J. Math. Kyoto Univ. (JMKYAZ)
11-2 (1971) 377-379

Corrections and supplements to my paper "Differential modules and derivations of complete discrete valuation rings*)

By

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(Received December 7, 1970)

Some errors are found in the above paper. We shall correct them and make some improvements at the same time.

1. Read $\sum_{i=0}^{\infty}$ in *p*. 429, *l*.1 as $\sum_{i=1}^{\infty}$.

2. In the statement of Theorem 2 in *p*. 429 we should make an assumtion that R is of unequal characteristic.

3. Read $\min_{0\leq i\leq e-1}((\varDelta(f_i)+1)e+1)-v(f'(u))$ in the foot note in *p*. 429 as $\min_{0\leq i\leq e-1}((\varDelta(f_i)+1)e+i)-v(f'(u))$.

4. As for the definition of $\varDelta_{K/K^*}(u)$ in *p*. 429, we should state that this number does not depend on the choice of the set of elements $\{a_\iota\}_{\iota\in I}$ contained in P. This can be proved in various ways. For instance, the proof is reached easily if we use Theorem 2 and Proposition 2 and prove that in case $\varDelta_{K/K^*}(u)\geq 0$ we have $\varDelta_{K/K^*}(u) =\min_{\partial} v(\partial u)$, where ∂ runs over $\mathrm{Der}(R, R)$. An alternative and more direct proof is obtained if we restate Neggers' original definition of $\varDelta_{K/K^*}(u)$ without assuming $f(u)$ to be an Eisenstein polynomial, that is, if $f(U)=U^e+b_{e-1}U^{e-1}+\cdots+b_0$, $\varDelta_{K/K^*}(u)$ is defined to be $\min_{0\leq i\leq e-1}(\varDelta(b_i)e+i)-v(f'(u))$. This definition depends only on P and u and it is easy to see that this is equivalent to the previous definition.

5. As for Proposition 9 in *p*. 431, we should have stated the fol-