experimentation, manipulation, and profiling, according to an advocacy organization seeking to protect the privacy of that individual information.



"Citizen DNA is citizen property. The government should be required to ask, not allowed to take," said Twila Brase, president of the Citizens' Council on Health Care, a Minnesota-based organization familiar with the progress in that state.

"If this bill becomes law, each year 73,000 newborn citizens will not be protected by the state genetic privacy law. The [state] will take their DNA and unless the parents figure it out, the government will keep it," she said.

"Children grow up. Eventually, every citizen will have their DNA owned by state government and available for government to engage in genetic research, experimentation, manipulation, and profiling," she warned. "What good is the state genetic privacy law if government warehousing and analysis of every child's DNA from birth is exempt from its informed consent protections?"

In Minnesota, the state's genetic privacy law was challenged by the Health Department, which lost a court battle over the issue. But now the legislation could give the state government by legislative activism what it could not obtain through the judiciary.

Brase said the state House voted this week to approve the plan forwarded by the state Senate. "If the Senate accepts the minor amendments adopted by the House without a conference committee, the bill could be sent directly to Gov. [Tim] Pawlenty for his signature."

The legislative specifically would exempt warehousing, use and analysis of newborn blood and DNA from the informed consent requirements of the 2006 Minnesota Genetic Privacy Law.

WND reported earlier on protests from Brase over the legislative plan.

"We now are considered guinea pigs, as opposed to human beings with rights," she said, warning such DNA databases could spark the next wave of demands for eugenics, the concept of improving the human

race through the control of various inherited traits. Margaret Sanger, founder of Planned Parenthood, advocated eugenics to cull people she considered unfit from the population.

In 1921, she said eugenics is "the most adequate and thorough avenue to the solution of racial, political and social problems," and she later lamented "the ever increasing, unceasingly spawning class of human beings who never should have been born at all."

Minnesota already has stockpiled the DNA of more than 780,000 Minnesota children, and already has subjected the DNA of 42,210 children to research without their consent or knowledge, Brase told WND.

And she confirmed although her organization works with Minnesota issues, similar laws or rules and regulations already are in use across the nation.

The National Conference of State Legislatures, in fact, lists for all 50 states as well as the District of Columbia the various statutes or regulatory provisions under which newborns' DNA is being collected.

Such programs are offered as "screening" requirements to detect treatable illnesses. They vary as to exactly what tests are done, but the Health Resources and Services Administration has requested a report that would "include a recommendation for a uniform panel of conditions."

Further, Sen. Chris Dodd, D-Conn., is on record proposing a plan that would turn the program into a consolidated nationwide effort.

"Fortunately," he said at the time, "some newborn screening occurs in every state but fewer than half of the states, including Connecticut, actually test for all disorders that are detectable. --- This legislation will provide resources for states to expand their newborn screening programs---"

So what's the big deal about looking into DNA to hunt for various disease possibilities?

Nothing, said Brase, if that's where the hunt would end.

However, she said, "researchers already are looking for genes related to violence, crime and different behaviors."

"This isn't just about diabetes, asthma and cancer," she said. "It's also about behavioral issues."

"In England they decided they should have doctors looking for problem children, and have those children reported, and their DNA taken in case they would become criminals," she said.

In fact, published reports in the UK note that senior police forensics experts believe genetic samples should be studied, because it may be possible to identify potential criminals as young as age 5.

There, Chris Davis of the National Primary Headteachers' Association warned the move could be seen "as a step towards a police state."

Brase said such efforts to study traits and gene factors and classify people would be just the beginning. What could happen through subsequent programs to address such conditions, she wondered.

"Not all research is great," she said. Such classifying of people could lead to "discrimination and prejudice --- People can look at data about you and make assessments ultimately of who you are."

The Heartland Regional Genetics and Newborn Screening is one of the organizations that advocates more screening and research.

It proclaims in its vision statement a desire to see newborns screened for 200 conditions. It also forecasts

"every student --- with an individual program for education based on confidential interpretation of their family medical history, their brain imaging, their genetic predictors of best learning methods---"

Further, every individual should share information about "personal and family health histories" as well as "gene tests for recessive conditions and drug metabolism" with the "other parent of their future children."

Still further, it seeks "ecogenetic research that could improve health, lessen disability, and lower costs for sickness."

"They want to test every child for 200 conditions, take the child's history and a brain image, and genetics, and come up with a plan for that child," Brase said. "They want to learn their weaknesses and defects."

"Nobody including and especially the government should be allowed to create such extensive profiles," she said.

The next step is obvious: The government, with information about potential health weaknesses, could say to couples, "We don't want your expensive children," Brase said.

"I think people have forgotten about eugenics. The fact of the matter is that the eugenicists have not gone away. Newborn genetic testing is the entry into the 21st Century version of eugenics," she said.

"This is in every state, but nobody is talking about it. Parents have no idea this is happening," she said.

[Original Report Here](#)

Feds to collect DNA from every person they arrest

ASSOCIATED PRESS - By Eileen Sullivan - April 16, 2008

WASHINGTON - The government plans to begin collecting DNA samples from anyone arrested by a federal law enforcement agency - a move intended to prevent violent crime but which also is raising concerns about the privacy of innocent people.

Using authority granted by Congress, the government also plans to collect DNA samples from foreigners who are detained, whether they have been charged or not. The DNA would be collected through a cheek swab, Justice Department spokesman Erik Ablin said Wednesday. That would be a departure from current practice, which limits DNA collection to convicted felons.

Expanding the DNA database, known as CODIS, raises civil liberties questions about the potential for misuse of such personal information, such as family ties and genetic conditions.

Ablin said the DNA collection would be subject to the same privacy laws applied to current DNA sampling. That means none of it would be used for identifying genetic traits, diseases or disorders. Congress gave the Justice Department the authority to expand DNA collection in two different laws passed in 2005 and 2006.

There are dozens of federal law enforcement agencies, ranging from the FBI to the Library of Congress Police. The federal government estimates it makes about 140,000 arrests each year.

Justice officials estimate the new collecting requirements would add DNA from an additional 1.2 million people to the database each year.

Those who support the expanded collection believe that DNA sampling could get violent criminals off the streets and prevent them from committing more crimes.

A Chicago study in 2005 found that 53 murders and rapes could have been prevented if a DNA sample had been collected upon arrest.

"Many innocent lives could have been saved had the government began this kind of DNA sampling in the 1990s when the technology to do so first became available," Sen. Jon Kyl, R-Ariz., said. Kyl sponsored the 2005 law that gave the Justice Department this authority.

Thirteen states have similar laws: Alaska, Arizona, California, Kansas, Louisiana, Maryland, Minnesota,

New Mexico, North Dakota, South Dakota, Tennessee, Texas and Virginia.

