



15 June 2017

**Closing Ceremony of the Academic Year 2016-2017**

**Report**

**by the President of the Accademia Nazionale dei Lincei**

**Prof. Alberto Quadrio-Curzio**

In closing this 414<sup>th</sup> Academic Year of the Accademia Nazionale dei Lincei, I have the honour of thanking the **President of the Republic of Italy** for his presence today, and for the attention that he has shown repeatedly during the Academic Year; an invaluable contribution in consolidating the institutional links between the Lincei and the Head of State.

I also thank the Authorities for their participation today, which also confirms the institutional role undertaken by the Lincei and represented today by the presence of many Fellows and by the members of the President's Council composed of Maurizio Brunori (new Vice-President substituting Lamberto Maffei, who we thank for the important work carried out these past years), Renzo Piva (new *Academic Amministratore*), Pietro Rescigno, Giancarlo Setti, Fulvio Tessitore, Annibale Mottana and Roberto Antonelli who all join me in thanking you for your participation today.

**1. A profile of continuity and innovation**

Previous addresses for the opening and closing of the academic year have included details of our institutional and international activities, as well as nominations for awards for excellence in various fields. This year has been no exception with an intense programme of activities, also with the

autonomous activity of many of our Fellows whose names have been associated to singular innovative and interdisciplinary research, something characteristic in the history of this Academy, distinguishing it from many other National Academies. The Lincei breathes with two lungs, one regarding the Physical Sciences and the other, the Moral Sciences.

**Institutionally** the importance of National Academies is evident in that almost all States promote their own Academies as entities to represent their research in science, culture and in many cases also history. It is interesting to note that developing countries have also founded National Academies to act as an interface between Institutions and society in general.

This expression of a Nation is also an opening towards greater **internationalisation** because science cannot be bound or confined. Even if its origins stem from different cultures and history, scientific dialogue must go beyond barriers. For this reason, the national identity of an Academy is pivotal in facilitating dialogue between States; when Institutions recognise with determination the function of culture and science, their social role is necessarily reinforced in the eyes of the public in general.

Thus, there are many important Association of Academies, both in Europe and internationally such as the *G7 Science*, an initiative started by the United Kingdom in 2005, and to which we believe the Accademia dei Lincei has made an innovative contribution in this past year. Perhaps we should mention that Germany - a country firmly committed to Associations of Academies - inaugurated a *G20* initiative in 2017. This initiative was backed by Chancellor Merkel and was made in conjunction with the Hamburg Summit that took place in July of that same year.

The Lincei *G7* of 2017 has been underpinned by **interdisciplinarity**, a unifying element and considered indispensable to understand and to identify solutions to serious problems of the present day. Thus, our first innovative contribution to the *G7* is our approach in interpreting scientific expertise without any absolutization of results, of any single discovery or specialist expertise, but to apply a far-sighted interpretation of eventual effects on institutional and civil bodies by decisions taken or not taken.

Thus, a national institutional identity, international collaboration,

scientific and cultural know-how founded on excellence and interdisciplinarily are the *raison d'être* for many Academies. These elements can justify their expression of *pro veritate* opinions on many pressing issues over broad scientific areas, but with a strong institutional and social content. This also answers the question regarding the usefulness of National Academies when scientific investigation is already being undertaken by universities and research centres.

## 2. International institutional activity

**2.1. The 2017 G7 meeting of National Academies** exemplified the application of the above-mentioned paradigm, involving great commitment of resources but producing great scientific and cultural return for the Lincei Academy. Indeed, the three «joint statements» proposed by the Lincei Academy were approved unanimously following rigorous examination and discussion with the other six National Academies present. This task lasted almost a year, starting with my proposals presented during the G7 Tokyo meeting of February 2016 and ending with the Joint Workshop on 23 and 24 March 2017.

The three interdisciplinary and complex issues dealt with in the G7 meeting were the following:

- *Cultural heritage: Building Resilience to Natural Disasters* (coordinator, Giovanni Seminara);
- *The challenges of neurodegenerative diseases in an aging population* (coordinator, Maurizio Brunori);
- *New economic growth: the role of science, technology, innovation, and infrastructure* (coordinator, Alberto Quadrio Curzio);

These areas of research, long-standing in the history of the Lincei, must continue to develop, also with the accreditation of the G7.

We offer our sincere gratitude to the Fellows Brunori and Seminara for their work in these fields.

