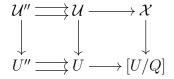
It was noted by Fabio Tonini that the proof using lie algebras in [1, Lemma 2.17 and Proposition 3.6] does not hold for local group schemes. While the alternative proofs we provided there using cotangent bundles hold, no alternative was provided for [2, Lemma 3.8], and in fact Tonini provided a counterexample to the argument used there. This necessitates discarding [2, Lemma 3.8] and providing an alternative proof for the only statement relying on it, [2, Proposition 3.6], which we provide below.

We proceed as in the proof of [2, Proposition 3.6] on page 415, in particular we may assume the coarse moduli spaces X and Y coincide, P and V are strictly henselian, and we have a homomorphism  $\rho$ :  $\Gamma \to G$  of well-split linearly reductive group-schemes. We replace the argument on page 416 as follows:

STEP 1: it suffices to consider the case where  $\rho: \Gamma \to G$  is trivial.

Assume the case where  $\rho$  is trivial holds true, and consider an arbitrary  $\rho$ . Write  $K = \ker \rho$  and  $Q = \Gamma/K$ . Let  $\mathcal{X} = [V/\Gamma]$  and  $\mathcal{U} = [V/K]$ , with the natural morphism  $\mathcal{U} \to \mathcal{X}$ . Write  $U'' = U \times_{[U/Q]} U$  and  $\mathcal{U}'' = \mathcal{U} \times_{\mathcal{X}} \mathcal{U}$ . Since  $U \to [U/Q]$  is a Q-torsor, the following diagram is cartesian



Since  $K \to G$  is trivial, the assumption implies that the composite arrow  $\mathcal{U} \to \mathcal{X} \to \mathcal{Y}$  factors uniquely as  $\mathcal{U} \to U \to \mathcal{Y}$ . Similarly the arrow  $\mathcal{U}'' \to \mathcal{X} \to \mathcal{Y}$  factors uniquely as  $\mathcal{U}'' \to U'' \to \mathcal{Y}$ . Commutativity implies that  $\mathcal{X} \to \mathcal{Y}$  factors uniquely as  $\mathcal{X} \to [U/Q] \to \mathcal{Y}$  as required.

Se we assume below that  $\rho : \Gamma \to G$  is trivial, and need to prove that  $f : \mathcal{X} \to \mathcal{Y}$  factors uniquely as  $\mathcal{X} \to \mathcal{X} \to \mathcal{Y}$ , where  $q : \mathcal{X} \to X := V/\Gamma$  is the coarse moduli space of  $\mathcal{X}$ .

STEP 2: proof when  $\rho$  is trivial.

Consider the torsor  $P \to \mathcal{Y}$ . Pulling back we obtain a torsor  $R = P \times_{\mathcal{Y}} \mathcal{X} \to \mathcal{X}$  along with a *G*-equivariant map  $\sigma : R \to P$ . Since the map  $\rho$  is trivial, for every geometric point  $\bar{x} \to \mathcal{X}$  the induced action of the stabilizer  $\Gamma_{\bar{x}}$  on  $R_{\bar{x}}$  is trivial. By [3, 6.4-6.5] there is a unique *g*-torsor  $T \to X$  whose pullback is  $R \to \mathcal{X}$ . Since *T* is flat over *X* the scheme *T* is the coarse moduli space of  $R = T \times_X \mathcal{X}$ . It follows that the map  $\sigma$  factors uniquely through a necessarily *G*-equivariant map  $\bar{\sigma} : T \to P$ . The pair  $(T \to X, T \to P)$  defines a unique map  $g : X \to \mathcal{Y}$  factoring  $\mathcal{X} \to \mathcal{Y}$ , as required.

## References

AOV1	[1] Abramovich, Dan; Olsson, Martin; Vistoli, Angelo. Tame stacks in positive
	characteristic. Ann. Inst. Fourier (Grenoble) 58 (2008), no. 4, 1057–1091.
AOV2	[2] Abramovich, Dan; Olsson, Martin; Vistoli, Angelo. Twisted stable maps to
	tame Artin stacks. J. Algebraic Geom. 20 (2011), no. 3, 399–477.
Olsson	[3] Olsson, Martin. Integral models for moduli spaces of G-torsors. Ann. Inst.
	Fourier (Grenoble) 62 (2012), no. 4, 1483–1549.

2