The new regulation would mean that the federal government could store DNA samples of people who are not guilty of any crime, said Jesselyn McCurdy, legislative counsel for the American Civil Liberties Union.

"Now innocent people's DNA will be put into this huge CODIS database, and it will be very difficult for them to get it out if they are not charged or convicted of a crime," McCurdy said.

If a person is arrested but not convicted, he or she can ask the Justice Department to destroy the sample. The Homeland Security Department - the federal agency charged with policing immigration - supports the new rule.

"DNA is a proven law-enforcement tool," DHS spokesman Russ Knocke said.

The rule would not allow for DNA samples to be collected from immigrants who are legally in the United States or those being processed for admission, unless the person was arrested.

The proposed rule is being published in the Federal Register. That will be followed by a 30-day comment period.

[Original Article Here](#)

FBI wants palm prints, eye scans, tattoo mapping



CNN [Turner Broadcasting/Time Warner] - From Kelli Arena and Carol Cratty - February 4, 2008



CLARKSBURG, West Virginia -- The FBI is gearing up to create a massive computer database of people's physical characteristics, all part of an effort the bureau says to better identify criminals and terrorists.

But it's an issue that raises major privacy concerns -- what one civil liberties expert says should concern all Americans.

The bureau is expected to announce in coming days the awarding of a \$1 billion, 10-year contract to help create the database that will compile an array of biometric information -- from palm prints to eye scans.

Kimberly Del Greco, the FBI's Biometric Services section chief, said adding to the database is "important to protect the borders to keep the terrorists out, protect our citizens, our neighbors, our children so they can have good jobs, and have a safe country to live in."

But it's unnerving to privacy experts.

"It's the beginning of the surveillance society where you can be tracked anywhere, any time and all your movements, and eventually all your activities will be tracked and noted and correlated," said Barry Steinhardt, director of the American Civil Liberties Union's Technology and Liberty Project.

The FBI already has 55 million sets of fingerprints on file. In coming years, the bureau wants to compare palm prints, scars and tattoos, iris eye patterns, and facial shapes. The idea is to combine various pieces of biometric information to positively identify a potential suspect.

A lot will depend on how quickly technology is perfected, according to Thomas Bush, the FBI official in charge of the Clarksburg, West Virginia, facility where the FBI houses its current fingerprint database.

"Fingerprints will still be the big player," Bush, assistant director of the FBI's Criminal Justice Information Services Division, told CNN.

But he added, "Whatever the biometric that comes down the road, we need to be able to plug that in and play."

First up, he said, are palm prints. The FBI has already begun collecting images and hopes to soon use these as an additional means of making identifications. Countries that are already using such images find

20 percent of their positive matches come from latent palm prints left at crime scenes, the FBI's Bush said.

The FBI has also started collecting mug shots and pictures of scars and tattoos. These images are being stored for now as the technology is fine-tuned. All of the FBI's biometric data is stored on computers 30-feet underground in the Clarksburg facility.

In addition, the FBI could soon start comparing people's eyes -- specifically the iris, or the colored part of an eye -- as part of its new biometrics program called Next Generation Identification.

Nearby, at West Virginia University's Center for Identification Technology Research, researchers are already testing some of these technologies that will ultimately be used by the FBI.

"The best increase in accuracy will come from fusing different biometrics together," said Bojan Cukic, the co-director of the center.

But while law enforcement officials are excited about the possibilities of these new technologies, privacy advocates are upset the FBI will be collecting so much personal information.

"People who don't think mistakes are going to be made I don't think fly enough," said Steinhardt.

He said thousands of mistakes have been made with the use of the so-called no-fly lists at airports -- and that giving law enforcement widespread data collection techniques should cause major privacy alarms.

"There are real consequences to people," Steinhardt said.

You don't have to be a criminal or a terrorist to be checked against the database. More than 55 percent of the checks the FBI runs involve criminal background checks for people applying for sensitive jobs in government or jobs working with vulnerable people such as children and the elderly, according to the FBI.

The FBI says it hasn't been saving the fingerprints for those checks, but that may change. The FBI plans a so-called "rap-back" service in which an employer could ask the FBI to keep the prints for an employee on file and let the employer know if the person ever has a brush with the law. The FBI says it will first have to clear hurdles with state privacy laws, and people would have to sign waivers allowing their information to be kept.

Critics say people are being forced to give up too much personal information. But Lawrence Hornak, the co-director of the research center at West Virginia University, said it could actually enhance people's privacy.

"It allows you to project your identity as being you," said Hornak. "And it allows people to avoid identity theft, things of that nature."

There remains the question of how reliable these new biometric technologies will be. A 2006 German study looking at facial recognition in a crowded train station found successful matches could be made 60 percent of the time during the day. But when lighting conditions worsened at night, the results shrank to a success rate of 10 to 20 percent.

As work on these technologies continues, researchers are quick to admit what's proven to be the most accurate so far. "Iris technology is perceived today, together with fingerprints, to be the most accurate," said Cukic.

But in the future all kinds of methods may be employed. Some researchers are looking at the way people walk as a possible additional means of identification.

The FBI says it will protect all this personal data and only collect information on criminals and those seeking sensitive jobs.

The ACLU's Steinhardt doesn't believe it will stop there.

"This had started out being a program to track or identify criminals," he said. "Now we're talking about large swaths of the population -- workers, volunteers in youth programs. Eventually, it's going to be everybody."

[Original Report Here](#)

FBI Prepares Vast Database Of Biometrics

'The Always On Surveillance Society'

THE WASHINGTON POST [Wash Post Group/Graham] - By Ellen Nakashima - December 22, 2007

CLARKSBURG, W. Va. -- The FBI is embarking on a \$1 billion effort to build the world's largest computer database of peoples' physical characteristics, a project that would give the government unprecedented abilities to identify individuals in the United States and abroad.

Digital images of faces, fingerprints and palm patterns are already flowing into FBI systems in a climate-controlled, secure basement here. Next month, the FBI intends to award a 10-year contract that would significantly expand the amount and kinds of biometric information it receives. And in the coming years, law enforcement authorities around the world will be able to rely on iris patterns, face-shape data, scars and perhaps even the unique ways people walk and talk, to solve crimes and identify criminals and terrorists. The FBI will also retain, upon request by employers, the fingerprints of employees who have undergone criminal background checks so the employers can be notified if employees have brushes with the law. - - -

The increasing use of biometrics for identification is raising questions about the ability of Americans to avoid unwanted scrutiny. It is drawing criticism from those who worry that people's bodies will become de facto national identification cards. Critics say that such government initiatives should not proceed without proof that the technology really can pick a criminal out of a crowd.

