ERRATA

PUBLICATIONES MATHEMATICAE

Tomus 3.

Correction to "Abelian groups in which every serving subgroup is a direct summand" by L. FUCHS, A. KERTÉSZ and T. SZELE, *Publ. Math.*, 3 (1953), 95—105.

L. KULIKOV pointed out in his review (Реф. Журнал, 1955, review 4891) that Theorem 3 of this paper is false and the correct statement may be found in ČERNIKOV's paper Группы с системами дополняемых подгрупп (Докл. АН СССР, 92 (1953), 891—894). Here we give the correction of Theorem 3.

THEOREM 3. *A mixed abelian group G has Property P if and only if G is the direct sum of a torsion group T and a torsion free group F which are of Property P.*

In fact, if G is a mixed group with Property P, then its torsion subgroup T is a serving subgroup and hence a direct summand of G, $G=T+F$. Lemma 1 implies that both T and F have Property P.

Conversely, let G be the direct sum of a torsion group T and a torsion free group F, both of Property P. If H is a serving subgroup of G, then $S=H\cap T$ being the torsion subgroup of H is serving in G and hence serving in T. By hypothesis we obtain $T=S+U$ for some $U\subseteq T$, hence $G=T+F=S+(U+F)$. The latter decomposition applied to H implies $H=S+J$ $(J\subseteq U+F)$, since S lies in H. J is clearly torsion free, hence the second components in the decomposition $U+F$ of the elements of J form a subgroup J' of F which is isomorphic to J; the serving character of H in G implies that of J' in F, whence $F=J'+K$. Now observe that $H\subseteq S+U+J'$, but no subgroup of U belongs to H, so that $H+U=S+U+J'$, thus we obtain $G=T+F=S+U+J'+K=H+(U+K)$, q. e. d.

By the Theorem 1a, 2a and 3 we have that *an abelian group G has the Property P if and only if it is of the form*

$$(*)\qquad G=T+F=\sum_{\nu}\mathfrak{Z}_{\nu}(p_i^{n_i})+\sum_{\mu}R_{\mu},$$

where $n_i=1,2,\ldots,m_i$ or ∞ for some fixed integers m_i and the groups R_μ are isomorphic to some subgroup of the additive group $\mathfrak{R}$ of all rational *numbers such that those R_μ which are isomorphic to proper subgroups of $\mathfrak{R}$ are finite in number and isomorphic to each other.* (Some direct summands may be absent!)

We are indebted to VLASTIMIL DLAB for the following remark:

Every serving subgroup H of G is isomorphic to the direct sum of some direct summands from the mentioned decomposition ($*$).

This is indeed an easy consequence of some theorems concerning isomorphisms of direct decompositions of abelian groups.

S. 123, Z. 3 *von unten*
statt (2′) lösbar *lies* (2′) nur dann lösbar

S. 125, Z. 10 *von unten*
statt (3) *lies* (3′)

S. 126, Z. 5 *von oben*
Z. 17 *von oben*
Z. 10 *von unten*
statt (3) *lies* (3′)

S. 128, Z. 9 *von oben*
Z. 11 *von oben*
Z. 16 *von oben*
Z. 19 *von oben*
statt (1) *lies* (4)

p. 218, *line* 14 *from below*
replace $\mathbf{f}(\gamma, \theta) = 0$ and $\theta \in \Phi(\gamma; \mathbf{f})$ *by* $\mathbf{f}(\gamma, \vartheta) = 0$ and $\vartheta \in \Phi(\gamma; \mathbf{f})$

p. 219, *line* 10 *from below*
replace $\xi \in \Phi(\eta; \mathbf{f}) = \Pi(\alpha)$ *by* $\xi \in \Psi(\eta; \mathbf{f}) = \Pi(\alpha)$
line 3 *from below*
replace $\mathbf{k}(\alpha \cdot \beta) = 1$ *if* $\mathfrak{k}(\alpha) \leqq \beta$ *by* $\mathbf{k}(\alpha, \beta) = 1$ *if* $\mathfrak{k}(\alpha) \not\leqq \beta$.

p. 269, *line* 3 *from below*
replace $X \cap (T - Y) + (T - X) \cap Y$. *by* $X \cap (T - Y) \cup (T - X) \cap Y$.
line 1 *from below*
replace $X - Y \in I$. *by* $X \dot{-} Y \in I$.

S. 299, Z. 17 *von oben*
statt a) und c), als *lies* a) als.