Proc. Camb. Phil. Soc. (1973), 74, 199
PCPS 74–25
Printed in Great Britain

CORRIGENDUM

K. SZYMICZEK, *Grothendieck groups of quadratic forms and G-equivalence of fields*

(*Proc. Cambridge Phil. Soc.* **73** (1973), 29–36

Theorem 2 of the paper has been proved under stronger hypotheses than stated explicitly. Denote by $g_2(k)$ the subset $g(k) = k^*/k^{*2}$ represented by the form $(1, 1)$ over k and by $U_2(k)$ the set of equivalence classes of 2-dimensional universal quadratic forms over k. What is really proved is the following.

THEOREM 2. (*a*) *The reality of the field k is invariant under G-equivalence.*

(*b*) *If there exists an isomorphism* $\phi: G(k_1) \to G(k_2)$ *sending* 1-*dimensional quadratic forms over* k_1 *into* 1-*dimensional quadratic forms over* k_2 *then*

(i) *card* $g(k_1) =$ *card* $g(k_2)$,

(ii) *card* $g_2(k_1) =$ *card* $g_2(k_2)$,

(iii) *card* $U_2(k_1) =$ *card* $U_2(k_2)$.

The original argument went wrong in the assumption at the top of page 34 that the dimension-preserving isomorphism ϕ takes 1-dimensional forms into forms, not just elements of G. However, note the following examples of G-equivalent fields showing that card $g(k)$, card $g_2(k)$, card $U_2(k)$ are not G-invariants: $k_1 = \mathbf{Q}_p$ (the p-adic field) with $p = 1 \pmod 4$, and k_2 an algebraic extension of the rationals such that

$$g(k_2) = \{1, 2\} \times \{1, 3\} \times \{1, 17\}$$

(constructed according to Lemma 4). Here in both cases

$$G = \mathbf{Z} \oplus \mathbf{Z}/2\mathbf{Z} \oplus \mathbf{Z}/2\mathbf{Z} \oplus \mathbf{Z}/2\mathbf{Z}$$

and card $g(k)$, card $g_2(k)$, card $U_2(k)$ take the values 4, 4, 1 for $k = k_1$ and 8, 8, 8 for $k = k_2$.