The use of biometric data is increasing throughout the government. For the past two years, the Defense Department has been storing in a database images of fingerprints, irises and faces of more than 1.5 million Iraqi and Afghan detainees, Iraqi citizens and foreigners who need access to U.S. military bases. The Pentagon also collects DNA samples from some Iraqi detainees, which are stored separately.

The Department of Homeland Security has been using iris scans at some airports to verify the identity of travelers who have passed background checks and who want to move through lines quickly. The department is also looking to apply iris- and face-recognition techniques to other programs. The DHS already has a database of millions of sets of fingerprints, which includes records collected from U.S. and foreign travelers stopped at borders for criminal violations, from U.S. citizens adopting children overseas, and from visa applicants abroad. There could be multiple records of one person's prints.

"It's going to be an essential component of tracking," said Barry Steinhardt, director of the Technology and Liberty Project of the American Civil Liberties Union. "It's enabling the Always On Surveillance Society." - - - -

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All UK 'must be on DNA database'

BBC NEWS [PSB operated by BBC Trust] - September 5, 2007

The whole population and every UK visitor should be added to the national DNA database, a senior judge has said.

The present database in England and Wales holds details of 4m people who are guilty or cleared of a crime.

Lord Justice Sedley said this was indefensible and biased against ethnic minorities, and it would be fairer to include everyone, guilty or innocent.

Ministers said DNA helped tackle crime, but there were no plans for a voluntary national or compulsory UK database.

A spokesman for Prime Minister Gordon Brown said to expand the database would create "huge logistical and bureaucratic issues" and civil liberty concerns.

'Largest in the world'

Shadow home secretary David Davis called for a Parliamentary debate and described the system for adding people to the database as arbitrary and erratic.

Nick Clegg, Liberal Democrat home affairs spokesman, said there was "no earthly reason" why someone who has committed no crime should be on the database - "yet the government is shoving thousands of innocent people's DNA details on to the database every month".

The DNA database - which is 12 years old - grows by 30,000 samples a month taken from suspects or recovered from crime scenes.

There has already been criticism of the database - the largest in the world - because people who are found innocent usually cannot get their details removed.

- - - - [Read Full Report](#)

Google Wants to Index Your DNA, Too

The Web search giant's investment in Navigenics is further proof it wants an early stake in direct-to-consumer genetic screening

BUSINESS WEEK [McGraw-Hill] - By Marjorie Backman - April 18, 2008

Your DNA falls into the realm of "the world's information," and it seems that Google (GOOG), as part of its corporate mission, is making a play to organize that, too. The Internet giant received heavy press in 2007 when it invested at least \$4.4 million (BusinessWeek.com, 11/29/07) in a genetic screening company, 23andMe, that was started by Anne Wojcicki, the wife of Google co-founder Sergey Brin, and her business partner.

Google's interest in DNA doesn't end there. It is also putting money into a second Silicon Valley DNA-screening startup, Navigenics. The company is also backed by star venture capital firm Kleiner, Perkins, Caufield & Byers. For a spit of saliva and \$2,500, your genetic test results are securely delivered to your computer screen with your genetic likelihood for 18 medical conditions, from Alzheimer's to rheumatoid arthritis to several types of cancer. Navigenics aims to boost disease prevention by providing customers reports on their DNA that they can share with their doctors. The company addresses privacy concerns by encrypting customer identities, and screens only for conditions it deems to have scientifically sound genetic studies. The company also offers genetic counseling.

Much in the way it invested in 23andMe, Google wants to plant an early stake in a potentially large new market around genetic data. "We are interested in supporting companies and making investments in companies that [bolster] our mission statement, which is organizing the world's information and making it universally accessible and useful," Google spokesman Andrew Pederson says.

Size of Investment Not Disclosed

Calling 23andMe an example of a company "generating a whole new batch of information of interest to a broad range of people," Pederson says Google wants to extend its capabilities into genetic testing. The precise path and business contours of the emerging gene-testing market remain unclear, but if Navigenics succeeds it "will generate a lot of a very new type of information with potentially far-reaching value," says Pederson. "We felt it was important to get involved now, at the early stage, to better understand the information generated by this fast-moving field."

If genetic screening proves popular, the nascent technology also stands to benefit Affymetrix (AFFX), which not only invested in Navigenics but also makes the GeneChip system used in the testing and runs the lab Navigenics uses to analyze customers' DNA. Other Affymetrix alumni hold key positions at both gene-testing startups: Sean George is chief operating officer and Stephen Moore is chief counsel at Navigenics; Linda Avey co-leads 23andMe. A former Affymetrix president, Sue Siegel, is also on Navigenics' board.

Google's interest in the company seems to be purely financial. Both Navigenics and Google refused to disclose the size of Google's investment. "While Google is a financial investor in Navigenics, they don't

have access to our data; we do not serve ads," says Amy DuRoss, head of policy and business affairs at Redwood Shores (Calif.)-based Navigenics. - - -

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'Kiddyprinting' takes off in Scots schools

SCOTLAND SUNDAY HERALD (Glasgow)[Newsquest Media Group/Gannett] - By Adam Forrest - October 6, 2007

ALMOST HALF of all local authorities in Scotland have schools using fingerprint or palm-print machines to record the identity of pupils.

A Sunday Herald survey revealed the speed at which biometric systems have spread since a palmprint reader was piloted at a Paisley primary school just one year ago. Since then, 14 educational authorities have introduced biometric identification, with at least two others planning to put such systems in place. The technology is currently used to record information about library accounts and register pupils' school meal status in the hope that anonymity will help tackle the stigma of free school dinners. Despite fears that such systems are eroding civil liberties by creating unnecessary banks of identity data, experts believe "kiddyprinting" will continue to expand in the near future.

Alan Cunningham, of Yarg Biometrics, the Scottish company which introduced palm-vein scanners in cafeterias, believes new projects could soon place biometric systems at the school gates.

He said: "It is possible to have a secure access system at the door that would register pupils, and could send an automatic text message to parents to let them know if children attended school that day."

Parents across the UK, concerned about such a future, have formed the campaign group Leave Them Kids Alone. Spokesman David Coulter said: "Schools are not the right place to hold this kind of sensitive data.

"There isn't sufficient protection in place. The (UK) government is failing in its duty to uphold children's rights, to protect their most precious commodity, their future identity." - - -

Coulter rejected the argument that data could not be compiled on any national database at a later date.

"All these systems are potentially compatible. If someone has access to biometric data, we don't know how it could be used in 10 years' time." - - -

"Secure access is the biggest market for biometric systems. Down the line, in the next three to five years, biometrics will be used in bank cards. In the next five years, we'll see an explosion in where biometrics are used."

