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## More translation exercises

1. Translate into  $\mathfrak{L}_M$ .
  - (a) If the barometer shows 800 mb then it must be broken.
  - (b) The precession of Mercury's perihelion is incompatible with Newton's laws.
  - (c) It's possible that if you ask for an extension they will say no.
  - (d) I can't see you.
  - (e) If you can walk you can dance.
  - (f) You can use the 47 bus, but then you have to change at Waverley.
  - (g) You need a special visa to enter Kamtchatka.
2. Translate into the language of multi-modal epistemic logic.
  - (a) Jones knows that I know that he is in Paris.
  - (b) For all I know, Jones might be in Paris.
  - (c) If Jones is late then I know why: he tried to take the bus.
  - (d) I don't know if you know that I didn't really know what I said I knew.
3. Translate into a multi-modal language with both temporal and modal operators.
  - (a) It might have started to rain.
  - (b) If it has started to rain then it must at some point stop.
  - (c) If it hasn't rained then the street can't be wet.
  - (d) When I saw the clouds I was sure that it was going to rain.