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CORRIGENDUM TO OUR PAPER "INTERMEDIATE RINGS BETWEEN A LOCAL DOMAIN AND ITS COMPLETION"

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There is an error in Theorem 5.8 of our paper [HRW1]. We would like to thank Sarah Sword for her help in uncovering this error. We have found a correct formulation of the theorem. This has led to our further development of this topic in [HRW2]. Here is the revised statement of Theorem 5.8 of [HRW1] which is proved in [HRW2].

THEOREM. *Let* $(R, \mathbf{m})$ *be a normal excellent local domain and* $y \in \mathbf{m}$. *Suppose that* R^* *is the* y*-adic completion of* R, *that* $\widehat{R}$ *is the* $\mathbf{m}$*-adic completion of* R, *and that* $\tau_1, \dots, \tau_s \in yR^*$ *are algebraically independent over the fraction field of* R. *Then the following statements are equivalent*:

(1) $S := R[\tau_1, \dots, \tau_s]_{(m,\tau_1,\dots,\tau_s)} \hookrightarrow \widehat{R}[1/y]$ *is flat.*
(2) *If* P *is a prime ideal of* S *and* $\widehat{Q}$ *is a prime ideal of* $\widehat{R}$ *minimal over* $P\widehat{R}$ *such that* $y \notin \widehat{Q}$, *then* $\operatorname{ht}(\widehat{Q}) = \operatorname{ht}(P)$.
(3) *If* $\widehat{Q}$ *is a prime ideal of* $\widehat{R}$ *with* $y \notin \widehat{Q}$, *then* $\operatorname{ht}(\widehat{Q}) \geq \operatorname{ht}(\widehat{Q} \cap S)$.

As a corollary to the new theorem we obtain the following corollary in [HRW2].

COROLLARY. *With the notation of Theorem* 5.8, *suppose that* $\widehat{R}[1/y]$ *is flat over* S. *Let* P *be a prime ideal of* S *with* $\operatorname{ht}(P) \geq \dim(R)$. *Then*:

(1) *For every prime ideal* $\widehat{Q}$ *of* $\widehat{R}$ *minimal over* $P\widehat{R}$ *we have* $y \in \widehat{Q}$.
(2) *Some power of* y *is in* $P\widehat{R}_Q$.

Item (1) of the old version of Theorem 5.8 in [HRW1] is the same as item (1) of the theorem above, except that here we have replaced the term "primarily limiting intersection" in the old version by its definition in [HRW1], in order to make this corrigendum more reader-friendly. But the second equivalence in the old version, that states that prime ideals P of S (denoted B_0 in the paper) having height greater than the dimension of R and such that $y \notin P$ have the property that "the extension $P\widehat{R}$ is primary to the maximal ideal of $\widehat{R}$" is incorrect and is close to being vacuous, because, as the corollary above states, for those prime ideals P, some power of y is in $P\widehat{R}$.

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REFERENCES

[HRW1] W. Heinzer, C. Rotthaus and S. Wiegand, *Intermediate rings between a local domain and its completion*, Illinois J. Math. **43** (1999), 19–46.

[HRW2] W. Heinzer, C. Rotthaus and S. Wiegand, *Intermediate rings between a local domain and its completion II*, preprint.

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