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Lawyers Fight DNA Samples Gained on Sly

NEW YORK TIMES [NYTimes Group/Sulzberger] - By Amy Harmon - April 3, 2008

The two Sacramento sheriff detectives tailed their suspect, Rolando Gallego, at a distance. They did not have a court order to compel him to give a DNA sample, but their assignment was to get one anyway - without his knowledge.

Recently, the sheriff's cold case unit had extracted a DNA profile from blood on a towel found 15 years earlier at the scene of the murder of Mr. Gallego's aunt. If his DNA matched, they believed they would finally be able to close the case.

On that spring day in 2006, the detectives watched as Mr. Gallego lit a cigarette, smoked it and threw away the butt. That was all they needed.

The practice, known among law enforcement officials as "surreptitious sampling," is growing in popularity even as defense lawyers and civil liberties advocates argue that it violates a constitutional right to privacy. Mr. Gallego's trial on murder charges, scheduled for next month, is the latest of several in which the defense argues that the police circumvented the Fourth Amendment protection against unreasonable search and seizure.

Critics argue that by covertly collecting DNA contained in the minute amounts of saliva, sweat and skin that everyone sheds in the course of daily life, police officers are exploiting an unforeseen loophole in the requirement to show "probable cause" that a suspect has committed a crime before conducting a search.

- - -

Law enforcement officials say they are just trying to solve crimes. Over the last few years, several hundred suspects have been implicated by the traces of DNA they unwittingly shed well after the crime was committed, according to law enforcement officials. Many more have been eliminated from suspicion without ever knowing that their coffee cups, tissues, straws, utensils and cigarette butts were subject to DNA analysis by the police.

"It's a great tool," said Micki Links, a sergeant in the Sacramento sheriff's homicide division. "Our hands are tied on a lot of things as far as what we can do and what we can search, so when we find something that's within the law, we're going to use it."

Sometimes the police dupe suspects into relinquishing their genetic identity by offering them a Coke during a routine interview and picking up the can. In Buffalo last year, undercover police waited until Altemio Sanchez, suspected of strangling and raping several women over a quarter-century, paid the check and left after dinner with his wife at a local restaurant before confiscating his glass. He later admitted killing three women and received a life sentence.

Variations on the technique are multiplying as the adoption of DNA processing technology lets crime laboratories derive a full profile from ever smaller amounts of biological material at relatively low cost. - - -

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Insurance Fears Lead Many to Shun DNA Tests

NEW YORK TIMES [NYTimes Group/Sulzberger] - By Amy Harmon - February 24, 2008

Victoria Grove wanted to find out if she was destined to develop the form of emphysema that ran in her family, but she did not want to ask her doctor for the DNA test that would tell her.

She worried that she might not be able to get health insurance, or even a job, if a genetic predisposition showed up in her medical records, especially since treatment for the condition, alpha-1 antitrypsin deficiency, could cost over \$100,000 a year. Instead, Ms. Grove sought out a service that sent a test kit to her home and returned the results directly to her.

Nor did she tell her doctor when the test revealed that she was virtually certain to get it. Knowing that she could sustain permanent lung damage without immediate treatment for her bouts of pneumonia, she made sure to visit her clinic at the first sign of infection.

But then came the day when the nurse who listened to her lungs decided she just had a cold. Ms. Grove begged for a chest X-ray. The nurse did not think it was necessary.

"It was just an ongoing battle with myself," recalled Ms. Grove, of Woodbury, Minn. "Should I tell them now or wait till I'm sicker?"

The first, much-anticipated benefits of personalized medicine are being lost or diluted for many Americans who are too afraid that genetic information may be used against them to take advantage of its growing availability.

In some cases, doctors say, patients who could make more informed health care decisions if they learned whether they had inherited an elevated risk of diseases like breast and colon cancer refuse to do so because of the potentially dire economic consequences.

Others enter a kind of genetic underground, spending hundreds or thousands of dollars of their own money for DNA tests that an insurer would otherwise cover, so as to avoid scrutiny. Those who do find out they are likely or certain to develop a particular genetic condition often beg doctors not to mention it in their records.

Some, like Ms. Grove, try to manage their own care without confiding in medical professionals. And even doctors who recommend DNA testing to their patients warn them that they could face genetic discrimination from employers or insurers.

Such discrimination appears to be rare; even proponents of federal legislation that would outlaw it can cite few examples of it. But thousands of people accustomed to a health insurance system in which known risks carry financial penalties are drawing their own conclusions about how a genetic predisposition to disease is likely to be regarded. - - - -

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Inside the Black Budget

NEW YORK TIMES [NYTimes Group/Sulzberger] - By WILLIAM J. BROAD - April 1, 2008

Skulls. Black cats. A naked woman riding a killer whale. Grim reapers. Snakes. Swords. Occult symbols. A wizard with a staff that shoots lightning bolts. Moons. Stars. A dragon holding the Earth in its claws. No, this is not the fantasy world of a 12-year-old boy.

It is, according to a new book, part of the hidden reality behind the Pentagon's classified, or "black," budget that delivers billions of dollars to stealthy armies of high-tech warriors. The book offers a glimpse of this dark world through a revealing lens - patches - the kind worn on military uniforms. "It's a fresh approach to secret government," Steven Aftergood, a security expert at the Federation of American Scientists in Washington, said in an interview. "It shows that these secret programs have their own culture, vocabulary and even sense of humor."

One patch shows a space alien with huge eyes holding a stealth bomber near its mouth. "To Serve Man" reads the text above, a reference to a classic "Twilight Zone" episode in which man is the entree, not the customer. "Gustatus Similis Pullus" reads the caption below, dog Latin for "Tastes Like Chicken."

Military officials and experts said the patches are real if often unofficial efforts at building team spirit.

The classified budget of the Defense Department, concealed from the public in all but outline, has nearly doubled in the Bush years, to \$32 billion. That is more than the combined budgets of the Food and Drug Administration, the National Science Foundation and the National Aeronautics and Space Administration. Those billions have expanded a secret world of advanced science and technology in which military units and federal contractors push back the frontiers of warfare. In the past, such handiwork has produced some of the most advanced jets, weapons and spy satellites, as well as notorious boondoggles.

Budget documents tell little. This year, for instance, the Pentagon says Program Element 0603891c is receiving \$196 million but will disclose nothing about what the project does. Private analysts say it apparently aims at developing space weapons.

Trevor Paglen, an artist and photographer finishing his Ph.D. in geography at the University of California, Berkeley, has managed to document some of this hidden world. The 75 patches he has assembled reveal a bizarre mix of high and low culture where Latin and Greek mottos frame images of spooky demons and sexy warriors, of dragons dropping bombs and skunks firing laser beams.

"Oderint Dum Metuant," reads a patch for an Air Force program that mines spy satellite images for battlefield intelligence, according to Mr. Paglen, who identifies the saying as from Caligula, the first-century Roman emperor famed for his depravity. It translates "Let them hate so long as they fear."

