first, a quick review/clarification...

(1)  a. “Hi,” said Mary.
    b. *“Hi,” will [Mary] say.
    c. **“Hi,” will say Mary.

We know what’s wrong with (1b): Mary blocks Selectional Contiguity between the heads on either side of her in the clausal spine.

Why don’t we Rotate Mary, giving (1c)? “Mary is selfish.” But...

(2)  a. *Mary will [more quickly than I will] solve the problem.
    b. Mary will solve the problem [more quickly than I will]

proposal about (2): the AdvP more quickly than I will blocks Selectional Contiguity in (2a), and Rotates to fix the problem in (2b).

wait a minute...

(3) Hippocratic Altruism

No operation can affect α if the only effect of the operation on α is to alter α’s position in a way that might disrupt a Contiguity relation in which α participates.

In (1), Mary is in Contiguity relations; maybe Selectional Contiguity with v, and Probe-Goal Contiguity with T. So Hippocratic Altruism makes Mary selfish, and unwilling to move for the sake of creating Selectional Contiguity between the heads around her.

On the other hand, in (2), the AdvP isn’t selected, and it isn’t in any Probe-Goal relations—so it can Rotate (untether/retether) out of the way.

1. QR and Extraposition

Williams (1974), Fox and Nissenbaum (1999), Fox (2017):
  extraposition affects quantifier scope.

(4)  a. I read a book before you did. \( (\exists \rightarrow \text{before}, \text{before} \rightarrow \exists) \)
    b. I read [a book that John had recommended] [before you did] \( (\exists \rightarrow \text{before}, \text{before} \rightarrow \exists) \)
    c. I read [a book] [before you did] [that John had recommended] \( (\exists \rightarrow \text{before}, *\text{before} \rightarrow \exists) \)
This account derives the connection between quantifier scope and extraposition ((4c)): extraposition demonstrates that QR has taken place.

But why is QR to the right?

2. Semantically driven movement and Contiguity Theory

We have been talking just about movement operations that are driven by needs on the PF side. But presumably there are also needs on the LF side...

What would Contiguity Theory predict about a direct object that moves, for LF-related reasons, to the position that Fox and Nissenbaum posit?

(6)

starting point. *yesterday* has helpfully Rotated out from between *v* and *V*, because it has no Contiguity relationships to worry about, so it can be Hippocratically Altruistic.
The higher copy of a book that John had recommended is still blocking Selectional Contiguity between T and v. And recall that this DP has no phonological reason to be where it is: it was raised for LF reasons, not to create Contiguity or Affix Support. So what should this DP do?

So now the chain headed by a book that John had recommended occupies two positions in the tree. Where should we pronounce it?

The lower member of the chain is in a Contiguity relation…but the higher member is outside the Spellout domain in which that Contiguity relation was created. So neither pronunciation would result in the vP Spellout being sent to PF with a broken Contiguity relation. Maybe pronouncing the higher copy is what heavy NP shift looks like?

And maybe there’s a third option. It’s specifically D, maybe, that’s in a Probe-Goal Contiguity relation with v’. So there is some motivation to pronounce the low copy of D. And having decided to pronounce the low copy of D, there’s a reason to pronounce the low copy of N (because it’s selected by D, so they’re in a Selectional Contiguity relation). But that relative clause…

So maybe you ought to be able to pick randomly where to pronounce the relative clause, even if you decide to pronounce a book in the lower position. That’s how extraposition works.

One correct prediction:

(7)  
a. I met [a man with one eye] yesterday.
  b. I met [a man] yesterday [with one eye]
  c. * I met [a man with] yesterday [one eye]

Extraposition can’t strand prepositions…which is striking, since English is usually pretty relaxed about stranding prepositions. But the pattern in (7) is the one we expect. Even if you decide to pronounce a man in its base position, you can randomly choose where to pronounce with, since the PP is an adjunct. But once you’ve decided where to pronounce it, it’s in a Probe-Goal Contiguity relation with the object: you have to pronounce the object with with.

We also expect not to get this kind of thing in SOV languages. Not clear if that’s true…

But anyway, here’s one way of handling one kind of rightward movement. Lots to work out.

1 Wait, didn’t I say that Probe-Goal relations were with phrases? Yes, I did. Maybe I shouldn’t have.
References

Fox, Danny. 2017. Embedded Late Merge and the theory of displacement. ms., MIT.