1090-06-46 **Clifford Bergman*** (cbergman@iastate.edu), Department of Mathematics, Ames, IA 50011.
Boolean Semilattices. Preliminary report.

Let $\mathbf{S} = \langle S, \cdot \rangle$ be a semilattice. The *complex algebra of* $\mathbf{S}$ is the algebra $\mathbf{S}^+ = \langle P(S), \cap, \cup, ', S, \cdot \rangle$ which is the Boolean algebra of all subsets of S augmented with the complex operation given by $X \cdot Y = \{\, x \cdot y : x \in X, y \in Y \,\}$. The variety of *Boolean semilattices* is generated by all such complex algebras.

The variety of Boolean semilattices is a very rich one, with an interesting arithmetic, many subvarieties and, of course, many open problems. In particular, it is unknown whether the variety is finitely based. In this talk I will survey what little we know about this variety and discuss some of the open problems. (Received January 28, 2013)