I also wish to thank Lincei Fellows Carrà, Cattaneo, Doglioni, Golini, Inguscio, Maffei, Roncaglia, Sgamellotti, Torelli who actively participated in the working groups, and the non-Lincei experts who also provided an important contribution (Beltram, Bianchi, Mazzanti, Pianta, Rinaldo).

Another source of great institutional satisfaction was the incisive address made on 3 May by the **President of the Republic** when he received the Presidents of the *G7 Academies* and of the *N7* (the seven leading international *Networks* representing 250 Academies) that participated in the Closing Conference. This was the highest level of testimony by the Republic of Italy of the role of the Lincei and of science in creating awareness in the public and the political spheres of urgent issues affecting the well-being of contemporary society. Indeed, our foreign colleagues expressed their conviction and admiration for this stance.

The **Ministers** Dario Franceschini and Pier Carlo Padoan also contributed to our institutional success by intervening in the Closing Conference. In that occasion they received on behalf of the Government the three joint statements from the Lincei and addressed interesting reflection to the academicians present.

Of the many comments of appreciation received, we cite that of Professor Takashi Onishi, President of the Science Council of Japan, who wrote expressing his conviction that the three «joint documents», shown also to Prime Minister Abe, merited discussion both at the *G7 Summit* in Taormina and would have a positive impact on international public opinion. During his presentation, the President of the National Academy of Germany "Leopoldina", Prof. Hacker, also made similar reflections.

**2.2. The N7 of the leading *Networks* of International Academies** addressed the Lincei *G7* public in the Final Session held on 3 May in the presence of the Presidents of the Academies of 7 most developed countries and the Presidents of the 7 leading international networks. This worldwide group also included representatives from Africa, the Americas, Asia, Europe (with the EASAC) and other developing countries. As Europe represents our political and institutional sphere, we also requested the presence of another Association, ALLEA - All European Academies, to which 59 National Academies are affiliated. Thus, more than 250 National Academies were represented.

This was our second innovative intervention to the traditional *G7 Academies Meeting*. During the meetings, discussion was made regarding the role of Academies as consulting body for national and supranational

Institutions. By the growing role of Academies in developing and transition countries, the proposal was made to create a North-South-East-West *Network* founded not only on science but also on culture and politics to foster dialogue for peaceful coexistence and civil and human progress. During this final day of the Conference, frequent reference was made to the 2030 Agenda for Sustainable Development approved by the UN General Assembly in 2015. For all Academies, the issue of reducing inequality through greater investment in education and training, research, industrial, sanitary and civil infrastructure represents the environmental and humanitarian challenge of the 21st century. Some of the G7 Academies are currently collaborating with developing and transition countries. The Lincei Academy can only operate within the limits imposed by its scarce resources, but is determined to foster greater collaboration, especially with TWAS, which has its headquarters in Trieste and since its foundation in 1984 has received significant public funding from the Italian state. In 2018 we also intend to bring together at the Lincei Academy the seven International Networks with the intention that this becomes a regular initiative.

### **2.3. Other agreements and international initiatives**

During this year many other international activities have been undertaken, all under the supervision of the International Relations Committee (CORINT), chaired by myself and composed of 11 members (Maurizio Brunori, Sergio Carrà, Bruno Carli, Carlo D'Adda, Lamberto Maffei, Maria Cristina Marcuzzo, Giovanni Seminara, Antonio Sgamellotti, Mario Stefanini, Giancarlo Vecchio). Of its many activities, I will limit myself to those derived from institutional agreements: the *G20 of Academies* in Germany; the *Western Balkans Process* promoted by the German government to promote cooperation with Countries of South-East Europe; the organisation of the next AEMASE Conference (*African and Mediterranean Academies for Science Education*) coordinated for the Lincei by Lincei Fellow Giancarlo Vecchio; the *Penser et faire la Science, ensemble*, a Conference organised by the Lincei Academy, the Académie des Sciences, and the Embassy of France in Italy; collaboration with the International Balzan Prize Foundation and the Association of Swiss Science Academies; the Working Group on International Security and

Arms Control, chaired by Luciano Maiani (with eight members), which also organises the Edoardo Amaldi Conferences.

## **2.4. In conclusion**

During this academic year we believe to have reactivated and modernised the international identity and position of the Academy as an Italian scientific institution capable of representing our Country internationally, and to express *pro veritate* opinions.