Wizards appear on several patches. The one hurling lightning bolts comes from a secret Air Force base at Groom Lake, northwest of Las Vegas in a secluded valley. Mr. Paglen identifies its five clustered stars and one separate star as a veiled reference to Area 51, where the government tests advanced aircraft and, U.F.O. buffs say, captured alien spaceships.

The book offers not only clues into the nature of the secret programs, but also a glimpse of zealous male bonding among the presumed elite of the military-industrial complex. The patches often feel like fraternity pranks gone ballistic.

The book's title? "I Could Tell You but Then You Would Have to Be Destroyed by Me," published by Melville House. Mr. Paglen says the title is the Latin translation of a patch designed for the Navy Air Test and Evaluation Squadron 4, at Point Mugu, Calif. Its mission, he says, is to test strike aircraft, conventional weapons and electronic warfare equipment and to develop tactics to use the high-tech armaments in war.

"The military has patches for almost everything it does," Mr. Paglen writes in the introduction. "Including, curiously, for programs, units and activities that are officially secret."

He said contractors in some cases made the patches to build esprit de corps. Other times, he added, military units produced them informally, in contrast to official patches.

Mr. Paglen said he found them by touring bases, noting what personnel wore, joining alumni associations, interviewing active and former team members, talking to base historians and filing requests under the Freedom of Information Act.

A spokesman for the Pentagon, Cmdr. Bob Mehal, said it would be imprudent to comment on "which



patches do or do not represent classified units." In an e-mail message, Commander Mehal added, "It would be supposition to suggest 'anyone' is uncomfortable with this book."

Each year, the Center for Strategic and Budgetary Assessments, a private group in Washington, publishes an update on the Pentagon's classified budget. It says the money began to soar after the two events of Mr. Bush's coming into office and terrorists' 9/11 attacks.

What sparked his interest, Mr. Paglen recalled, were Vice President Dick Cheney's remarks as the Pentagon and World Trade Center smoldered. On "Meet the Press," he said the nation would engage its "dark side" to find the attackers and justice. "We've got to spend time in the shadows," Mr. Cheney said. "It's going to be vital for us to use any means at our disposal, basically, to achieve our objective."

In an interview, Mr. Paglen said that remark revived memories of his childhood when his military family traveled the globe to bases often involved in secret missions. "I'd go out drinking with Special Forces guys," he recalled. "I was 15, and they were 20, and they could never say where they were coming from or what they were doing. You were just around the stuff." - - -

His book explores this idea and seeks to decode the symbols. Many patches show the Greek letter sigma, which Mr. Paglen identifies as a technical term for how well an object reflects radar waves, a crucial parameter in developing stealthy jets.

A patch from a Groom Lake unit shows the letter sigma with the "buster" slash running through it, as in the movie "Ghost Busters." "Huge Deposit - No Return" reads its caption. Huge Deposit, Mr. Paglen writes, "indicates the bomb load deposited by the bomber on its target, while 'No Return' refers to the absence of a radar return, meaning the aircraft was undetectable to radar."

In an interview, Mr. Paglen said his favorite patch was the dragon holding the Earth in its claws, its wings made of American flags and its mouth wide open, baring its fangs. He said it came from the National Reconnaissance Office, which oversees developing spy satellites. "There's something both belligerent and weirdly self-critical about it," he remarked. "It's representing the U.S. as a dragon with the whole world in its clutches."

The field is expanding. Dwayne A. Day and Roger Guillemette, military historians, wrote an article published this year in The Space Review (www.thespacereview.com/article/1033/1) on patches from secret space programs. "It's neat stuff," Dr. Day said in an interview. "They're not really giving away secrets. But the patches do go farther than the organizations want to go officially."

Mr. Paglen plans to keep mining the patches and the field of clandestine military activity. "It's kind of remarkable," he said. "This stuff is a huge industry, I mean a huge industry. And it's remarkable that you can develop these projects on an industrial scale, and we don't know what they are. It's an astounding feat of social engineering."

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"Doomsday Seed Vault" in the Arctic

Bill Gates, Rockefeller and the GMO giants know something we don't

GLOBAL RESEARCH.ca : CENTER FOR RESEARCH ON GLOBALIZATION - By F. William Engdahl - December 4, 2007

- - - No project is more interesting at the moment than a curious project in one of the world's most remote spots, Svalbard. Bill Gates is investing millions in a seed bank on the Barents Sea near the Arctic Ocean, some 1,100 kilometers from the North Pole. Svalbard is a barren piece of rock claimed by Norway and ceded in 1925 by international treaty.

On this [g]od-forsaken island Bill Gates is investing tens of his millions along with the Rockefeller Foundation, Monsanto Corporation, Syngenta Foundation and the Government of Norway, among others, in what is called the 'doomsday seed bank.' Officially the project is named the Svalbard Global Seed Vault on the Norwegian island of Spitsbergen, part of the Svalbard island group.

The seed bank is being built inside a mountain on Spitsbergen Island near the small village of Longyearbyen. It's almost ready for 'business' according to their releases. The bank will have dual blast-proof doors with motion sensors, two airlocks, and walls of steel-reinforced concrete one meter thick. It will contain up to three million different varieties of seeds from the entire world, 'so that crop diversity can be conserved for the future,' according to the Norwegian government. Seeds will be specially wrapped to exclude moisture. There will be no full-time staff, but the vault's relative inaccessibility will facilitate monitoring any possible human activity.

Did we miss something here? Their press release stated, 'so that crop diversity can be conserved for the future.' What future do the seed bank's sponsors foresee, that would threaten the global availability of current seeds, almost all of which are already well protected in designated seed banks around the world? Anytime Bill Gates, the Rockefeller Foundation, Monsanto and Syngenta get together on a common project, it's worth digging a bit deeper behind the rocks on Spitsbergen. When we do we find some fascinating things.

The first notable point is who is sponsoring the doomsday seed vault. Here joining the Norwegians are, as noted, the Bill & Melinda Gates Foundation; the US agribusiness giant DuPont/Pioneer Hi-Bred, one of the world's largest owners of patented genetically-modified (GMO) plant seeds and related agrichemicals; Syngenta, the Swiss-based major GMO seed and agrichemicals company through its Syngenta Foundation; the Rockefeller Foundation, the private group who created the "gene revolution with over \$100 million of seed money since the 1970's; CGIAR, the global network created by the Rockefeller Foundation to promote its ideal of genetic purity through agriculture change.

