Journal of the Mathematicl Society of Japan Vol. 3, No. 2, December 1951.

Corrections to my Paper: On Some Properties of a Topological Group

Yukiyosi KAWADA

(Received Oct. 30, 1951)

The following corrections should be made in my paper which appeared in Vol. 1. No, 4 (1950) of this Journal.[1)]

We shall call a connected and locally connected topological group G *weakly simply connected* if G has no proper covering groups.

(1) Theorem 1 on page 204 should be replaced by the following:

THEOREM 1. *A necessary and sufficient condition that a conn. and l.c. topological group G be weakly simply connected is that $G \cong Gr(U)$ holds for every conn. neighbourhood $U = U^{-1}$ of the unit element of G.*

The proof follows from Lemmas 1 and 2. The proof of Theorem 2 is valid if we take as $V(e,x) = U_0$ (the simply connected neighbourhood of the unit element) for every element $x \in G$. From Theorem 2 follows

COROLLARY. *If a conn., l.c. and weakly simply connected topological group G is locally simply connected, then G is simply connected.*

(2) Change the words 'simply connected' by 'weakly simply connected' in page 207, line 9, page 208, line 8 and page 209, line 25.

Tokyo University

1) Prof. T. Ganea has kindly pointed me out the mistake in my paper, i.e., the statement of Theorem 1 is false. Cf. his forthcoming paper "Du prolongement des représentations locales des groupes topologiques" (Acta Sci. Math. Szeged). There exists a counter example for Theorem 1, i.e., a connected and locally connected topological group which is not simply connected and has no proper covering group. Cf. F. B. Jones, Bull. Amer. Math. Soc., 48(1942), p. 119, Property 7. The argument in my paper page 206, line 12 is false, because the properties of the neighbourhood U_0 there defined can be applied only for the two extremal chains C_0 and C_1, and cannot be applied for the intermediate chains. The author wishes to express here his thanks for Prof. T. Ganea.