

Preface

This special issue of the Journal of Organometallic Chemistry is dedicated to our friend and colleague Jean Normant on the occasion of his 65th birthday to celebrate his contribution to science through his exceptional achievements in organic and organometallic chemistry.



Jean's professional association with this journal is extensive; as well as having published 46 papers in it, he served as Regional Editor for 20 years.

Born in Angers, France in 1936, Jean spent his early years there while his father Henri Normant was working on his PhD thesis under the supervision of Prof. Raymond Paul. In 1945, when his father accepted an Assistant Professor position at the University of Caen, Jean continued his studies at the high school 'Malherbe', housed in the 'Abbaye aux Hommes', one of the only buildings unharmed during World War II. After a short period at Lille (1948–1951), he finished his high school studies in Paris (1953). At this crucial turning point in his life, Jean chose to study experimental sciences.

During one of our daily morning coffees, I asked him why he chose chemistry, a field in which his father had already excelled for a long time. To achieve recognition in his own right would be even more difficult! To this rather naive question, he told me how as a child he was fascinated by the expression in his father's eyes after a long and difficult day in his laboratory; some evening they were full of happiness, at other times they were lost in deep thought. His father spent most of those evenings at his desk, endlessly scribbling molecules on reams of paper. Sharing in the excitement of the daily life of a leading figure in science awakened the interest and inquiring mind of a son.

After a three-year period at the ENSCP (Ecole Nationale Supérieure de Chimie de Paris), Jean decided to

start a PhD thesis entitled “Reactions of Grignards with Organic halides, influence of polar aprotic solvents and particularly hexamethyl phosphotriamide” (HMPA, sometimes called the French national solvent) under the supervision of Professor Charles Prevost (1958–1963). Several publications resulted from this research (the first one whose title remains forever forgotten by its author: Action of organometallic derivatives on dihalogenovinyl compounds; Bull. Soc. Chim. Fr. 1963, 1868). After his military service spent at the Sorbonne (where Jean optimized his spare time writing and editing his book “*Organic Chemistry Courses*”, published by Masson), he was appointed Assistant Professor at Reims University (1964–1969), then Assistant Professor in Paris (1969) and successfully became full Professor at the age of 37 in 1973.

From the beginning of his career, Jean was fascinated by the synthesis and reactivities of organometallic compounds in organic chemistry, and he found, while preparing copper acetylide with the late Monique Bourgain, that organocopper derivatives could add in a syn fashion across non-functionalized alkynes, namely the carbocupration reaction. Although this major contribution currently has worldwide applications, we can point out that Jean made a major breakthrough in the research field of his father, the synthesis of vinylic organometallic, since he brought up the stereoselectivity!

After a long and intensive research period on the synthesis and reactivity of vinyl copper derivatives (in collaboration with Alexandre Alexakis and also, at the beginning with Gerard Cahiez), the application of this fundamental research to the preparation of perfumes, fragrances and pheromones showed the scope and potentialities of this reaction in organic synthesis.

Meanwhile, the chemistry of copper carbenoids also started in his laboratory with Jean Villieras and some very important fundamental applications were developed.

The development of organomanganese (with Gerard Cahiez) and of fluorinated organometallic chemistry (with Raymond Sauvetre) was also very actively studied, and their broad scope as well as their complexities were systematically studied and solved. Here again, the control of the stereochemistry of the fluorinated double bond was a major achievement particularly when we know the extreme importance of fluorine in therapeutic chemistry.

After these first discoveries, Jean successfully introduced the notion of chirality in his chemistry in the 1980s. The combination of chiral acetals with organocopper derivatives led to several highly enantioselective syntheses (in collaboration with Alexandre Alexakis and Pierre Mangeney). In the last 10 to 15 years, Jean focused his work on the extraordinary zinc organobismetallic chemistry (started with Paul Knochel

and continued by this author). Among numerous examples of addition reactions of an organometallic species to an olefin, the addition of an allylic zinc reagent to a vinyl organometallic is particularly striking and uniquely, useful synthetically. The reaction represents an addition of an allylic anion to a vinyl anion and seems to be an impossible reaction. However, it takes place smoothly. I remember with delight all these hours spent with Jean, on the blackboard and in a cloud of smoke, trying to understand and predict these often capricious but always selective and clean reactions (which seem to be common zinc characteristics). Later, he concentrated on the carbometallation reaction of unactivated olefins, first intramolecularly through organozinc derivatives, then intermolecularly where we brought a vital element to modern chemistry by introducing asymmetric catalysis when adding organolithiums to isolated double bonds.

More recently, he developed a new theme in collaboration with Fabrice Chemla on propargylic carbenoids. During all these years, Jean attracted an increasing number of students from France and abroad to his laboratory. He supervised more than 45 PhD theses and most of those students now hold academic positions. In the last 38 years, he published more than 330 scientific articles in international journals and gave more than 180 lectures worldwide, particularly Japan, where he built numerous professional and personal relationships. Jean’s pioneering contributions during the last 30 years have earned him an outstanding international reputation and have helped put French science in the spotlight. As a result, Jean has received numerous national and international awards, including the French Society of Chemistry Adrien Award (1963), the Foundation Van’t Hoff Award (1967), the French Society of Chemistry Lebel Award (1990), two prizes of the Academy of Sciences (1979 and 1987), and the silver medal of the CNRS (1979). He was also elected as member of the Academy of Sciences (1993) and as Centenary Lecturer of the Royal Society of Chemistry (2000). He has served on several national committees as President of the Organic Chemistry division of the French Chemical Society (1981–1984), as member of the committee of the CNRS (Centre National de la Recherche Scientifique from 1980 to 1986), member of the National Committee of Universities (1986–1990) and finally member of the administration board of the ‘Maison de la Chimie’ and of the ‘Conservatoire National des Arts et Metiers’. He is also a member of the board of several journals, including Journal of Organometallic Chemistry, Acta Scandinavica, Comptes Rendus de l’Académie des Sciences and Organic Letters. Jean spends several hours each week reading scientific literature far beyond the bounds of his immediate research.

In 1993, when Jean was elected a member of the French Academy of Sciences, I had the pleasure of being invited to the ceremony. I will always cherish the memory of Henri and Jean, father and son, both academicians, standing next to each other under this beautiful cupola. This is an extremely rare case in the French scientific history!

One could not conclude this preface without talking about the man himself and his strong human qualities. Besides being extremely fair and honest, Jean is a warm and particularly attentive person. He always listens and patiently advises his students, showing considerable respect and tolerance, even when they make mistakes. All of them, without exception, deeply admire him. Over the years countless friends, colleagues and visitors have enjoyed the hospitality of the Normant household. Most of us have fond memories of excellent meals, outstanding wines and liberal doses of anecdotes. Those of us who have had the immense pleasure of working in the same department as Jean know him to be a tremendously supportive colleague. He has shown great leadership over the years, always making himself available to those who need his advice and encouragement.

Every one of us who has worked with him knows how important his family is to him and how supportive

his wonderful wife, Catherine, has been throughout his career. Catherine not only shared in his happiness, but also is especially gifted at nurturing and protecting him. I know that he is extremely grateful for her constant support, and as I had the chance to meet her several times during these years, I had the privilege of benefiting from her tremendous qualities.

Undoubtedly, his devotion to research and teaching has influenced and will continue to influence everyone fortunate enough to know him. Many of us try to adhere to the 'Jean Normant' style in our academic endeavors.

On behalf of the Editors, the Editorial board, the contributing authors, many friends and colleagues, this special issue is presented to Jean Normant in recognition of his major contributions to chemistry.

Jean Merci!

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