

Polynomials and Power series, May they forever rule the world! *

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Polynomials and Power series,
May they forever rule the world!

Eliminate, eliminate, eliminate!
Eliminate the eliminators of Elimination theory!¹

As you must resist the super-bourbaki coup,
so must you fight the little bourbakis too!

Kronecker, Kronecker, Kronecker above all!
Kronecker, Mertens, Macaulay, and Sylvester!

Not the theology of Hilbert,
But the Constructions of Gordon!

Not the surface of Riemann,
But the Algorithm of Jacobi!

Ah! the beauty of the identity of Rogers and Ramanujan!
Can it be surpassed by Dirichlet and his principle?

*Written on 5 Sep. 1970 during the International Congress of Mathematicians, Nice, France, consequent to Bartel L. van der Waerden's lecture '*The foundation of Algebraic geometry from Severi to André Weil*', Archive for history of exact sciences, vol. 7, n. 3, May 1971, pp. 171–180; published: David C. Kandathil, Chempu, Vaikom, Kingdom of Travancore, Jan. 2003; Computer mail: kandathil@gmail.com, Internet: <http://kandathil.org/mathematics/abhyankar.pdf>. Cf. also the author's essay '*Historical ramblings in Algebraic geometry and related Algebra*', The American mathematical monthly, vol. 83, n. 6, Jun.–Jul. 1976, pp. 409–448 (expanded version of an invited lecture at meeting of Mathematical association of America, Indiana section, Indianapolis, 30 Nov. 1974); and his book '*Algebraic geometry for Scientists and Engineers*', Mathematical surveys and monographs n. 35, American mathematical society, 1990.

¹'The device that follows, which, it may be hoped, finally eliminates from Algebraic geometry the last traces of Elimination theory, is borrowed from C. Chevalley's Princeton lectures.' — André Weil, *Foundations of Algebraic geometry*, Colloquium publications n. 29, American mathematical society, 1946, p. 31, f. n. 2.

"By omitting some material I have tried to keep the size of the book within reasonable bounds. Thus, the chapter 'Elimination theory' has been omitted. The theorem on the existence of the Resultant system for homogeneous equations, which was formerly proved by means of Elimination theory, now appears in section 121 as a corollary of Hilbert's nullstellensatz." — Bartel L. van der Waerden, Preface, *Algebra*, vol. II, Fourth edition, Zurich, Jun. 1959.

Germ, viruses, fungi, and functors,
Stacks and sheaves of the lot
Fear them not . . .
We shall be victors!

Come ye forward who dare present a functor,
We shall eliminate you!
By Resultants, Discriminants, Circulants, and Alternants!
Given to us by Kronecker, Mertens, Macaulay, and Sylvester!

Let not here enter the omologists, homologists,
And their cohorts the cohomologists crystalline
For this ground is sacred!

Onward Soldiers! defend your fortress!
Fight the Tor with a Determinant long and tall,
But shun the Ext above all!

Morphic injectives, toxic projectives,
Étal, éclat, devious devisage,
Arrows poisonous large and small!
May the armour of Tschirnhausen
Protect us from the scourge of them all!

You cannot conquer us with the rings of Chow
And shrieks of Chern!
For we too are armed, with Polygons of Newton
And Algorithms of Perron!

To arms, to arms, Fractions, continued or not,
Fear not the scheming ghost of Grothendieck!
For the power of Power series is with you!
May they converge or not
(May they be Polynomials or not)
(May they terminate or not)

Can the followers of G by mere 'smooth' talk
Ever make the singularity simple?
Long live Karl Weierstrass!

What need have we for rings Japanese, excellent or bad,
When, in person, Nagata himself is on our side?

What need to tensorise,
When you can Uniformise!
What need to homologise,
When you can De-singularise!
(Is Hironaka on our side?)

Alas! Princeton and fair Harvard you too,
Reduced to satellites in the Bur-Paris zoo!