LSGI Advisors Report

LsgiFund.com

LSGI Advisors, Inc. – October 2010
1007 Beaver Creek Drive
Duncanville, Texas 75137
(972) 780-1805

Ten Fascinating Books on Health, Evolutionary Biology, Genetics and Technology

Ten years ago we interviewed a scientist about the potential for the 'DNA Chip' - a silicon based tool to analyze thousands of genes simultaneously. We were examining an investment opportunity for the LSGI Fund in this field due to the potential growth in demand for these research tools. At the time we conducted the interview it was expected the technology would be developed and used mainly to enhance genomic sequencing projects—especially the Human Genome Project.

Who would have guessed a decade later the public can get a genetic profile and report using test kits delivered by U.S. Mail. We recently used the company 23andMe, recommended in a Bloomberg article, to check how far the science has evolved. The report issued after the genetic sequencing indicates if a party is more or less susceptible to diabetes, prostate cancer, breast cancer, skin cancer, arthritis, and many other diseases—and also can be used to predict physical traits such as straight hair or blue eyes.

Even when a party is genetically predisposed to higher risk of disease environmental factors play a major role in whether a party actually is diagnosed with the disease. The argument between the degree of importance between genetics and environment is one that has no easy answer. In some cases strong environmental factors are needed for a gene to express itself—so diet, exercise, and lifestyle choices can reduce the probability a harmful gene will impact an individual according to experts.

Several interesting books have been written in the last few years dealing with evolutionary biology, diet, genetics, aging, disease, lifestyles, and studies related to genetics and health. Some of the more interesting books we have reviewed include the following:

- **'The China Study'** by Dr. Colin Campbell is a review of a decades long study of disease and diet in China. Statistics indicated that certain diseases such as cancer were much more common in urban areas than in rural areas of the country. Since the genetic blueprint of most of these individuals was very similar he claims the huge difference in disease occurrence was probably due to environmental factors.

  Campbell found that individuals in urban areas were much more likely to have adopted the "western" diet with high levels of protein and sugars. He concludes the massive difference in disease and obesity rates between the urban and rural areas in China were probably due to diet—and that plant based diets are more likely to lower the risk of heart disease, cancer, and diabetes than high-protein diets commonly seen in Western industrialized countries.

- Dr. David Servan-Schreiber recently discussed his two experiences with brain cancer in an interview on Bloomberg radio. His book **'Anticancer, A New Way of Life'** describes his chemotherapy and surgery treatments. After the experience Servan-Schreiber spent months researching a mass of scientific data on natural defenses against cancer. He points out numerous studies indicate that a diet high in sugars, fat, or refined foods increase disease risk and occurrence.

Dr. Servan-Schreiber advises that studies indicate that individuals can lower cancer risks by avoiding white sugar and flour, eating more vegetables and dark-colored fruits, and getting regular exercise. He claims these practices create a new way of life. The book has been a best-seller in France

- Dr. Servan-Schreiber in his Bloomberg radio interview also discussed the large number of recent scientific studies on effect of exercise on health and disease. In **'Spark: The Revolutionary New Science of Exercise and the Brain'** John J. Ratey explores that topic and investigates the transformative effects of exercise on the brain. The book explains the role exercise plays in our mental processes. Exercising produces proteins that play roles in our highest thought processes. Ratey claims that studies indicate exercise can reduce stress, lift mood and fight depression, reduce memory loss, and sharpen the intellect. The theme is that aerobic exercise physically remodels the brain for peak performance.

- On the same theme, but much more technical in nature, are a series of essays by practitioners in **'Cancer Prevention and Management through Exercise and Weight Control'** edited by Anne McTiernan.

The book discusses medical studies and findings on the relationship between physical activity and cancer incidence. The bottom line is that many studies indicate that exercise has a statistically significant preventative impact on cancers, although the exact mechanism for this is unclear. Possibly exercise prevents cancer genes from expressing themselves, possibly it reduces obesity and other risk factors, or possibly it changes the chemistry of the blood and circulating hormones.

- **'In Defense of Food'** by Michael Pollan examines the 'Western diet' and the problems it is creating health-wise. He outlines problems and practical solutions to the lack of nutrients and excess fat and sugar in many daily meals. He credits good health in large part to a healthy diet, and issues the simple advice: 'Eat Food. Not too much. Mostly plants.'

- **'Pandora's Seed'** by geneticist Spencer Wells traces the evolution of the human genome and the beginnings of agriculture some 10,000 years ago. Wells maintains that moving from a hunter gatherer society to an agricultural society has not been a blessing for humanity. Due to genetic characteristics that have evolved over generations modern Western style agriculture has resulted in increasing rates of obesity, diabetes, malaria, dental decay, and other maladies. The carbohydrate- and sugar-rich diet created by the agricultural revolution has created a 'Pandora's box'. An interesting discussion of genetic anthropology, health, evolution, and the future path of human evolution.

- **'Long for this World'** by Jonathan Weiner researched why the cells in our body deteriorate in much the same way that machinery deteriorates with age. The answer seems to be that the complex systems for repair and replacement of cell machinery slowly, and finally rapidly, stop repairing and replacing parts. As a result the cells die, and so does the living creature. Some suspected that the cause of this might be damage to the many genes controlling the repair and replacement process. Research seems to indicate that something along these lines is the cause, and it raises the question of how long we can live if we can get the repair and replacement process started again. Weiner reviews the recent research on extending life, and the consequences.

- **'The Youth Pill: Scientists at the brink of the Anti-Aging Revolution'** by David Stipp makes a case that researchers can create pills that create the same impact inside our cells that a life extending calorific restriction diet creates. Animals that exist on low calorie diets -- at least one-third less than normal -- live 20% or more longer than their normally fed peers. He examines the genetic issues and theory behind why animals have the life spans they do, some of the genetic problems with extending life, and recent biotechnology firms trying to develop an 'anti-aging' pill and the difficulties they face.

- In **'Happy: Simple Steps to Get the Most Out of Life'** Dr. Ian Smith discusses how a person's mood and outlook on life is genetically set according to studies—but genetics account only around one half of the personality traits. He discusses how individuals, even those genetically pre-disposed to a gloomy

outlook on life and irritability, can utilize methods identified in studies to make them more satisfied and pleased with their life circumstances.

- **‘ Age Gets Better With Wine’** by Dr. Richard Baxter discusses genetics, aging, and the healthy impact of the constituents of red wine. A well researched book with a discussion of why red grapes contain so many healthy substances, historical uses of wine as a medicine, and current synthesis of wine constituents as health supplements.

All said it has been an incredible decade. Most of the books indicate the technological advances in the health sector, especially with regard to genetic and aging studies, have only just begun.