TRANSACTIONS OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 355, Number 3, Pages 1295–1296
S 0002-9947(02)03201-4
Article electronically published on November 7, 2002

ERRATUM TO "SUBGROUP PROPERTIES OF FULLY RESIDUALLY FREE GROUPS"

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Our article [4] contained a number of algorithmic and structural results about finitely generated subgroups of residually free groups. While all the arguments and proofs given in [4] are internally consistent, our results in the most general form relied on Proposition 5.1 of [4], which we attributed to the paper [8] (that is currently in preparation and has an additional author, V. Remeslennikov). Unfortunately, it turns out that Proposition 5.1 is incorrect as stated by us in [4], as was pointed out to the author by Zlil Sela, Mladen Bestvina, Olga Kharlampovich, Alexei Myasnikov and Inna Bumagina after [4] appeared. This mistake was due to a failure of communication and misunderstanding on my part of the results of [8], and I take full responsibility for this event. All the main results of [4], namely Theorems A, B, C, and D, are thus incomplete and should be regarded as conjectures for the moment. It is clear to the author that these statements are in fact correct, but the proofs would require a careful and quite lengthy inductive use of Proposition 5.4 of [4] (that is due to A. Myasnikov and V. Remeslennikov [9]) together with the results of R. Burns [1], [2] and D. Cohen [3], instead of relying on the incorrect Proposition 5.1 as a shortcut.

Nevertheless, all of the proofs given in [4] are correct and complete for the case of *word-hyperbolic* fully residually free groups, since in that case Proposition 5.1 was not needed. Thus what was actually proved in [4] can be summarized in the following:

Theorem 0.1. *Let G be a finitely generated word-hyperbolic fully residually free group. Then:*

(1) *The group G has the Howson property.*
(2) *The group G is locally quasiconvex.*
(3) *If H is a finitely generated subgroup of G containing a nontrivial normal subgroup of G, then H has finite index in G.*
(4) *If H and K are finitely generated subgroups of G such that $[H : H \cap K] < \infty$ and $[K : H \cap K] < \infty$, then $H \cap K$ has finite index in the subgroup generated by $H \cup K$.*
(5) *The group G has solvable uniform membership problem with respect to finitely generated subgroups (this follows directly from part* (1) *and the results of* [5]*).*

Received by the editors August 28, 2002.
2000 *Mathematics Subject Classification.* Primary 20F65.

The author is very grateful to Zlil Sela, Mladen Bestvina, Olga Kharlampovich, Alexei Myasnikov and Inna Bumagina for pointing out that Proposition 5.1 is incorrect as stated in [4].

References

[1] R. G. Burns, *On the finitely generated subgroups of an amalgamated product of two groups,* Trans. Amer. Math. Soc. **169** (1972), 293–306. MR **51:**8260

[2] R. G. Burns, *Finitely generated subgroups of HNN groups,* Canad. J. Math. **25** (1973), 1103–1112. MR **48:**8642

[3] D. Cohen, *Combinatorial group theory: A topological approach,* London Mathematical Society Student Texts, 14; Cambridge University Press, Cambridge, 1989. MR **91d:**20001

[4] I. Kapovich, *Subgroup properties of fully residually free groups*, Trans. Amer. Math. Soc., **354** (2002), 335-362. MR **2002h:**20058

[5] I. Kapovich, *Detecting quasiconvexity: Algorithmic aspects,* in "Geometric and computational perspectives on infinite groups (Minneapolis, MN and New Brunswick, NJ, 1994)", 91–99, DIMACS Ser. Discrete Math. Theoret. Comput. Sci., 25, Amer. Math. Soc., Providence, RI, 1996. MR **97e:**20051

[6] O. Kharlampovich and A. Myasnikov, *Irreducible affine varieties over a free group, I. Irreducibility of quadratic equations and Nullstellensatz,* J. Algebra **200** (1998), no. 2, 472–516. MR **2000b:**20032a

[7] O. Kharlampovich and A. Myasnikov, *Irreducible affine varieties over a free group, II. Systems in triangular quasi-quadratic form and description of residually free groups,* J. Algebra **200** (1998), no. 2, 517–570. MR **2000b:**20032b

[8] A. Myasnikov, *Subgroups of free exponential groups,* City College of CUNY, preprint in preparation.

[9] A. Myasnikov and V. Remeslennikov, *Exponential groups, II. Extensions of centralizers and tensor completion of CSA-groups,* Internat. J. Algebra Comput. **6** (1996), no. 6, 687–711. MR **97j:**20039

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