PHI 340

Things to read over next two weeks (Dec 6 to Dec 18):

1. Possibilities and Paradox, Chap 7 (pp 105–118)

2. Handout I'm giving you today (also online)

3. Logical Pluralism, Chap 5 (pp 49–60)

4. Edwin Mares and Robert K. Meyers, "Relevant Logics" (online)

5. John Burgess, "No requirement of relevance" (online)

Homework (to be supplemented over the next week):

1. P and P, page 118, numbers 3.1 through 3.5 (recall that $\supset$ is defined on page 117 in terms of $\vee$ and $\sim$)

2. Prove the following in the natural deduction system for **R**.

   (a) Weak Reductio
   $$\vdash (P \to \neg P) \to \neg P$$

   (b) Reductio
   $$\vdash (\neg P \to P) \to P$$

   (c) Mixing
   $$\{P \to R, \neg Q \to R\} \vdash (Q \to P) \to R$$

   (d) Dichotomy
   $$\vdash (\neg P \to Q) \to [(P \to Q) \to Q]$$

3. Show that the following are *not* valid for **RM**. (Recall that $\top$ is an abbreviation for any $Q \vee \neg Q$, and $\bot$ is an abbreviation for $Q \wedge \neg Q$.)

   (a) Bottom (EFQ)
   $$\vdash \bot \to P$$

(b) Top

$$\vdash P \rightarrow \top$$

Is $\top$ a tautology of **RM**? What are the key features of the semantics of **RM** that enables the sentences above to be assigned non-designated values?