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BOOK REVIEW

The many "I" inside of "Me"

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The geneticist view:

Geneticists can enlarge their knowledge getting in touch with a different overview about the future impact of the genetic technological progress on society from the point of view of other disciplines such as Sociology.

The Geneticist's approach is based on a first observation of "the patient", followed by the immediate impact on "his family" and after his outcome to the "population" to plan medical prevention, i.e., "Public health".

Dalton Conley & Jason Fletcher, with their book "The Genome Factor", open other perspectives about the way our society can be modified by a new insight on our Genome, thus raising many questions. Does the human level of education depend on genes? Which is the importance of hereditability on I.Q.? Is economical success related to genetic predisposition?

Which is the relevance of expression of DNA to the economic development of a country?

How much environmental factors can modify the improvement of a single person or even of a population? How much is our DNA at the basis of social inequality?

You will find acceptable answers to these questions in a route that brings you to follow all the steps that genome knowledge have done in the last fifty years! The authors focalise their attention on the many false hopes and on the optimism that were part of the "genomic revolution". At the same time, the long-running nature *versus* nurture debate is discussed to understand whether human behaviour is determined by environment, either prenatal or during life time, or by individual genes. It is also discussed if some aspects of the society can be affected by genes. For example, if "genetic assortative mating" is relevant in the choice of the partner or if environmental factors are more important. In the past, it was not possible to consider the genotype as a way to choose a partner, but today—the authors say—technology gives us more tools to read our DNA and (correct or not) people can send a sample of DNA to a company (23andme), which advertises these kind of business on the internet.

Many practical examples are precisely reported, including specific references. A large part of the volume is dedicated to explain some general concepts of genetics to the general public: the diversity among different species and among humans following to the migration out of Africa; the evolution of the concept of race from a genetic prejudice to the modern view; the history of Mendelian concepts from "OGOD" (One Gene One Disease) to the wide complexity of gene–gene interactions and the large studies of genome-wide-association. The authors bring us to the new evidences of gene-environment interaction to get to personalised medicine, which is becoming more and more important in oncology treatment, in order to find out personalised policies and personalised social solutions.

Finally, a view on the future brings us into the era of "Genotocracy": the very recent technology for gene editing by CrisprCas9 allows modifications on human embryo (as recently shown 10.1038/nature23305 "Correction of a pathogenic gene mutation in human embryos"). In this book the authors describe a brilliant hypothesis of human selection by the role play of a couple that want "to choose their baby", demonstrating the effectiveness of evolving "reprogenetics" and its "sociogenetic consultant".

The psychologist view:

Let's change glasses and try to see some more possible contents, concealed in the lines of this book, not only linked to genetics, but also very close to "environment", like human relationships and the Psyche itself can be.

Some words make echo: "The two factors—that psychic and organic—present a singular contemporary. They happen to the same time and, I think, are two different aspects exclusively for our mind, but not in reality. We see them separate for our total inability to contemplate them simultaneously". (C. G. Jung, 1935, "Analytical Psychology.

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Conferences at the Tavistock Clinic", Mondatori, Milan, 1975).

Starting from some authors' suggestion "…why, for example, childhood poverty wreaks havoc on some individuals whereas others are resilient to such trauma" (page 3), bearing in mind that mother-infant relation is fundamental to both mother and baby (for different reasons), children demonstrate their attachment through basic behavioural patterns: smile, tears, clinging…These patterns (behavioural reporting) are innate and of an instinctual nature and their function is to ensure the child's protection and adequate parental care for survival (adaptive function).

The attachment behaviour is, therefore, partially predetermined and also develops according to the course of the events. Back to the book, for example, what could happen to a baby, born in a high-level class family, attending best schools ever, if his mother suffers for depression, or if the father acts violently—or viceversa, or worst, both? Pretty quickly, we have jumped into the wide field of trauma: what is traumatic? A single event or series of painful experiences? A very bad episode or even constant affective neglect? Is the event itself or also, most likely, the affection associated with the event—the slap received, the humiliating insults…? All the very actual neuro-psycho-biology research (starting from Damasio, going on today with Schore and the role of right brain hemisphere, Van der Kolk who deals with PTSD (Post Traumatic Stress Disorder), Stephen Porges and the poly-vagal theory, Pat Ogden and the sensory-motor approach in clinics) are helping us to focus on the body-psyche matter, and on how and when preferring top-down (mind-body) or bottom-up (body-mind) approach.

Last, but not least, looking at nowadays: how to look, consider and treat the "Other", if we reckon that what is risky for a person can be a self-defence behaviour for another?

By reading this book, you will probably ponder genetic technology in a very wide sense and in a multidisciplinary effort, to possibly better understand if our society is using the tools that Science provides in the proper manner, for the safety of the whole Humanity.

Final Remarks

The reader can enjoy many other aspects (not mentioned here) proposed by the book and consider about "What the Social Genomics Revolution Reveals about Ourselves, Our History and the Future".

This essay is an interesting milestone to evaluate the new achievements of genetic technology from a multidisciplinary point of view, to have a wider opinion about Biotechnology as an instrument to improve social health.