

The "New" Science of Epigenetics

by Charlotte Gerson, from an article by Emma Young, July 9, 2008

As is so often the case, "new discoveries in science" are old beliefs, investigated with modern methods, and found correct! One such item is now called "Epigenetics". There have already been some 20 years of intensive study of this 'new' science. The prefix "epi-" comes from the word meaning above; in other words, the news is that there is something *above* genes that can change genes. For decades we have been led to believe that the Darwinian DNA, or gene theory, was cast in concrete; but it turns out that genes can be influenced, silenced, or newly activated!

Some 50 years before Charles Darwin published his *Origin of Species* in 1909) French naturalist Jean-Baptiste Lamarck wrote about his own theory of evolution. He felt that characteristics acquired during an individual's lifetime can be passed on to his offspring. The idea did not survive Darwin and Gregor Mendel's discovery of genetics.

Their work stood fast, and genes were considered firm and unchangeable—however that idea has changed. Recent research has made it increasingly clear that environmental factors, such as diet and stress, have biological consequences that can be transmitted to offspring without change to the gene sequence. This is a whole new way of looking at genetics and has been dubbed the "new Lamarckism". Robyn Ward of the cancer research centre at the University of New South Wales in Sydney, Australia feels that this is a new way of looking at the inheritance and causes of various diseases, including schizophrenia, bipolar disorder and diabetes as well as cancer.

The clearest example of this comes from honeybees. All female honeybees develop from genetically identical larvae; but those fed on royal jelly become fertile queens, while the rest remain sterile workers! A research team led by Ryszard Maleszka at the Australian National University in Canberra showed that an epigenetic mechanism accounts for this. His team used RNAi, an enzyme needed for adding the methyl group to DNA in honeybee larvae. Most of

these larvae emerged as queens without having been given royal jelly. (Science DOI: 10.1126/science.1153069).

In 2000, Randy Jirtle at Duke University in Durham, North Carolina, led a very important experiment on a strain of genetically identical mice. These carried the *agouti* gene, which makes them fat and prone to diabetes and cancer. Jirtle and his student, Robert Waterland, gave one group of females a diet rich in the methyl groups (folates, green leaves and B₁₂) before conception and during pregnancy. They found that the offspring were very different from their parents. They were slim and lived to a ripe old age. They did contain the *agouti* gene but the methyl groups had superseded its expression!

In 2006, Tony Hsiu-Hai Chen at the National Taiwan University in Taipei and colleagues reported that the offspring of men who regularly chewed betel nuts had twice the normal risk of developing "metabolic syndrome" (the new name for a combination of obesity, diabetes and high blood pressure) during childhood. Betel nuts are also associated with several symptoms of metabolic syndrome in chewers including increased heart rate, blood pressure, waist size and body weight.

There is even evidence that epigenetic changes can affect mate preference. Last year, David Crews and Andrea Gore at the University of Texas at Austin published a study of male rats whose great-grandfathers had been exposed to the fungicide Vinclozalin. Previous research has revealed that such exposure leads to increased infertility and higher risks of cancer even four generations later. Crews and Gore found that female rats tended to avoid those males.

They could sense something was wrong, says Gore. The females seemed to select mates on the basis of an epigenetic pattern, as opposed to a genetic difference.

Last year, the National Institutes of Health announced it would invest \$190 million to accelerate epigenetic research. The list of illnesses to be studied in the resulting grants reveals the scope of this emerging field: cancer, Alzheimer's disease, autism, bipolar disorder, schizophrenia, asthma, kidney disease, glaucoma, muscular dystrophy and more. — All these problems, supposedly "incurable" or "genetic", have already been cured by the Gerson Therapy!

As we have seen in previous articles, the reports of autism being caused by vaccinations are numerous and disturbing. However, autism has also been reversed by intensive detoxification by the Gerson Therapy, or other similar methods. Further, a case which illustrates epigenetics both ways: Faye C., a 12-year-old Australian girl, suffered from advanced cystic fibrosis, and constant and continuing infections and mucous discharge into her lungs. This problem is treated by orthodox medicine... with the usual antibiotics, which never cure. The girl had chest pain, breathing difficulties, was not growing or developing normally, and her disease, as usual, was characterized as "genetic". This gives the orthodox physicians an excuse for saying it is "incurable", but clearly not their fault! People with cystic fibrosis do not usually survive past the age of 21 or 22.

The case had two points; as indicated above. When she was born, she was apparently normal and healthy up to the age of six months at which time she was vaccinated with the usual DPT. That was the start of her problems—possibly a toxic aggravation of some dormant genes. When she started the Gerson Therapy, her constant infections, gummed up lungs, pain and delayed development all disappeared; and she developed normally, also needed no further antibiotics. With the excellent green nutrients, apparently the "methylation" referred to above that the therapy provides, contrary to all forecasts, she was able to get married and have a healthy baby! Today, Faye is past the age of 30, alive and well.

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