

Abstract: A perpetual change of foundations observed in the real history of the discipline is not a historical accident but an essential feature of foundations. I distinguish between the progress of mathematics and renewal of its foundations and show how the latter contributes to the former with some historical examples. I also describe a mechanism of renewal of foundations, which has to do with needs of mathematics education, and provide an account of robustness of mathematical facts and arguments surviving through the change of their foundations. I outline my vision of today's situation and argue for the renewal of standard structuralist Bourbaki-style set-theoretic foundations in favor of new Category-theoretic foundations, which are linked to Structuralism historically and dialectically but imply a very different philosophical view on mathematics.