## **3. Internal institutional activity**

**3.1.** This area of activity has been no less important, and not only limited to the traditional meetings held every second Thursday and Friday of each month. I must refer to the list that has been distributed as it is impossible to go into detail regarding the **82** conferences, meetings and seminars to which a further **31** events in collaboration with external institutions have been organised.

For this reason, my comments will be limited to some interdisciplinary initiatives organised jointly and to the activities of the Interdisciplinary Commissions which are based on two fundamental pillars of the Physical, Mathematical, and Natural Sciences Class and the Moral, Historical, and Philological Sciences Class.

**3.2.** Jointly, we have promoted the «Conferenze Lincee» held every second Thursday and the «Conferenze Istituzionali» held every second Friday of each month.

The «**Conferenze Lincee**» are dedicated to a deceased Fellow in commemoration of their roles towards scientific progress and are delivered mainly by our Fellows who have held or who still hold positions of responsibility with this Academy, in government or with leading research institutions:

- **Tito Orlandi**, Lincei Fellow, Lecture dedicated to Sabatino Moscati, illustrating the activities of the *Centro Linceo Interdisciplinare "Beniamino Segre"*, which Orlandi directed for six year.
- **Massimo Inguscio**, Lincei Fellow, Lecture dedicated to Vito Volterra, illustrating the role of the Italian National Research Council (CNR),

which Inguscio presides. I am pleased to announce today that the CNR and Lincei have signed an collaboration agreement that has already produced important results, also within the activities of the International Academy Networks.

- **Carlo Doglioni**, Lincei Fellow, Lecture dedicated to Quintino Sella, illustrating the activities of the *Istituto Nazionale di Geofisica e Vulcanologia*, which Doglioni presides.
- **Christopher Smith**, Lecture dedicated to Thomas Ashby, illustrating benefits and barriers of international research. Smith is President of the *Unione internazionale degli Istituti di Archeologia, Storia e Storia dell'arte* in Rome, comprised of 25 Institutes and 19 Countries.
- **Enrico Giovannini**, Lecture dedicated to Jan Tinbergen, illustrating the activity of ASviS, an innovative Italian Association (chaired by Giovannini), which promotes the UN Agenda 2030 in Italy.
- **Andrea Giardina**, Lincei Fellow, Lecture dedicated to Santo Mazzarino, illustrating the activities of the *Giunta centrale per gli studi storici e del Comité International des Sciences Historiques*, which Giardina presides.
- **Ada E. Yonath**, Lincei Fellow and Nobel Laureate in Chemistry, Lecture dedicated to Galileo Galilei on 'Thoughts about the origin of life'.

From the list of topics and speakers (of which only two are not Lincei Fellows) the complementarity of the two Academy Classes is evident.

The «**Conferenze Istituzionali**» were held mainly by non-Fellows and dealt with pertinent issues in the European and Italian contexts.

One conference which brought together the Lincei Academy and other Institutions was delivered by the Lincei Fellow **Marcello Ignazio Gallo** in memory of our unforgettable President **Giovanni Conso**, who was both a scholar of Jurisprudence and a respected institutional figure.

Two conferences dealt with political and cultural issues: one by the former President of the European Council **Herman Van Rompuy** in which he illustrated the policies for advancement of the European Union; another

by **Minister Dario Franceschini**, in which he outlined the on-going programme to promote Italian culture.

Three conferences - of which the proceedings will soon be published in a single volume - were held by the Presidents of leading Italian institutions and presented an enlightening and essential panorama for our Fellows.

- **Giovanni Canzio**, first President of the Court of Cassation, spoke on the reasons for judgment and scientific evidence.
- **Paolo Grossi**, President of the Constitutional Court of Italy, spoke on the role of the Supreme Court - the greatest institutional safeguard.
- **Alessandro Pajno**, President of the Italian Council of State, spoke on the developments in administrative law.

We are pleased also to announce that an important collaborative agreement between the Scuola Superiore della Magistratura and this Academy was signed some days ago. For this I would like to thank our Lincei Fellow Natalino Irti for his role in making this possible.

**3.3. The Centro Linceo Interdisciplinare Beniamino Segre** and our **Committees**, also merit a special mention for their interdisciplinary activities.

