

Title: "Grothendieck did not believe in universes, he believed in topos and schemes"

Abstract: The title is a quote of Pierre Cartier or Jean Benabou, perhaps both, in a public discussion at the ENS. Cartier and Benabou both knew Grothendieck, and both later said I could cite them. But neither recalled who first said it. Grothendieck himself was explicit about the importance of topos and schemes in print over several decades, and of course he used universes in published proofs. This talk focusses on his far more explicit motivation for topos theory in 33 hours of tape recorded lectures and workshops in Buffalo NY in June and July 1973. There he also gave his only (currently known) preserved comments on the practical, conceptual role of universes. Grothendieck discussed universes in Buffalo because he had just received news from Luc Illusie that Deligne had completed the proof of the last Weil Conjecture.