CGIAR and 'The Project'

As I detailed in the book, *Seeds of Destruction*, in 1960 the Rockefeller Foundation, John D. Rockefeller III's Agriculture Development Council and the Ford Foundation joined forces to create the International Rice Research Institute (IRRI) in Los Baños, the Philippines.¹ By 1971, the Rockefeller Foundation's IRRI, along with their Mexico-based International Maize and Wheat Improvement Center and two other Rockefeller and Ford Foundation-created international research centers, the IITA for tropical agriculture, Nigeria, and IRRI for rice, Philippines, combined to form a global Consultative Group on International Agriculture Research (CGIAR).

CGIAR was shaped at a series of private conferences held at the Rockefeller Foundation's conference center in Bellagio, Italy. Key participants at the Bellagio talks were the Rockefeller Foundation's George Harrar, Ford Foundation's Forrest Hill, Robert McNamara of the World Bank and Maurice Strong, the Rockefeller family's international environmental organizer, who, as a Rockefeller Foundation Trustee, organized the UN Earth Summit in Stockholm in 1972. It was part of the foundation's decades long focus to turn science to the service of eugenics, a hideous version of racial purity, what has been called The Project.

To ensure maximum impact, CGIAR drew in the United Nations' Food and Agriculture Organization, the UN Development Program and the World Bank. Thus, through a carefully-planned leverage of its initial funds, the Rockefeller Foundation by the beginning of the 1970's was in a position to shape global agriculture policy. And shape it did.

Financed by generous Rockefeller and Ford Foundation study grants, CGIAR saw to it that leading Third World agriculture scientists and agronomists were brought to the US to 'master' the concepts of modern agribusiness production, in order to carry it back to their homeland. In the process they created an invaluable network of influence for US agribusiness promotion in those countries, most especially promotion of the GMO 'Gene Revolution' in developing countries, all in the name of science and efficient, free market agriculture.

Genetically engineering a master race?

Now the Svalbard Seed Bank begins to become interesting. But it gets better. 'The Project' I referred to is the project of the Rockefeller Foundation and powerful financial interests since the 1920's to use eugenics, later renamed genetics, to justify creation of a genetically-engineered Master Race. Hitler and the Nazis called it the Aryan Master Race.

The eugenics of Hitler were financed to a major extent by the same Rockefeller Foundation which today is building a doomsday seed vault to preserve samples of every seed on our planet. Now this is getting really intriguing. The same Rockefeller Foundation created the pseudo-science discipline of molecular biology in their relentless pursuit of reducing human life down to the 'defining gene sequence' which, they hoped, could then be modified in order to change human traits at will. Hitler's eugenics scientists, many of whom were quietly brought to the United States after the War to continue their biological eugenics research, laid much of the groundwork of genetic engineering of various life forms, much of it supported openly until well into the Third Reich by Rockefeller Foundation generous grants.²

The same Rockefeller Foundation created the so-called Green Revolution, out of a trip to Mexico in 1946 by Nelson Rockefeller and former New Deal Secretary of Agriculture and founder of the Pioneer Hi-Bred Seed Company, Henry Wallace.

The Green Revolution purported to solve the world hunger problem to a major degree in Mexico, India

and other select countries where Rockefeller worked. Rockefeller Foundation agronomist, Norman Borlaug, won a Nobel Peace Prize for his work, hardly something to boast about with the likes of Henry Kissinger sharing the same.

In reality, as it years later emerged, the Green Revolution was a brilliant Rockefeller family scheme to develop a globalized agribusiness which they then could monopolize just as they had done in the world oil industry beginning a half century before. As Henry Kissinger declared in the 1970's, 'If you control the oil you control the country; if you control food, you control the population.'

Agribusiness and the Rockefeller Green Revolution went hand-in-hand. They were part of a grand strategy which included Rockefeller Foundation financing of research for the development of genetic engineering of plants and animals a few years later.

John H. Davis had been Assistant Agriculture Secretary under President Dwight Eisenhower in the early 1950's. He left Washington in 1955 and went to the Harvard Graduate School of Business, an unusual place for an agriculture expert in those days. He had a clear strategy. In 1956, Davis wrote an article in the Harvard Business Review in which he declared that "the only way to solve the so-called farm problem once and for all, and avoid cumbersome government programs, is to progress from agriculture to agribusiness." He knew precisely what he had in mind, though few others had a clue back then--- a revolution in agriculture production that would concentrate control of the food chain in corporate multinational hands, away from the traditional family farmer.³

A crucial aspect driving the interest of the Rockefeller Foundation and US agribusiness companies was the fact that the Green Revolution was based on proliferation of new hybrid seeds in developing markets. One vital aspect of hybrid seeds was their lack of reproductive capacity. Hybrids had a built in protection against multiplication. Unlike normal open pollinated species whose seed gave yields similar to its parents, the yield of the seed borne by hybrid plants was significantly lower than that of the first generation.

That declining yield characteristic of hybrids meant farmers must normally buy seed every year in order to obtain high yields. Moreover, the lower yield of the second generation eliminated the trade in seed that was often done by seed producers without the breeder's authorization. It prevented the redistribution of the commercial crop seed by middlemen. If the large multinational seed companies were able to control the parental seed lines in house, no competitor or farmer would be able to produce the hybrid. The global concentration of hybrid seed patents into a handful of giant seed companies, led by DuPont's Pioneer Hi-Bred and Monsanto's Dekalb laid the ground for the later GMO seed revolution.⁴

In effect, the introduction of modern American agricultural technology, chemical fertilizers and commercial hybrid seeds all made local farmers in developing countries, particularly the larger more established ones, dependent on foreign, mostly US agribusiness and petro-chemical company inputs. It was a first step in what was to be a decades-long, carefully planned process.

Under the Green Revolution Agribusiness was making major inroads into markets which were previously of limited access to US exporters. The trend was later dubbed "market-oriented agriculture." In reality it was agribusiness-controlled agriculture.

Through the Green Revolution, the Rockefeller Foundation and later Ford Foundation worked hand-in-hand shaping and supporting the foreign policy goals of the United States Agency for International Development (USAID) and of the CIA.

One major effect of the Green Revolution was to depopulate the countryside of peasants who were forced to flee into shantytown slums around the cities in desperate search for work. That was no accident; it was part of the plan to create cheap labor pools for forthcoming US multinational manufactures, the 'globalization' of recent years.

When the self-promotion around the Green Revolution died down, the results were quite different from what had been promised. Problems had arisen from indiscriminate use of the new chemical pesticides, often with serious health consequences. The mono-culture cultivation of new hybrid seed varieties decreased soil fertility and yields over time. The first results were impressive: double or even triple yields for some crops such as wheat and later corn in Mexico. That soon faded.

The Green Revolution was typically accompanied by large irrigation projects which often included World Bank loans to construct huge new dams, and flood previously settled areas and fertile farmland in the process. Also, super-wheat produced greater yields by saturating the soil with huge amounts of fertilizer per acre, the fertilizer being the product of nitrates and petroleum, commodities controlled by the Rockefeller-dominated Seven Sisters major oil companies.