**The Centro Interdisciplinare Beniamino Segre** continued its activities under the guidance of its new Director Mario Stefanini and the new Governing Body composed of seven Academy Fellows (Eugenio La Rocca, Mario Liverani, Maurizio Prato, Isabella Premoli Silva, Alessandro Roncaglia, Alfredo Stussi, Alberto Tesei). The principal role of this Centre is to promote and coordinate research activities of non-local professors through a series of meetings and conferences and we intend to extend this activity to other universities to promote the diffusion of scientific culture. This is a praiseworthy initiative, especially considering the greater effort required for non-local initiatives.

Our **Committees** are divided into two typologies: analytical and intervention; conservation and promotion.

There are five **analytical and intervention Committees**: internationalisation (already mentioned), environment, research, university, and consulting. Following adequate scientific analysis, the role of these Committees is to deliver *pro veritate* opinions on priority themes for Italy, to propose interventions, and to deliver updates on the validity of expertise.

The Committee for the **Environment and Natural Disasters**, chaired by Michele Caputo, and composed of 14 members is one of the Academy's most long-standing. It is currently organising the 35<sup>th</sup> annual edition of the *Giornata dell'Ambiente* which will soon be held on the theme "Cambiamenti e crisi nel Mediterraneo", while the recent 18<sup>th</sup> annual edition of the *Giornata dell'Acqua* dealt with the theme "Strategie di adattamento alla domanda e alla disponibilità di risorse idriche".

The **Research Issues** Committee (chaired by Giorgio Parisi, and composed of 12 members) and the **University Issues** Committee (chaired by Fulvio Tessitore, and composed of 10 members) operate both independently and jointly. They examine current issues and publish their findings on the Lincei Academy website, also sending to the pertinent bodies documentation regarding progress in this often little-considered sector of our democracy.

An important event this year was the joint opinion of both Committees on the «**Cattedre Natta**» which required radical normative and material reconfiguration regarding both the method of access to higher education, for the criteria for nomination of the Selection Commissions - in conflict with the Constitution, and prone to create further disequilibrium in the higher education system. This information was sent officially to the Renzi Government which unfortunately resigned soon after. Currently a decree by the Prime Minister is being prepared with the support of Minister Fedeli which will render the procedure for identification of the Selection Commissions of faculties compatible with the current higher education system.

These two Committees will soon undertake investigation into the financing of both University and non-university-based research which we believe will

bring interesting future proposals.

A status report was prepared by the Research Issues Committee on the **Rapporto Xylella** in 2016 by an Advisory Committee composed of Lincei Fellows Roberto Bassi, Giorgio Morelli and Francesco Salamini.

An ad hoc **Advisory Committee**, was nominated this year by the Office of the Prime Minister to address the urgent and pressing issue of Vaccinations. This Committee operated under the supervision of Maurizio Brunori and was composed of four eminent specialists: Lincei Fellows Guido Forni, Alberto Mantovani, and Lorenzo Moretta and also Giovanni Rezza (National Institute of Health). The Committee's report demonstrated that scientific objectivity was indispensable in the issue of vaccination, contrasting the erroneous public opinion which could jeopardise the health and in some cases, even the lives of non-vaccinated persons. This *pro veritate* opinion was sent to the President of the Republic, the Prime Minister, the Minister of Health and to the President of the National Institute of Health. We are sure that this report contributed favourably towards the promulgation of the Governmental decree rendering vaccination obligatory.

There are **six Committees for conservation and promotion:**

The **Library Supervisory Board** (chaired by Giovanni Jona Lasinio and composed of 5 members) has also continued the important task in re-launching the Biblioteca Corsiniana, which has a greater number of important texts available for consultation following a series of interventions for the security of its precious resources. Another useful initiative was the start of the Sunday morning «Lezioni Corsiniane» open to a wide public and held in conjunction with an exhibition of precious volumes. The first two lessons were delivered by Lincei Fellows Roberto Antonelli and Tullio Gregory.

The **Villa Farnesina Committee** (coordinated by Alessandro Zuccari and composed of 7 members) has improved the multimedia interface to benefit visitors, has promoted the restoration of areas of artistic prestige, has hosted the exhibition "*I colori della prosperità: frutti del Vecchio e Nuovo Mondo. Raffaello e Giovanni da Udine nella Loggia di Amore e Psiche*",

organized by Lincei Fellow Antonio Sgamellotti and Giulia Caneva. Villa Farnesina is currently receiving greater interest also due to the production of various documentaries.

