A SECOND CORRECTION

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In my paper in the present volume these Transactions (vol. 35, pp. 274–304 and 557–558), the Example 5 on page 304 is erroneous and Postulate 5 on page 301 is redundant. That is, Postulates 1, 2, 3, 4, 6, 7 (without 5) form a set of independent postulates for the "informal" system of *Principia Mathematica*.

The proof of 5 from 1, 2, 3, 4, 6, 7 is as follows.*

6a. If \( a + b \) is in \( T \) and \( a \) not in \( T \), then \( b \) is in \( T \). (From 6.)
6b. If \( a \) not in \( T \) and \( b \) not in \( T \), then \( a + b \) not in \( T \). (From 6.)
7a. If \( a \) is in \( T \), then \( a' \) is not in \( T \). (From 7.)
3a. If \( b \) is in \( T \), then \( a + b \) is in \( T \).

For, by 7a, \( b' \) is not in \( T \). But by 3, \( b' + (a + b) \) is in \( T \). Hence by 6a, \( a + b \) is in \( T \).

4a. If \( b \) is in \( T \), then \( b + a \) is in \( T \).

For, by 3a, \( a + b \) is in \( T \), whence by 7a, \( (a + b)' \) is not in \( T \). But by 4, \( (a + b)' + (b + a) \) is in \( T \). Hence by 6a, \( b + a \) is in \( T \).

5a. If \( a \) is not in \( T \), then \( a' \) is in \( T \).

For, suppose \( a' \) not in \( T \). Then by 6b, \( a' + a \) not in \( T \), whence by 6b, \( a' + (a' + a) \) not in \( T \), contrary to 3.

5. If \( a, b, etc. \) are in \( K \), then \( (b' + c)' + [(a + b)' + (a + c)] \) is in \( T \).

*Case 1: \( a \) in \( T \). By 4a, \( a + c \) is in \( T \). Hence the theorem, by 3a (twice).

*Case 2: \( b \) in \( T \). By 7a, \( b' \) is not in \( T \). If \( c \) is in \( T \), then by 3a, \( a + c \) is in \( T \), whence the theorem, by 3a (twice). If \( c \) is not in \( T \), then by 6b, \( b' + c \) is not in \( T \), whence by 5a, \( (b' + c)' \) is in \( T \), whence the theorem, by 4a.

*Case 3: \( a \) not in \( T \) and \( b \) not in \( T \). By 6b, \( a + b \) not in \( T \), whence by 5a, \( (a + b)' \) is in \( T \). Hence the theorem, by 4a and 3a.

The proof is thus complete. It can also be shown that 1, 2, 3a, 4a, 5a, 6a, 7 form a set of independent postulates equivalent to the set 1, 2, 3, 4, 6, 7.

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