Huge quantities of herbicides and pesticides were also used, creating additional markets for the oil and chemical giants. As one analyst put it, in effect, the Green Revolution was merely a chemical revolution. At no point could developing nations pay for the huge amounts of chemical fertilizers and pesticides. They would get the credit courtesy of the World Bank and special loans by Chase Bank and other large New York banks, backed by US Government guarantees.

Applied in a large number of developing countries, those loans went mostly to the large landowners. For the smaller peasants the situation worked differently. Small peasant farmers could not afford the chemical and other modern inputs and had to borrow money. - - -

Gates, Rockefeller and a Green Revolution in Africa

- - - Africa is the next target in the US-government campaign to spread GMO worldwide. Its rich soils make it an ideal candidate. Not surprisingly many African governments suspect the worst from the GMO sponsors as a multitude of genetic engineering and biosafety projects have been initiated in Africa, with the aim of introducing GMOs into Africa's agricultural systems. These include sponsorships offered by the US government to train African scientists in genetic engineering in the US, biosafety projects funded by the United States Agency for International Development (USAID) and the World Bank; GMO research involving African indigenous food crops.

The Rockefeller Foundation has been working for years to promote, largely without success, projects to introduce GMOs into the fields of Africa. They have backed research that supports the applicability of GMO cotton in the Makhathini Flats in South Africa.

Monsanto, who has a strong foothold in South Africa's seed industry, both GMO and hybrid, has conceived of an ingenious smallholders' programme known as the 'Seeds of Hope' Campaign, which is introducing a green revolution package to small scale poor farmers, followed, of course, by Monsanto's patented GMO seeds. 6

Syngenta AG of Switzerland, one of the 'Four Horsemen of the GMO Apocalypse' is pouring millions of dollars into a new greenhouse facility in Nairobi, to develop GMO insect resistant maize. Syngenta is a part of CGIAR as well.7

Move on to Svalbard

Now is it simply philosophical sloppiness? What leads the Gates and Rockefeller foundations to at one and the same time to back proliferation of patented and soon-to-be Terminator patented seeds across Africa, a process which, as it has in every other place on earth, destroys the plant seed varieties as monoculture industrialized agribusiness is introduced? At the same time they invest tens of millions of dollars to preserve every seed variety known in a bomb-proof doomsday vault near the remote Arctic Circle 'so that crop diversity can be conserved for the future' to restate their official release?

It is no accident that the Rockefeller and Gates foundations are teaming up to push a GMO-style Green Revolution in Africa at the same time they are quietly financing the 'doomsday seed vault' on Svalbard. The GMO agribusiness giants are up to their ears in the Svalbard project.

Indeed, the entire Svalbard enterprise and the people involved call up the worst catastrophe images of the Michael Crichton bestseller, *Andromeda Strain*, a sci-fi thriller where a deadly disease of extraterrestrial origin causes rapid, fatal clotting of the blood threatening the entire human species. In Svalbard, the future world's most secure seed repository will be guarded by the policemen of the GMO Green Revolution--the Rockefeller and Gates Foundations, Syngenta, DuPont and CGIAR.

The Svalbard project will be run by an organization called the Global Crop Diversity Trust (GCDT). Who are they to hold such an awesome trust over the planet's entire seed varieties? The GCDT was founded by the United Nations Food and Agriculture Organisation (FAO) and Bioversity International (formerly the International Plant Genetic Research Institute), an offshoot of the CGIAR.

The Global Crop Diversity Trust is based in Rome. Its Board is chaired by Margaret Catley-Carlson a Canadian also on the advisory board of Group Suez Lyonnaise des Eaux, one of the world's largest private water companies. Catley-Carlson was also president until 1998 of the New York-based Population Council, John D. Rockefeller's population reduction organization, set up in 1952 to advance the Rockefeller family's eugenics program under the cover of promoting "family planning," birth control devices, sterilization and "population control" in developing countries.

Other GCDT board members include former Bank of America executive presently head of the Hollywood DreamWorks Animation, Lewis Coleman. Coleman is also the lead Board Director of Northrup Grumman Corporation, one of America's largest military industry Pentagon contractors.

Jorio Dauster (Brazil) is also Board Chairman of Brasil Ecodiesel. He is a former Ambassador of Brazil to

the European Union, and Chief Negotiator of Brazil's foreign debt for the Ministry of Finance. Dauster has also served as President of the Brazilian Coffee Institute and as Coordinator of the Project for the Modernization of Brazil's Patent System, which involves legalizing patents on seeds which are genetically modified, something until recently forbidden by Brazil's laws.

Cary Fowler is the Trust's Executive Director. Fowler was Professor and Director of Research in the Department for International Environment & Development Studies at the Norwegian University of Life Sciences. He was also a Senior Advisor to the Director General of Bioversity International. There he represented the Future Harvest Centres of the Consultative Group on International Agricultural Research (CGIAR) in negotiations on the International Treaty on Plant Genetic Resources. In the 1990s, he headed the International Program on Plant Genetic Resources at the FAO. He drafted and supervised negotiations of FAO's Global Plan of Action for Plant Genetic Resources, adopted by 150 countries in 1996. He is a past-member of the National Plant Genetic Resources Board of the US and the Board of Trustees of the International Maize and Wheat Improvement Center in Mexico, another Rockefeller Foundation and CGIAR project.

GCDT board member Dr. Mangala Rai of India is the Secretary of India's Department of Agricultural Research and Education (DARE), and Director General of the Indian Council for Agricultural Research (ICAR). He is also a Board Member of the Rockefeller Foundation's International Rice Research Institute (IRRI), which promoted the world's first major GMO experiment, the much-hyped 'Golden Rice' which proved a failure. Rai has served as Board Member for CIMMYT (International Maize and Wheat Improvement Center), and a Member of the Executive Council of the CGIAR.

Global Crop Diversity Trust Donors or financial angels include as well, in the words of the Humphrey Bogart Casablanca classic, 'all the usual suspects.' As well as the Rockefeller and Gates Foundations, the Donors include GMO giants DuPont-Pioneer Hi-Bred, Syngenta of Basle Switzerland, CGIAR and the State Department's energetically pro-GMO agency for development aid, USAID. Indeed it seems we have the GMO and population reduction foxes guarding the hen-house of mankind, the global seed diversity store in Svalbard. 8

Why now Svalbard?

We can legitimately ask why Bill Gates and the Rockefeller Foundation along with the major genetic engineering agribusiness giants such as DuPont and Syngenta, along with CGIAR are building the Doomsday Seed Vault in the Arctic.

