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# CORRECTION TO "ON APPELGATE-ONISHI'S LEMMA"[1]

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(1) We add Lemma 1.6 after Lemma 1.5.

(2) The proof of Proposition 2.1 should be replaced by the one given here.

We thank Nagata for pointing out an error in our proof of Proposition 2.1; we also owe the present device to him.

**Lemma 1.6.** *Let $f^*$ and $g^*$ be non-constant $(p,q)$-forms of $(p,q)$-degrees $m$ and $n$ respectively and assume that $[f^*,g^*]=0$. Then $m=0$ (this implies necessarily $pq\leq 0$) implies $n=0$ and vice versa.*

**Proof.** Assume that $m=0$. Let $f^*=\sum a_{ij}x^iy^j$ and $g^*=\sum b_{kl}x^ky^l$. Let $x^iy^j$ and $x^ky^l$ be the highest degree terms in $f^*$ and $g^*$ respectively with non-zero coefficients respectively. Then $[f^*,g^*]=0$ implies $il-kj=0$. Since $pi+qj=m=0$ and $pk+ql=n$ we get $ni=nj=0$. By our assumption $f^*$ is not zero. Hence one of $i$ and $j$ is not zero. This implies $n=0$. □

**Proof of Proposition 2.1.** It suffices to prove $t_x(f)>0$. Assume that $t_x(f)=0$. Since $\deg f>1$ there is a direction $(p,q)$ such that (i) at least one point in $S_f$ lies on the line $pX+qY=0$, (ii) $p>0$ and $q<0$ and (iii) $S_f$ lies in the area $pX+qY\leq 0$. Lemma 1.3 shows that $(1,0)\in S_g$. Let $f^*$ and $g^*$ be the leading $(p,q)$-forms of $f$ and $g$ respectively. By our choice of $(p,q)$ we have $d_{p,q}(f^*)=0$ and $d_{p,q}(g^*)\geq p>p+q$. Then by Lemma 1.2 we have $[f^*,g^*]=0$. Since $p>0$ we get a contradiction to Lemma 1.6. □

[1] A. Nowicki and Y. Nakai, On Appelgate-Onishi's lemma, J. Pure Appl. Algebra 51 (1988) 305–310.