Hugh Mellor: 'Causes & Effects Are Facts'
Notes

1. Topic:
  Singular causation (Fred's smoking caused his cancer); *not* general causation (smoking causes cancer)

2. Assumption:
  Causation is *contingent*: sufficient causes don't entail their effects; causation can be indeterministic.

3. Target: singular causes *c* and effects *e* are '*events*':
  (i) particulars; (ii) things with properties; (iii) changes in things; or (iv) tropes (property instances).

4. Assumptions about target:
  (i) Causes *c* and effects *e* are non-abstract empirical entities, with limited locations in space and time.
  (ii) All singular causation is statable in '*c* causes *e*' format.

5. Implications of assumptions:
  (i) '*c* causes *e*' entails that *c* and *e exist* in the actual world.
  (ii) '*c* causes *e*' is *transparent*. E.g.
      '*Caesar's stabbing caused his death*',
      'Caesar's stabbing = the stabbing in the Theatre of Pompey on the Ides of March', and
      'Caesar was Rome's Dictator' entail
      '*The stabbing in the Theatre of Pompey on the Ides of March caused the death of Rome's Dictator*'.

6. Case against '*c* causes *e*': (i) '*c* affects *e*':
  Fred's injection caused his death *to be painless*; Fred's injection didn't cause his *death*.
  So Fred's painless death ≠ Fred's death.

7. Case against '*c* causes *e*': (ii) *identities* as causes or effects:
  Causes: JFK's being US President *caused* him to be shot;
      JFK's being Joseph Kennedy's second son *didn't* cause him to be shot.
  Effects: Trump's winning the 2020 election *would* cause Trump to be the 2021 US President;
      Trump's winning the 2020 election *wouldn't* cause Trump to be Trump.

8. Case against '*c* causes *e*': (iii) *inactions* and other *non-events*:
  Fred's *not* being injected caused him to die painfully; Fred's operation caused him *not* to die of cancer.

9. 'Q because P' format:
  'Q because P' entails 'P' and 'Q': i.e. causes and effects are *facts* in the innocuous sense that
      It's a *fact* that P if and only if 'P' is *true*.

10. Objection (i) to 'Q because P': it *doesn't entail that explanation is causal.*
  Reply: (a) 'Q because P' is causal if it's shorthand for 'P's being the case causes Q to be the case';
      (b) 'Q because P' shows that causes *explain* effects, but (since it's asymmetrical) not *vice versa*.

11. Objection (ii) to 'Q because P': P and Q *facts have no spacetime locations*.
  Tenseless and non-indexical 'P' and 'Q' are true everywhere and always.
  Reply: location is in *content*: 'Trump is <u>US</u> President in <u>2021</u> because he won <u>2020</u> <u>US</u> election';
      'JFK was shot because he was [*already*] US President'; 'Caesar died because he was stabbed [*earlier*]'.

12. Case for 'Q because P': (i) implied by principal theories of causation.
  Theories: (a) *covering law*, (b) *counterfactual*, and (c) *probabilistic*:
  (a) '*Gx* because *Fx*' = 'All *F*s are *G*s' – *sufficient* causation;
  (b) '*Gx* because *Fx*' = 'If *x* wasn't *G* it wouldn't be *F*' – *necessary* causation;
  (c) '*Gx* because *Fx*' = 'If *Fx* then $ch(Gx)=p$ [& if $\neg Fx$ then $ch(Gx)<p$] & $Fx \wedge Gx$' – *chancy* causation.

13. Case for 'Q because P': (ii) can express *causing/affecting* distinction
  Fred *dies* because *he has cancer*; Fred *dies painlessly* because *he's given a painkilling injection*.
  'Fred dies painlessly' ⊨ 'Fred dies'.

14. **Case for 'Q because P': (iii) can express *identity* causes and effects:**
    'Trump is the 2021 US President because he wins the 2020 election' *doesn't* entail
    'Trump is Trump because he wins the 2020 election'.
    'JFK was shot because he was US president' & 'JFK was Joseph Kennedy's second son' *don't* entail
    'JFK was shot because he was Joseph Kennedy's second son'.

15. **Case for 'Q because P': (iv) can express causation by and of *non-event*s and *inactions*:**
    Fred dies in pain because he *doesn't* get painkiller; Fred *doesn't* die of cancer because he has operation.

16. **Case for 'Q because P': (v) facts have negations:**
    Facts: 'Fred doesn't die' ⊨ 'Fred doesn't die *painlessly* & Fred doesn't die *painfully*'.
    Events: Fred's non-death would have to be both *painless* and *painful*.

17. **Transparency:**
    Caesar died because he was stabbed & there was a stabbing of Caesar & there was a death of Caesar: so
        Caesar's stabbing caused his death.
    Caesar's stabbing = the stabbing in the Theatre of Pompey & Caesar's death = the Dictator's death: so
        The stabbing in the Theatre of Pompey caused the Dictator's death.

18. **Opacity:**
    'Q because P' can be opaque because it's not a *complete* truth function of 'P' and 'Q'.

19. **Opaque causation of action:**
    Caesar is *both* Calpurnia's husband *and* the would-be Emperor.
    Brutus *believes* that Caesar is Calpurnia's husband & that Caesar is the would-be Emperor.
    'Brutus stabs Caesar because he believes Caesar is the would-be Emperor' is *true*;
    'Brutus stabs Caesar because he believes Caesar is Calpurnia's husband' is *false*.

20. **Ontological postscript (i) non-maximalist truthmaking:**
    Only *some* 'primary' truths have non-propositional truthmakers, which include:
        things having *natural properties* (and relations), *events* having *durations*; spacetime *regions'* curvatures.
    Complete truth functions of primary propositions, including
        negations, *disjunctions*, *conjunctions*
    don't need their own [non-propositional] truthmakers to make them true: e.g.
        if a primary 'V' is false, '¬V' is made true by the *non*-existence of 'V's truthmaker.

21. **Ontological postscript (ii) 'Q because P' 's truthmakers (TMs):**
    'Q because P' entails 'P' and 'Q', which may or may not need truthmakers.
    'Q because P' *isn't* a complete truth function of 'P' and 'Q', so it *does* need a truthmaker.

    '*o* accelerates at A m/sec^2 because F Newtons is applied': TM is *o*'s having mass $M=F/A$ kg.
    '*o doesn't* accelerate because *no* force is applied': TM is *o*'s having *a* mass.

    'Salt dissolves because it's immersed in water': TM is salt's properties that dispose it to dissolve in water.
    'Salt *doesn't* dissolve, because it's *not* in water': TM is salt's properties that dispose it *not* to 'dissolve' in air.