



planetmath.org

Math for the people, by the people.

Alexander Grothendieck's mathematical heritage: "Esquisse d'un Programme"

Canonical name	AlexanderGrothendiecksMathematicalHeritageEsquisseDunProgramme
Date of creation	2013-03-22 18:27:35
Last modified on	2013-03-22 18:27:35
Owner	bci1 (20947)
Last modified by	bci1 (20947)
Numerical id	30
Author	bci1 (20947)
Entry type	Feature
Classification	msc 18E05
Classification	msc 18-00
Synonym	Alexander Grothendieck's mathematical research proposal
Related topic	AlexsMathematicalGenealogy
Related topic	AlexanderGrothendieckABiographyOf

0.1 “Esquisse d’un Programme” (original document was written by Alexander Grothendieck)

0.1.1 A Concise Summary and Outline of “Esquisse d’un Programme”:

An influential research proposal submitted by Alexander Grothendieck in 1984 that continues to inspire even today several related areas of mathematics. Of considerable interest to many mathematicians are the recent Galois groupoid and categorical generalizations of Galois theory initiated by Alexander Grothendieck, now developed towards maturity by several other seasoned mathematicians.

Abstract of the paper (In French: “Sommaire”)

1. The Proposal and enterprise (“Envoi”).
2. Teichmüller’s Lego-game and the Galois group of \mathbb{Q} over \mathbb{Q} (“Un jeu de ”Lego-Teichmüller” et le groupe de Galois de \mathbb{Q} sur \mathbb{Q} ”).
3. Number fields associated with “dessin d’enfants”. (or in orig. : ”Corps de nombres associés à un dessin d’ enfant”).
4. Regular polyhedra over finite fields (“Polyèdres réguliers sur les corps finis”).
5. General topology or a ‘Moderated topology’ (“Haro sur la topologie dite ’générale’, et réflexions heuristiques vers une topologie dite “modérée”).
6. Differentiable theories and moderated theories (“Théories différentiables” (à la Nash) et “théories modérées”).
7. <http://www.math.jussieu.fr/~leila/grothendieckcircle/stacks.ps>Pursuing Stacks (“À la Poursuite des Champs”).
8. Digression on two-dimensional geometry (“Digressions de géométrie bidimensionnelle”; now called “Higher Dimensional Algebra” that Alexander Grothendieck anticipated by several years).
9. A Synthesis of the proposed Research Activity (“Bilan d’une activité enseignante”).
10. Epilogue.
11. Notes

<http://www.math.jussieu.fr/~leila/grothendieckcircle/EsquisseFr.pdf>**Reference**

Alexander Grothendieck, 1984. “Esquisse d’un Programme”, (1984 manuscript), finally published in “Geometric Galois Actions”, L. Schneps, P. Lochak, eds., London Math. Soc. Lecture Notes 242, Cambridge University Press, 1997, pp.5-48; English transl., *ibid.*, pp. 243-283. MR 99c:14034.