The other Committees are:

**Committee for the History of the Academy** (chaired by Tullio Gregory and composed of 7 members);

**National Editorial Committee for Greek and Latin Classics** (chaired by Guglielmo Cavallo, and composed of 7 members);

**Editorial Committee for Proceedings from Ancient Excavations and Monuments** (chaired by Antonio Giuliano, and composed of 5 members);

**Committee for the Naturalistic and Science Museums** (chaired by Stefano Turillazzi and composed of 11 members);

All the above Committees are active.

**In conclusion:** 76 Lincei Fellows collaborate with the various Commissions and Committees, equally divided between the two Classes. Committees and Commissions operate autonomously but final approval is granted by the President's Council, and in some cases by an Assembly of the pertinent Class or by a Joint Assembly of both Classes.

### **3.4. Publications**

To understand the activity of the Classes, it is important to note that in this academic year, **28** volumes have been published. Some of these publications have already been cited previously.

Under the aegis of the Class of Physical, Mathematical and Natural Sciences, the Academy edits two journals with international publishers: «Rendiconti Lincei. Matematica e applicazioni» and «Rendiconti Lincei. Scienze Fisiche e Naturali».

The Class of Moral, Historical and Philological Sciences also edits two prestigious and historical journals: the «Rendiconti» and «Memorie».

The *Atti dei Convegni Lincei* take into account scientific results of Academic Conferences. An important contribution to the knowledge and study of the antique world are the publications «*Notizie degli Scavi di Antichità*» and «*Monumenti Antichi*» as well as the «*Bollettino dei Classici*».

Moreover, the Academy publishes the series *Contributi del Centro Linceo Interdisciplinare* «*Beniamino Segre*», «*Storia dell'Accademia dei Lincei*» and «*Testi di Storia e Storiografia*» of the Leone Caetani Foundation.

**4. There are 15 Foundations connected or associated with the Academy** and which conduct many significant activities, such as the conferment of awards, on proposal by the Lyncean Committees and sometimes with the participation of the heirs of the founding members of these organisations. We will limit ourselves to indicating three Foundations which have played significant roles in this academic year:

The **Donegani**, chaired by Brunori, which in past years has focused on technoscience, an area which merits more attention; **Lincei per la Scuola**, chaired by L. Maffei, is a recently-created foundation but is already well-known for its activities throughout Italy; the **Caetani** which is the Academy's centre of excellence for Oriental and Arabic studies (chaired by Liverani).

In this demanding period, the operative contribution of Chancellor Dr. Ada Baccari and all of the Lincei staff has been invaluable and their *modus operandi* has been much appreciated.

A significant role has also been undertaken by the **Associazione Amici della Accademia dei Lincei** chaired by Umberto Quadrino, and with many new names from leading Italian entrepreneurs.

## **5. Prize awarding for excellence**

Today we will proclaim the winners of **27 Awards**, of which that of the President of the Republic for Physical Sciences, and the National and International Feltrinelli Prize for Moral Sciences and finally, those reserved for an exceptional enterprise of high moral and humanitarian

value, for which this year two awards will be conferred; the first is the annual prize and the second is an extraordinary prize which has been conferred for contributions following the earthquake that struck the territory and population of central Italy.

In addition to awarding leading scholars who have left their mark on the history of science, this year four «Antonio Feltrinelli Giovani» Prizes have been awarded to the Class of Physical, Mathematical and Natural Sciences, or more specifically, for Medicine, Mathematics, Astronomy, and for Physics.

This is an innovative initiative undertaken by the Lincei in 2016 to give visibility to emerging talent of an international stature for researchers less than 40 years of age, thus expressing our conviction that the intergenerational transmission of science and scientific-cultural knowledge cannot be left to chance. A further motivation is that we believe that by visiting the Lincei, these young talented persons will understand that our mission is much more far-sighted than mere sectorial scientific success, or more specifically, to make our own contribution to social progress and to the development of Mankind.

**6. In conclusion:** The reality of the Lincei Academy is not a history of memories far-removed from Italy in today's international scenario and actively engaged in scientific evolution. Indeed, as a not-for-profit public body, it is an integral part of a wider group of Italian institutions to which it makes its own contribution in a spirit of constructive independence aimed at strengthening our democracy within a European context.