Cryptic Cross-product
A cryptic with a mathematical theme


## Across

1 Spin doctor: "Yes to tram disaster helps us get closer to god" $(6,3)$

6 Note: Christmas lecture sponsors brush hair; it can be committed to memory (11)

12 Ordinary marriage holds less before reaching aluminium (13)

## Down

1 Alternate operations symbolically give and take $(4,2,5)$

2 Sort of group younger brother with another bloke (Stewart, perhaps?) (7)

13 Probability student gets closer; they wish to join fraternity ... (7)

14 ... else one drink is where it all starts (6)

15 Update journalist's computers (4)
16 Scarcely used opening narration in good time novel $(6,3)$

18 E.g. 1D, done without leaving a 31 $(6,10)$

20 Foremost searchers excitedly trawling infinity (4)

22 Falls back in tar again (7)
24 Looking for unusually thin gnu (7)
26 Leaderless paper edition (5)
27 Throw small drinks as weapons (10)

29 Post-pub, our father's wasted (5-5)
32 3, 7 and 41 are excellent examples (5)

33 Californian home for Pierre? (7)
34 Whole number briefly leads to pains in ears, points of entry (7)

36 Put out by time travel (4)
37 Amend, or rue if change leads to a complex breakdown $(7,9)$

41 Carnival captures strange emu at Central American republic (9)

42 Bound to be equal (4)
44 Seers I confounded, one after another (6)

46 Reverse social payment for French friend's folding (7)

47 Filth in tantra I've rewritten is characterised by flexibility (13)

3 English, Greek character and Russian transport Mexican parcel (9)

4 Morphisms reverse unwanted messages (4)
5 Thora's first and last ordinal (5)
6 Tiny appendage found on face $(6,4)$

7 Two girls, briefly muddled up (7)
8 Rational representation of salesman consuming reheated deli mac $(9,7)$

9 Observe setter's embracing student - it's all good and proper (6)

10 Fortune of first-timer when kennel's big cur runs wild $(9,4)$
11 Euler's constant whistler improvised once (9)
17 Tried a White House beer at one point. Really enjoyed it! (3,1,5,2,1,4)

19 Old architect's companion resistance unit travelling north together (7)
21 We hear you search for faith (4)
23 American, Cuban leaders' IDs not sent, putting an end to neutrality (13)

25 Fashionably spotty vocalisation to alter pitch (7)

28 Euclid or Pythagoras right out, poindexter! (4)
30 Oil producers' opening instruction provides initial capital $(6,5)$
31 Physical evidence of wrongdoing on publication track $(5,5)$

48 Irrational hatred in punitive system with five sides (11)

49 Team's Spanish refreshments (9)

32 Members of the upper house? They're all as bad as each other! $(4,5)$

35 Firm up damaged stelae, they'll fit together nicely (9)
38 About thespian's breakdown chamber (7)

39 Up to half of Oops! I Did It Again ruined by narcotics (7)

40 Southern area will regularly unnerve Lovelace (6)

43 Make certain there's no robbery lead to follow (5)

45 Platonic beginnings can ultimately become exciting (4)

