

A07

Angelo Mario Olivieri

The empty century in Italy

Ignorance of Genetics, Tradition, Cultural delay





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I dedicate this book — which I decided to write after seeing an Italian postage stamp — to many friends who passed away early because of their job as a farmer or farmhand.

I have to thank Professor Lucio Toniolo, Agronomist at the University of Padua, who has always believed in the new approaches to improve cultivated plants around the world.

I like to add the dedication of this book to my friend Colleague Plant Breeder A. Michele Stanca who passed away on March 2020 for coronavirus disease. During few decades across the millennium we were together to support g.m. plants for Italian agriculture against the Italian public opinion.

Who loves learning loves life.

SIRACH 4, 12

The future belongs to people who are able to abolish the barriers between economy, technology and culture.

Carlo RUBBIA

Without having great ideals for which to live, life is dull at the end, monotonous.

Angelo SCOLA

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Preface to this English Edition

In Malawi, Father Joseph Kimu as soon as he read “**Cent’anni dopo**”, invited me to translate this my Italian book in English.

Even if I was his friend, spending almost a year with him at its St. John Guest House at Mangochi, soon I refused to do that, saying that the book, written in Italian was for Italians with the aim to disapprove their laws which rejected and still refuse plant innovations in agriculture. This fact do not happen in English-speaking countries like England and America where farmers can grow genetically improved plants for obtaining higher safer crop without any environmental pollution. It seemed to me not necessary to repeat my written thoughts in English. People living in the most developed Countries do not need these advices. However considering that many African Countries, after a certain publicity prefer to follow the Italian seed trade policy, refusing new developed plant varieties in name of their traditions, I fill the necessity to support Father Kimu’ suggestion.

Thus I have once again to thank Father Kimu for making easier my job as volunteer in Africa consisting in helping local people to eat better growing the most suitable varieties without environmental pollution.

During my job of translation the severe infection called COVID 19 produced by coronavirus SARS CoV-2 gives me the opportunity to add — respect to the Italian book — few word about the genetic progress achieved at the end of the XX Century the so called “Century of Genetics” when new studies allows to know virus, their provenience, variation and so on. It’s far away from my own competence, but I want underlined the new way to deal with livings, just as in plant improvement.

Premise

The knowledge of how living creatures transmit their own characteristics to their progeny began with Mendel's observations on a few plants. Since 1900 to be precise, curious and clever people started getting interested in this new knowledge — **Genetics** — for all livings, but plants have maintained their supremacy because they give food and allow the development of life on Earth.

Since ancient times all men, and later only farmers, have produced food for the rest of mankind, who have increased in number, moved from the countryside to gather in the towns and where they became the majority had more “noble” well-paid jobs and by changing their original job and life style they dealt with more important and earnest activities. A few of them, becoming community leaders, decided which crops had to be grown and which kind of food people had to eat.

In the last half century of the millennium, called the Century of Genetics that follows the Century of Chemistry, at the end of the World Wars, Italian people continued to learn, mainly based on their own historical background and only partially on new knowledge.

In Italy, after the war, most people who moved into the towns studied the new way of life and updated knowledge in some cultural areas, which allowed the reconstruction of the Country taking as a model the winner Countries, but omitting to learn from them many new things regarding life of plants, food and health.

The rural world has been thus almost marginalized by major discoveries derived from the Genetics even before all other sectors and paradoxically this rural world first opposed the plant innovations.

Only education will save mankind and the environment of Planet Earth. The often considerable cultural differences lead to misunderstanding, rivalry and conflicts between peoples who have not had the opportunity to compare with others and to learn in advance how our shared world is made and how best to keep it safe.

Learning all things from the beginning of our life or as soon as new innovation arises, is essential for both the individual and society. Otherwise, the same facts are perceived differently — or even opposedly — by people who are not well prepared. Differences in interpretation can increase over time creating confusion on several aspects (economy, health, ethics and

morals)

In Italy the lack of adequate knowledge in the Primary Sector has made it impossible to build bridges for the best food supplies between two worlds, both rich in values but of different cultural origin: Italy and America. In the last quarter of the XX Century it was unacceptable for Italian public opinion that Americans, along with many other technological innovations, could also surpass Italy in agriculture and food supply.

The new laws established in 2000 forbade Italian farms from sowing seed, mostly provided by foreign seed enterprises, that was obtained from Genetic innovation (Genetically Modified Organisms, GMO). It is forbidden to trade in their products. Moreover in 2015, at the Universal Exposition in Milan (EXPO 2015), the Italian food tradition was emphasised based on the use of varieties obtained according to the old methods and not the new American approaches.

You can not abandon a century scientific culture and then claim that other peoples, who have surpassed in some key agricultural issues, they are wrong.

Humanity will continue to develop at different times and at different speeds in all countries of the world. But wait that communities in other continents, with very different historical and cultural backgrounds should pursue the advancement of the science themes of Life, Agronomy and Medicine, mean for Italy close with the primary sector, give up the future and console of the past.

2016 Anniversary of the Slow Food Italy

1.1. The thirty years of Slow Food

In summer 2016, some not-so-young Italian people were struck by seeing the celebration, with the issue of an Italian stamp, of thirty years of *Slow Food* where the form — the English language — is related to the content — the food — the old Italian tradition famed around the world.

From a cultural point of view, it was a fairly positive sign: it means that the globalisation of language, things and, hopefully, populations is moving fast. It seems that the two cultures, namely Italian and English — but in this context — American, will join together to discuss the basic topic of life: **food**.



