Orthonearsemilattices: examples and some structure theorems

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A *nearsemilattice* is a poset in which every finite poset bounded above has a least upper bound (in particular, there is the least element 0). An *orthogonality* on it is any relation $\perp$ satisfying the conditions

- if $x \perp y$, then $y \perp x$,
- if $x \leq y$ and $y \perp z$, then $x \perp z$,
- $x \perp 0$,
- if $x \perp y$, then $x \vee y$ exists.

The subject of the talk is nearsemilattices with orthogonality such that

- if $x \leq y$, then $y = x \vee z$ for some z with $x \perp z$,
- if $x \perp y$, $x \perp z$ and $x \vee y = x \vee z$, then $y = z$,

which are called *orthonearsemilattices*.