

## PREFACE

Jacques Tits was born in Uccle, Belgium, on August 12, 1930. He received his doctorate at the age of 20 and began his career in Brussels, spent the ten years from 1964 to 1974 as professor in Bonn and then moved to the Collège de France, where he occupied the Chair of the Theory of Groups until his retirement in 2001.

Jacques Tits is one of the great mathematicians of our times. He has had a profound influence in mathematics through his work in which he uncovered deep connections between geometry, group theory and algebra. He is perhaps most famous for the notion of a building, for his classification results in the theory of spherical buildings (his Springer lecture notes on BN-pairs), for his classification results in the theory of affine buildings (Bruhat-Tits theory, as developed in the famous I.H.E.S. volumes 41 and 60 written with François Bruhat) and for his related work on the classification of semi-simple algebraic groups over an arbitrary field (the Boulder notes) and on the classification of semi-simple algebraic groups over a local field (the Corvallis notes, a basic resource for the theory of reductive  $p$ -adic groups). He also proved fundamental results about the structure of algebraic groups (especially in a sequence of papers with Armand Borel), on the Monster and other sporadic groups, on free subgroups of a linear group (the “Tits alternative”), on Kac-Moody groups, on Coxeter groups, on Jordan algebras, on quadratic forms, on multi-transitive groups, on trees and on many other topics. Altogether the collected works of Jacques Tits span six decades and comprise over 4000 pages.

Jacques Tits has received many awards and distinctions in the course of his long career. To name just some of them, he is a member of the German Academy of Sciences Leopoldina, a member of the French Academy of Sciences and a member of l’Ordre “pour la mérite” for Science and Art, he has won the Wolf Prize, the Cantor Medal and the Abel Prize, he holds honorary degrees from Utrecht, Ghent, Bonn and Louvain and he was awarded the Great Cross of Merit with star by the Federal Republic of Germany.

We should also mention Jacques Tits many visits to Yale University (and to his old friend Nathan Jacobson), his service as editor-in-chief of the Publications Mathématiques I.H.E.S. for almost twenty years, a job he carried out with extraordinary dedication, and his longstanding relationship with Bourbaki (although he was not a member), which is evident in Chapters 4–6 of the volume *Lie Groups and Lie Algebras*.

The photograph of Jacques Tits on the cover of this issue (for which we are indebted to the archives of the I.H.E.S.) was taken on the occasion of his election to Officer of the Legion of Honor.

At this point we should say something funny, not to risk being scolded by Jacques Tits for being too “dry.” In fact, his lectures are full of great charm and wry good humor, peppered with droll remarks, and he is well known to several generations of geometers, group theorists and algebraists for his warmth and generosity—and for his charming wife Marie-Jeanne, who is so often by his side.

It is a pleasure to join with all the authors of this special issue—and with all whose careers have been inspired by his work—in wishing Jacques Tits a Happy 80th Birthday and many happy returns.

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