Figure 1.1.

Today young people communicate less and less by letter, and the white stamp with the red snail logo over the wording **Slow Food Italia**, reminds the elderly that something has happened in the last thirty years. As if coming out of the fog, facts and details emerge that the majority, those who are not interested in plants and food, are unaware of, but which are increasingly significant for those who were as interested in science and agriculture then as they are now.

Among the surprised older people, there are those who wonder how the controversy of 30 years ago against genetically modified **GMO** can have a following that deserves being remembered.

Looking at the stamp, there are those who think there has been a sobering, or a repentance, if anything, encouraged by the political authorities of today, almost a request for an apology from society to those who believed they were eating healthier while spending less, or those who are ill or died prematurely in this thirty year period for having continued to follow the Italian tradition of food.

While waiting to clarify the reason for the issue of the stamp by the Italian State, there are those who wonder why they celebrate the 30th anniversary of Slow Food and do not wait 50 years or a century to commemorate the story. There are those who insinuate that Slow Food Italy cannot last any longer and continue to reward those who wanted it and have supported it so far.

1.2. Remembering Thirty years ago

Thirty years ago there were people who criticized and rejected the new varieties of plants — genetically modified that came from America. They were so called, with a hint of pride by the same geneticists and breeders who had made them because, for the first time in the history of mankind, researchers from American companies born to improve the varieties of cultivated plants had been able to modify only one characteristic of the plant directly after having known its genetic origin exactly. The gene that controls the trait is inserted, among the thousands of other genes present in the chromosomes, to create new varieties. They do not get diseases and maintain all the other characteristics known to farmers, traders, consumers, those who work or use their products.

The fact that they do not get disease means that they do not require treatment with pesticides.

Pesticides have been considered a necessary evil, but the new varieties do not require treatment and therefore the crop is less expensive and requires less work. Moreover it is important to know that the environment, soil and air remain safe and the farmer does not run any health risks.

1.3. Lies, fake news and fears

In Italy there were young people, ignorant of agriculture, but stubborn in the knowledge from false farmers who refused the new American varieties as new crops. They spread rumours, false news and fears among the town population who knew nothing of agriculture and food problems.

According to those false farmers the cultivation of the new plant varieties introduced from America would produce bad food, plastic food, junk food, Frankenstein food, detrimental to health. The new varieties would be *fast food* that was not allowed for Italian people, with their strong food traditions and who would soon reject food coming from America as harmful. Their cultivation would be an offence to the Italian people with their wealth of food traditions.

However, given the scarce knowledge of the Italians with regards natural sciences and, in particular, all things concerning plants, it was not difficult to turn public opinion against the new varieties coming into Italy as innovation from America.

To the uninitiated, as well as to a few organizations dealing with agricultural products, like crop seeds, fertilizer, chemistry, the false farmers said that the new American seeds contained Genetics, something unknown that frightened people who heard this new word for the first time. This rumour spread among the townspeople who ran to the countryside to learn directly from the farmers who grew the plants and sold their products.

Everybody has learnt at school how a plant is made with roots, stems, leaves, then flowers with petals and something else: the pistil, the stamens and pollination of the ovul that originates the fruits. Some know that the seed is the product of the ovum fertilization inside the ovul, which represents the female part of the flower, while the pollen grains, developed inside the stamens, are the male part. However, for most people *Genetics* remains something unknown and almost nobody is able to link this theoretic notion with the seed and crop, whose quality creates confusion for both the farmer and citizens alike. There are those who relate Genetics to medicine and this link creates suspicion for consumer health.

1.4. People's impressions

The discussion about new plant varieties coming into Italy from America in order to replace those already grown here, remains unclear for most people, like bus drivers, teachers, barbers, but also farmers and doctors who know that all plants with any disease in their garden have to be treated with certain products in order to keep them safe. "This practice dates back

to ancient times, done by our grandfathers”. “If a few new plants do not get diseases it means that they have some substances inside that work as a poison.” Thus we would eat food that kills insects and fungi from inside the plant.. These new varieties, produced by the American seed industry, can be useful for the farmer who wants to avoid spreading treatments, but not for people who want to get food according to the Italian tradition.

With these considerations most people think of the farmer, his old and basic job, but they do not admit alternatives.

1.5. Public opinion, agriculture and School

Most common people are not concerned with agriculture, but all of them want to eat well, possibly better than they have been doing until now. So, if this is the case, we have to learn from somebody else.

Nobody knows that there are innovations from America. The most recent plant varieties allow the farmer to grow and harvest more safely, without polluting the air and soil. Moreover there are no pesticide residuals in their yield and food.

Some Italians observed that, in the increasingly globalized world, the competition for plants and food is increasing. However, as they are already at the top of their quality, Italians are not concerned with these facts and are adverse to any agricultural products coming from America.

In the best schools, teachers explain scientific matters reported in the books and discovered a long time ago. Sciences deal with many things, but some of them, developed externally, are even more difficult to understand as they require time and reasonable application. Most of these novelties have been discovered in America, but the work is quite different for the Italians. Thus Genetics remains unknown and what it is concerned with is far removed from any practical application. However very few people in Italy know of *Plant breeding* and *Genetic improvement*, the two disciplines that are now being taught in a few Universities, in the Agrarian Faculty where only a few students are enrolled.

These young students are not interested in this topic, as they want to continue their university studies so as to obtain a prestigious and well-paid job in society.

In Italy, knowledge of these disciplines is not important. They know an agronomy background is not useful to get important positions in Italian society.