Who uses such a seed bank in the first place? Plant breeders and researchers are the major users of gene banks. Today's largest plant breeders are Monsanto, DuPont, Syngenta and Dow Chemical, the global plant-patenting GMO giants. Since early in 2007 Monsanto holds world patent rights together with the United States Government for plant so-called 'Terminator' or Genetic Use Restriction Technology (GURT). Terminator is an ominous technology by which a patented commercial seed commits 'suicide' after one harvest. Control by private seed companies is total. Such control and power over the food chain has never before in the history of mankind existed.

This clever genetically engineered terminator trait forces farmers to return every year to Monsanto or other GMO seed suppliers to get new seeds for rice, soybeans, corn, wheat whatever major crops they need to feed their population. If broadly introduced around the world, it could within perhaps a decade or so make the world's majority of food producers new feudal serfs in bondage to three or four giant seed companies such as Monsanto or DuPont or Dow Chemical.

That, of course, could also open the door to have those private companies, perhaps under orders from their host government, Washington, deny seeds to one or another developing country whose politics happened to go against Washington's. Those who say 'It can't happen here' should look more closely at current global events. The mere existence of that concentration of power in three or four private US-based agribusiness giants is grounds for legally banning all GMO crops even were their harvest gains real, which they manifestly are not.

These private companies, Monsanto, DuPont, Dow Chemical hardly have an unsullied record in terms of stewardship of human life. They developed and proliferated such innovations as dioxin, PCBs, Agent Orange. They covered up for decades clear evidence of carcinogenic and other severe human health consequences of use of the toxic chemicals. They have buried serious scientific reports that the world's most widespread herbicide, glyphosate, the essential ingredient in Monsanto's Roundup herbicide that is tied to purchase of most Monsanto genetically engineered seeds, is toxic when it seeps into drinking water.⁹ Denmark banned glyphosate in 2003 when it confirmed it has contaminated the country's

groundwater.¹⁰

The diversity stored in seed gene banks is the raw material for plant breeding and for a great deal of basic biological research. Several hundred thousand samples are distributed annually for such purposes. The UN's FAO lists some 1400 seed banks around the world, the largest being held by the United States Government. Other large banks are held by China, Russia, Japan, India, South Korea, Germany and Canada in descending order of size. In addition, CGIAR operates a chain of seed banks in select centers around the world.

CGIAR, set up in 1972 by the Rockefeller Foundation and Ford Foundation to spread their Green Revolution agribusiness model, controls most of the private seed banks from the Philippines to Syria to Kenya. In all these present seed banks hold more than six and a half million seed varieties, almost two million of which are 'distinct.' Svalbard's Doomsday Vault will have a capacity to house four and a half million different seeds.

GMO as a weapon of biowarfare?

Now we come to the heart of the danger and the potential for misuse inherent in the Svalbard project of Bill Gates and the Rockefeller foundation. Can the development of patented seeds for most of the world's major sustenance crops such as rice, corn, wheat, and feed grains such as soybeans ultimately be used in a horrible form of biological warfare?

The explicit aim of the eugenics lobby funded by wealthy elite families such as Rockefeller, Carnegie, Harriman and others since the 1920's, has embodied what they termed 'negative eugenics,' the systematic killing off of undesired bloodlines. Margaret Sanger, a rapid eugenicist, the founder of Planned Parenthood International and an intimate of the Rockefeller family, created something called The Negro Project in 1939, based in Harlem, which as she confided in a letter to a friend, was all about the fact that, as she put it, 'we want to exterminate the Negro population.'¹¹

A small California biotech company, Epicyte, in 2001 announced the development of genetically engineered corn which contained a spermicide which made the semen of men who ate it sterile. At the time Epicyte had a joint venture agreement to spread its technology with DuPont and Syngenta, two of the sponsors of the Svalbard Doomsday Seed Vault. Epicyte was since acquired by a North Carolina biotech company. Astonishing to learn was that Epicyte had developed its spermicidal GMO corn with research funds from the US Department of Agriculture, the same USDA which, despite worldwide opposition, continued to finance the development of Terminator technology, now held by Monsanto. In the 1990's the UN's World Health Organization launched a campaign to vaccinate millions of women in Nicaragua, Mexico and the Philippines between the ages of 15 and 45, allegedly against Tetanus, a sickness arising from such things as stepping on a rusty nail. The vaccine was not given to men or boys, despite the fact they are presumably equally liable to step on rusty nails as women.

Because of that curious anomaly, Comite Pro Vida de Mexico, a Roman Catholic lay organization became suspicious and had vaccine samples tested. The tests revealed that the Tetanus vaccine being spread by the WHO only to women of child-bearing age contained human Chorionic Gonadotrophin or hCG, a natural hormone which when combined with a tetanus toxoid carrier stimulated antibodies rendering a woman incapable of maintaining a pregnancy. None of the women vaccinated were told. It later came out that the Rockefeller Foundation along with the Rockefeller's Population Council, the World Bank (home to CGIAR), and the United States' National Institutes of Health had been involved in a 20-year-long project begun in 1972 to develop the concealed abortion vaccine with a tetanus carrier for WHO. In addition, the Government of Norway, the host to the Svalbard Doomsday Seed Vault, donated \$41 million to develop the special abortive Tetanus vaccine.¹²

Is it a coincidence that these same organizations, from Norway to the Rockefeller Foundation to the World Bank are also involved in the Svalbard seed bank project? According to Prof. Francis Boyle who drafted the Biological Weapons Anti-Terrorism Act of 1989 enacted by the US Congress, the Pentagon is 'now gearing up to fight and win biological warfare' as part of two Bush national strategy directives adopted, he notes, 'without public knowledge and review' in 2002. Boyle adds that in 2001-2004 alone the US Federal Government spent \$14.5 billion for civilian bio-warfare-related work, a staggering sum. Rutgers University biologist Richard Ebright estimates that over 300 scientific institutions and some 12,000 individuals in the USA today have access to pathogens suitable for biowarfare. Alone there are 497 US Government NIH grants for research into infectious diseases with biowarfare potential. Of course this is being justified under the rubric of defending against possible terror attack as so much is today. Many of the US Government dollars spent on biowarfare research involve genetic engineering. MIT

biology professor Jonathan King says that the 'growing bio-terror programs represent a significant emerging danger to our own population.' King adds, 'while such programs are always called defensive, with biological weapons, defensive and offensive programs overlap almost completely.' 13 Time will tell whether, God Forbid, the Svalbard Doomsday Seed Bank of Bill Gates and the Rockefeller Foundation is part of another Final Solution, this involving the extinction of the Late, Great Planet Earth. *William Engdahl is a Research Associate of the Centre for Research on Globalization (CRG). His writings can be consulted on www.engdahl.oilgeopolitics.net and on Global Research.*
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