

Keynote speech for the opening of the renewed Forestry Research Centre headquarters

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Coming back here at the Forestry Research Centre in Arezzo, where I have been working for a long time earlier as a researcher and afterwards as director of the working group on "Forest biology and protection", it is close to my heart clarifying two strictly related points. The first point concerns the story of this Centre. The second one The Italian Academy of Forest Sciences.

Maybe not everyone knows the most important stages of the establishment and development of these institutions. I believe therefore useful to highlight briefly the main aspects.

The Italian Forestry School was established in 1869 designated as "Royal Forest Institute of Vallombrosa". The first director was ADOLFO DI BERPENTER (1815-1895) up to 1877. He was replaced by FRANCESCO PICCIOLI (1841-1910) in 1880. VITTORIO PERONA (1851-1917) was appointed as director in 1910. ALBERTO COTTA (1872-1962) assumed then this position up to 1913.

Following the Law 834/1912 (LUIGI LUZZATTI 1841-1927) concerning measures related to forestry education, the mentioned Royal Institute was moved to Firenze, designed as "Royal Institute for Upper Education in Forestry" and opened on January 1914.

ARRIGO SERPIERI (1877-1960), appointed as director of the Institute, included in the teaching and scientific regulations a chair of experimental research, assigned to ALDO PAVARI (1888-1960). In 1922, following the Law 742/1921, the chair was turned into in the Royal Experimental Station of Silviculture, then rearranged into Experimental Institute for Silviculture in 1967, today Forestry Research Centre of the Italian Agricultural Research Council.

ALDO PAVARI contributed significantly to the development of ecologically-based dendrology and silviculture. Studies of phyto-geography, ecology and forest genetics became the grounds of silviculture. From the scientific viewpoint, the "silviculture on

ecological basis" operates the knowledge transfer from biological sciences to forestry.

Under this perspective, according to A. PAVARI, "[...] the different approaches and technical methods of silviculture will be able to get out of the circle of empiricism, albeit refined, only when they will be considered as consequences of specific environmentally determined conditions. Then, as well as the geography of forest botany, forestry too will be framed into ecology in a systematic way".

The innovation was to think of forestry as an art and an experimental science as well. On the one hand, cultivation techniques had to be the result of ad hoc experiments; on the other hand, it was stated that "[...] under similar climatic conditions, beyond regional boundaries and floristic composition, there are forests mutually comparable to which similar methods of cultivation can be applied".

The phyto-climatic classification of A. Pavari and its validation for the Italian region carried out by A. DE PHILIPPIS are considered two milestones. Generations of foresters have applied the principles of these in the reafforestation and forestry practice.

On the footsteps of A. Pavari, who provided the general approach, RICCARDO MORANDINI (1925-2011) and EZIO MAGINI (1917-2000) developed the sector of tree genetic improvement. Relevant examples concern studies and experimental trials on the certification of forest nurseries' production, on the establishment of tree seed orchards and on the development of the "National Book of seed stands". The studies of E. MAGINI were crucial for the understanding of extent and distribution of forest species' genetic variability and for the conservation of genetic resources in situ and ex situ.

"La sperimentazione di specie forestali esotiche in Italia" edited by A. PAVARI and A. DE PHILIPPIS is regarded "a model" by WRIGHT. These studies defined an era. They contributed the scientific and

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technical advancement and the development of what later became an autonomous discipline: the forest tree crop farming.

Technically, silviculture on ecological basis assumes a distributive arrangement and the shaping of large units of forest vegetation according to the ecological identity concept. PAVARI makes reference to "[...] the identity of plant physiognomy of forest consortia located in ecologically similar conditions but differentiated by own floristic composition", these matching with "environmentally equivalent" forms taken as representative of similar ecological conditions. The physiognomic identity is characterized by "[...] the determinative action of a limiting factor, upon which not only geographical and topographical forest species' and communities' distribution, but also criteria and operational techniques of forestry depend".

Silviculture on ecological basis is essentially comparative forestry. If macro environmental factors, especially climate and soil, are known as well as specific requirements, silvicultural systems and methods applied to a given forest can be replicated, *ceteris paribus*, into another forest with the same physiognomy, despite its composition. Species have to be employed in the "right place". Intermediate and regeneration cuttings' technique is related to species' requirements. If natural regeneration does not occur, a suited artificial regeneration technique will be employed.

