Advanced Studies in Pure Mathematics 30, 2001
Class Field Theory – Its Centenary and Prospect
pp. 217–258

The L-Group

Bill Casselman

> It is an extremely useful thing to have knowledge of the true origins of memorable discoveries ... It is not so much that thereby history may attribute to each man his own discoveries and that others should be encouraged to earn like commendation, as that the art of making discoveries should be extended by considering noteworthy examples of it.
>
> Leibniz (from the *Historia et Origo Calculi Differentialis*, translated by J. M. Child)

In the late 1960's, Robert Langlands introduced a number of ideas to the theory of automorphic forms and formulated a number of conjectures which gave the theory a new focus. I was a colleague of his at this time, and a good deal of my professional energy since then has been directed to problems posed by him. Thus it was not entirely inappropriate that when I was invited to this conference, Miyake suggested that I say something about those long gone years. I was rather reluctant to do this, and for several reasons. The most important one is that, unlike other mathematicians who have contributed to class field theory and whose work has been discussed at this conference—such as Weber, Takagi, Hasse, or Artin—Langlands himself is still very much alive, and can very well speak for himself. Indeed, in recent years he has shown himself quite willing to discuss his work on automorphic forms in an historical context. A second reason for hesitation on my part was that although my own professional life has practically coincided with that of Langlands' principal conjectures about automorphic forms, and although I have been both a professional and a personal friend of his for that period, my own contributions to the subject have been perhaps of too technical a nature to be of sufficiently general interest to talk about at this conference. A third reason was that if I really were to tell you something new and of historical interest, I would most of all want to

Received September 20, 1998.
Revised December 19, 1998.