

A Physicist Among the Immortals Alain Aspect's Reception at the Académie française

Thursday, April 23. The grand hall beneath the Dome is filled. Drums roll. The Republican Guard, sabres raised, welcomes the Immortals in full ceremonial dress. At precisely three o'clock, the formal session of the Académie française begins: the reception of its newest member, who will take Seat 22. In the audience, glances meet, and knowing smiles pass from one face to another—signs of shared understanding, of quiet satisfaction. Yet the moment is solemn. How could it be otherwise? Seat 22 is to be occupied by a physicist, the first since Louis Leprince-Ringuet was elected to Seat 35 in 1966. Since the Academy's founding, physicists admitted to its ranks have been so few they can be counted on two hands. And those few names point us to giants: Louis de Broglie (1944), Maurice de Broglie (1934), Henri Poincaré (1908), Jean-Baptiste Biot (1856), Joseph Fourier (1826), Pierre-Simon Laplace (1816)... and, going further back, Jean-Jacques Dortous de Mairan, elected in 1743. Founded in 1635, the Académie française serves as a forum for intellectual debate devoted to "advancing the influence of letters," most notably through the publication of its authoritative dictionary of the French language. It is therefore no surprise that, among its forty members, representatives of the natural sciences have been few, and physicists rarer still. The future holder of Seat 22 rises, places his notes on the lectern, and in keeping with tradition, begins by paying tribute to his predecessor. Much of the audience is already familiar with his eloquence. Even so, this is unfamiliar ground. His predecessor, René de Obaldia, was neither a quantum physicist nor a scientist of any kind nor, for that matter, an oenologist, a magician, or an expert in Southwestern cuisine, but a playwright, poet, and novelist. The setting is formal, the task delicate. In those opening moments, those who know Alain Aspect sense an unusual restraint, even a hint of emotion. But as the forty minutes unfold, his eloquence

returns in full force, along with his presence, and even reveals a new dimension: that of a conjurer of words, where the sleight of hand lies not in cards, but in phrasing. Yet his speech is far more than an 'exercise' in style. He returns repeatedly to what matters most to him: the formative role of his public-school teachers, the importance of science, and the need to recognize it as an integral part of culture without qualification. He touches, in passing, on scientific ideas such as wave-particle duality, and promises to answer any questions the members of this distinguished assembly might wish to pose, even those left unasked. The result is a speech that is at once brilliant, thoughtful, moving, and humorous. One detail, however, stands out: Alain Aspect, whose reputation is closely tied to a paradox, pointedly refrains from commenting



Alain Aspect surrounded by some members of the SFO. From left to right: Ariel Levenson (former President), Philippe Grangier (incoming President), Pierre Chavel (first Elected Secretary), Françoise Chavel (first General Secretary) and Benoît Boulanger (former President).

on René de Obaldia's remark: "A paradox is an opinion that thrives on its charms at the expense of truth."

The ceremony then proceeds in keeping with tradition. The audience, captivated, witnesses a first touch of "magic" from the newly received academician. The honor of formally welcoming him and presenting his achievements falls to Academician Jules Hoffmann. In a rich and carefully crafted address, Hoffmann retraces the major milestones in the

development of modern physics: the rise of quantum mechanics, the epistemological debate between Einstein and Bohr, the unresolved tension of the Einstein-Podolsky-Rosen paradox, and the breakthrough provided by Bell's inequalities. He goes on to underscore Alain Aspect's vision and perseverance, as well as the experiments that earned him the 2022 Nobel Prize, shared with John Clauser and Anton Zeilinger. Moments earlier, Alain Aspect had vowed never to miss an opportunity to speak about quantum physics and optics. The promise is already fulfilled: Jules Hoffmann, a biologist, rises to the occasion with remarkable brilliance.

But let us not confuse science with magic, Alain Aspect would surely object. It is worth recalling that the first physicist (and, in a sense, optician) elected to the Academy, Jean-Jacques Dortous de Mairan, advocated a rigorous and systematic approach to experimental observations, precisely to dispel the fanciful interpretations often attached to rare or "marvelous" phenomena such as the aurora borealis, phenomena that even Halley still partly explained in fantastical terms. Let us give him the last word:

"And thus the pious, the moral, the fabulous, the romantic, even the political have, in all times and places, become intertwined with the physical nature of our phenomenon. Yet all the examples I have just cited show that the physical ultimately prevails: it shines through the chimeras it generates or transforms, depending on the objects it presents to the observer's eye, objects themselves shaped and altered by the point of view and latitude from which they are perceived."

There is little doubt that Alain Aspect, a worthy heir to Jean-Jacques Dortous de Mairan and to his other distinguished predecessors, will bring both clarity and wonder to the sessions of the Academy, dispelling mystification while illuminating the beauty of optics and quantum physics. Congratulations, Alain!

Ariel Levenson



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