Proceedings of the Edinburgh Mathematical Society (1984) **27**, 151 ©

A NOTE ON LEFT BIPOTENT NEAR-RINGS

by C. V. L. N. MURTY

(Received 23rd August 1983)

In this note it is shown that Theorem 2.8 of [**2**] is erroneous. Throughout this note near-ring means a right near-ring.

Example. Let $N=\{0,1,2,3,4,5\}$ be the additive group of integers modulo 6. Define multiplication in N as follows:

$\cdot$	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	1	4	3	4	1
2	0	2	2	0	2	2
3	0	3	0	3	0	3
4	0	4	4	0	4	4
5	0	5	2	3	2	5

Then N is a finite near-ring with $a^2=a$ for all a in N (see Clay [**1**]). Clearly N is a left bipotent S-near-ring and 3 is a nonzero left distributive element of N. Here $N_1=\{0,3\}$ and $N_2=\{0,2,4\}$ are the only nontrivial subgroups of $(N,+)$. Further $N=N_1\oplus N_2$. Clearly N_1 is a near-field. But N_2 is not a near-field since N_2 contains no identity. Thus in this case Theorem 2.8 II of [**2**] fails.

However if we take the "left identity" instead of "a nonzero distributive element" in Theorem 2.8 II of [**2**], then the proof is valid.

Acknowledgement. I wish to thank my Research Director Dr Y. V. Reddy for his valuable guidance. Also I wish to express thanks to C.S.I.R. New Delhi for giving me financial assistance.

REFERENCES

1. J. R. Clay, The near-rings on groups of low order, *Math. Z.* **104** (1968), 364–371.

2. J. L. Jat and S. C. Choudhary, On left bipotent near-rings, *Proc. Edinburgh Math. Soc.* **22** (1979), 99–107.

Department of Mathematics
Nagarjuna University
Nagarjunanagar-522 510
A.P. India