

Response to “Grouchy Expert”

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Let me respond to the comments and claims of “Grouchy Expert” on David M. Roberts recent [blogpost](#) regarding my [Quest for Mochizuki’s Corollary 3.12](#).

- (1) “Grouchy Expert” should provide some identification (say name and academic affiliation) to facilitate an academic conversation.
- (2) Regarding “Grouchy Expert’s” assertion that “Scholze has said such and such a functor is a loss-less functor ...” let me say the following:
 - (i) I have demonstrated ([Constructions I](#)) that the said functor from pairs $(\Pi_X \rightarrow G) \mapsto X$ is not loss-less and I precisely identified the information which is lost. My next point explains this.
 - (ii) Mochizuki’s work, and especially my work ([Constructions I](#)), deals (roughly speaking) with fundamental groupoids (and not fundamental groups per se). A better description is that one deals with objects akin to based loop spaces in classical topology. Especially the primary object one deals with is an extended object (with a structure close to Scholze’s Theory of Diamonds—see ([Untilt’s Paper](#))). So the passage to fundamental groups constitutes loss of information—this point (about Mochizuki’s Theory) had not been recognized by anyone until ([Constructions I](#)) appeared online.
 - (iii) So *anyone* claiming that there is no loss of information is fundamentally incorrect. In ([Constructions I](#)) I demonstrate that this lost information provides (amongst other things) a Berkovich analytic space over an algebraically closed perfectoid field and this allows one to treat the theory as a classical Teichmuller Theory i.e. as a variation of (arithmetic) holomorphic structures.
- (3) Attributing my work and ideas to Fargues-Fontaine sounds like a cheap attempt at belittling my work, is utterly unprofessional and suggests a sense of Scholze-Worship. The constant soundbite by you, Will Sawin and some others that “there is nothing there (in my work)” points to a complete lack of understanding of my work on your part and an unwillingness to come to terms with mathematical facts. Many have insisted (see [Erica Klarreich’s article](#), [Davide Castelvecchi’s article](#) and [Peter Woit’s blog](#)) that Mochizuki’s Corollary 3.12 is implausible. My work has crossed the rubicon and brought this “implausible claim” within the realm of understanding with unparalleled transparency. Many denizens of Ivy-League Math Depts. (you included) simply

prefer to move the finish line to “we shall see if he (Joshi) can prove abc-conjecture.” At this juncture, enough of Mochizuki’s claims have been independently verified by me (as demonstrated in my papers on the [arXiv](#)). Had this verification come from some Ivy-League Scion or Scholze himself, then this would have been hailed as a major breakthrough. [For the record, in building my original theory, I use the work of many mathematicians, Scholze included, and I provide citations to all of them as is customary in Mathematics.]

- (4) I think the troubling issue (for the larger mathematical community) should be, that to date, many Arithmetic Algebraic Geometers have completely failed to recognize that there is even a difference between Teichmuller Theory (which Mochizuki and I deal with) and Moduli Theory (i.e. determination of the isomorphism class of an algebraic curve or a Riemann surface), a point which I have explicated in my [Quest Paper \(see §1.8\)](#). [For the record: in all the public discussions of Mochizuki’s work (see [Mathoverflow discussion](#), [Peter Woit’s Blog](#)) there is no mention of Teichmuller Theory and its relevance to the context of Mochizuki’s work.] Mochizuki of course takes much of the blame for the debacle surrounding his work, but I think that is besides the point.
- (5) So please give my work the credit that is my due and let us move forward with the insights my work (and Mochizuki’s) presents. One important insight which we present is that *arithmetic of number fields as we know it is pliable* and, following Mochizuki’s template, one can even leverage this pliability by averaging over it (for this point see [\(Constructions II\(1/2\)\)](#)). [My discussion of the Teichmuller theoretic proofs, due to Fedor Bogomolov, et. al. and Showu Zhang, of the geometric Szpiro Inequality appears in the appendix to [\(Constructions II\(1/2\)\)](#).]
- (6) Just to be clear, my work is in no way a survey or an exposition of Mochizuki’s work. My approach is original, canonical and independent of Mochizuki’s work.

Alea jacta est.