

NOTES.

Section 1. Concerning bounded generators of positive semigroups and the positive minimum principle we refer to the corresponding notes in Chapter C-II.

Theorem 1.6 and 1.8 are due to Arendt-Chernoff-Kato (1982), but we give a more direct proof here. Theorem 1.13 and its corollary are from the same source.

In the case when A is dissipative Theorem 1.20 is due to Dorroh (1966). We use precisely Dorroh's arguments to verify the range condition. Other extensions of Dorroh's result have been given by Lumer (1974) and Lumer (1975).

Section 2. A characterization of generators of lattice semigroups by Kato's equality is due to Nagel-Uhlig (1981) if the underlying space has order continuous norm (see C-II, Sec.5), for general Banach spaces and $C(X)$ in particular the problem has been considered in Arendt (1982). Theorem 2.10 is due to Uhlig (1979).

Section 3. The characterization of generators of lattice semigroups as perturbation of a derivation (Theorem 3.5 and 3.6) is due to Derndinger-Nagel (1979). The corresponding result for positive groups on $C(X)$ (Theorem 3.14) was obtained by Arendt-Greiner (1984). Lin-Montgomery-Sine (1977) consider multiplicative perturbations of a generator of an automorphism group on $C(K)$ (K compact) by a function m which has a finite number of zeros. The function m is assumed to satisfy the "generalized Osgood condition" which is similar to being admissible (in our sense) but in addition the given flow is involved in the definition.

Batty (1981) determined all densely defined derivations δ on $C[0,1]$ which are well-behaved (i.e., $\pm\delta$ is dispersive) by a representation similar to Theorem 3.24. In contrast to Batty, here we assume that δ is the generator of a group. This simplifies the matter considerably since all continuous flows on an interval are easy to determine (Prop. 3.21). Our approach is inspired by deLaubenfels (1984) to whom Theorem 3.24 is due.

For simplicity we confined ourselves to groups. Uhlig (1979) determined all semiflows on an interval.

In the sequel of Batty's work (loc.cit.) a characterization of all densely defined closed derivations on $C[0,1]$ has been obtained by Kurose in a series of papers (1981), (1982), (1983).