The second issue concerns the establishment of the Italian Academy of Forest Sciences. This body, currently under the aegis of the Ministry of Heritage and Culture, was established on June 1951 by the efforts of a few Fathers of the Italian Republic, highest officers of the State Forest Corps and Italian masters of Forest Sciences at the time. A. PAVARI was among them.

The Minister of Agriculture and Forestry, AMINTORE FANFANI (1908-1999) was among the founding members and the founder of the Academy, "to provide scientific and technical support to public Agencies in charge of Law 991/1952 implementation", also known as FANFANI Law. He designed villa "La Favorita", owned at that time by the Agency for State Forests, as the Academy headquarters.

The President of the Italian Republic LUIGI EINAUDI (1874-1961), honorary member of this Institution, declared the Academy a moral body by Presidential Decree 4586/1951 and attended the opening ceremony which took place at the Palazzo Vecchio in Firenze, at the presence of AMINTORE FANFANI, the Mayor GIORGIO LA PIRA (1904-1977), the Minister of Justice ADONE ZOLI (1871-1959) and other distinguished guests of the political,

academic and forest sector.

LUIGI STURZO (1871-1959) was involved in the life of the Institution issuing in the Academy Journal "L'Italia Forestale e Montana" a few papers devoted to social and economic problems of Italian mountain environment.

The institutional tasks of the Academy are highlighted at the first article of its Statute: give impulse and vitality to the progress of forest sciences and to their enforcement to forestry and related environmental issues in order to foster the collective well-being. These tasks are being carried out through scientific research, conferences, workshops and publications.

The activities of the Academy are carried out under an international framework by means of highly valued studies and research excellence. The many and varied skills of the 433 Academicians, Italians and foreigners, allow the Institution to be a focal research body with respect to forestry and environmental sciences and, namely, to coordinate research projects involving Universities and Italian and European research Institutions.

Furthermore, the Academy supports the scientific communication of what can be named as the culture of the forest by means of journals, articles, monographs, events and managing its library.

By the Decree of Tuscany Region 1648/2013 the library has been declared "of Cultural Interest" according to "the importance of its collections, specialized in the field of forest sciences and related environmental protection issues, subjects for which the Academy is a national and international reference centre".

The commitment is high and aimed at providing the right significance to the scientific outcomes reached since the foundation, these having cultural and political implications at regional, national, European and global level. The goal is simple and ambitious as well: planning the future of the forest sector.

In the symbol of the Academy, next to an oak tree depicting the forest, there is the Petronius motto *Serva me, servabo te* (Take care of me, I will take care of you). In this topical motto - given the role played by forests for environmental protection, climate change mitigation, biodiversity conservation and life quality assurance - the need of forests' preservation to ensure the wellbeing of future generations is underlined.

I do think I am the last still operating researcher who took up his scientific career at the Royal Experimental Station of Silviculture in 1963. I am proud of this position. I had the opportunity to contribute in the development of forest experimentation for over 20 years. Large part of my fortunate career, before at

the University of Tuscia and then at the University of Firenze, originated with this Institution, whose renewed headquarters are today opened.

Under the leadership of ALDO PAVARI, distinguished and unforgettable founder of the Experimental Station and undisputed master of forestry, the first generation of researchers implemented an innovative scientific contribution: ALESSANDRO DE PHILIPPIS (1908-2002), ERNESTO ALLEGRI (1904-1986), LUCIO SUSMEL (1914-2006), UMBERTO BAGNARESI (1927-2003), GERMANO GAMBI (1921-1992), RICCARDO MORANDINI (1925-2011). All the foresters, Italians and foreigners, must be grateful to all of them for the advancement of forest science and for their contribution to make research in our Country known outside.

Looking back, I do think I belong to the second generation of the School that marked the history of forestry in Italy, and in the world. Today, the third generation of scholars and researchers is here in close connection with the Experimental Station.

The former Director of the Centre Prof. FRANCESCO IOVINO is here today. I long worked with him in Calabria, and I wish to thank him for his great commitment driving him in all phases of his studies and research activities.

The current Director of CRA-SEL Prof. PIERMARIA CORONA too, belongs to this generation. I express him my best wishes for his research activity and innovative experimentation. And I would emphasize innovative. I am aware of his great abilities to have been working with him at the University of Firenze. He performed a distinguished scientific contribution in various forestry disciplines and I believe he will give a breakthrough to research within this Centre. This is an essential turning point to overcome current difficulties of the forestry sector.

I am sure the Centre will run through the basic path outlined by the first generation of researchers and will play again a significant role in the innovative course of forestry research.