1145-03-1238   **Ethan Brauer*** (`eebrauer@gmail.com`), 350 University Hall, 230 N. Oval Mall, Columbus, OH
43210. *Relevance and the perfect sequents of classical logic.*
Relevance logics are typically offered as alternatives to classical logic on the assumption that there is no place for studying relevance in classical logic. I argue that this assumption is mistaken. There is a coherent and robust notion of relevance that has a place in the study of classical logic: the ideal of relevance is best embodied by the so-called *perfect sequents*—sequents that are valid but have no valid proper subsequents. In this talk I address two questions: What syntactic properties do perfect sequents have? Are there fragments of classical logic that prove only perfect sequents?

In response to the first question I establish a strong variable-sharing property for the perfect sequents. Concerning the second question, I consider a modification of LK that restricts initial sequents to be of the form $P \Rightarrow P$, for P atomic, and has no rules of cut or weakening. This system is shown to be sound, complete, and cut-admissible with respect to the class of perfect sequents whose logical vocabulary is among $\forall, \exists$ and at most one of $\neg, \vee, \wedge$ (in the fragment based on $\wedge$, the completeness result only holds in the restricted form: if $\Delta \vdash \phi$ is perfect, then $\bigwedge \Delta \Rightarrow \phi$ is provable). (Received September 20, 2018)