

## Implementation questions:

- how do you know when a neutral sim is "at" equilibrium? for now, reasonable to select a mb of thumbs up.  
I also think neutral situations are (relatively) computationally cheap.
- what is a reasonable starting range for mutation and  $N_0$ ?

These both probably  $\rightsquigarrow$  experimentation to gauge where  $S_0$  tends to land for values of  $N_0$ ; also perhaps tether to semi-realistic ranges for community size.

$\rightarrow$  start w/ range of known FS sampleability ( $N_0$ )

$\rightarrow$  run neutral sims to see where ~~if~~  $S_0$  tends to land after how long

(this might be most if VNTB  $\not\rightarrow$  same it's just time? but I don't think that's the case.)

## Neutral sims commentary 2/9

What do we learn / how do we interpret it?  $\frac{?}{\#}$

Something like, simply introducing a birth / death process  $\rightsquigarrow$  something different from a pure statistical null.

There are of course opportunities to get more complicated but you have to start somewhere.

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Starting from where I left off a couple days ago, the next identified step is to generate SADs for these  $f \times n$ 's using unts

→ unts: expected abundance fails for even medium  $f$ .

→ So I see 2 alternatives:

- work somehow w/ Fisher's  $\alpha$  but that is derived from  $S \propto N$ ,  
→ (OK how strongly I rest on this parametrization (derived from hubbell))
- mn sims.

My bias was to hop over to  $\alpha$ 's but now I'm feeling like it's worth working from the Fisher logseries. The Fisher logseries is, I think, different from the METE logseries.

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until: fisher-ecosystem  $\rightsquigarrow$  draws from a fisher "ecosystem"; given  $S$  and  $N$ .

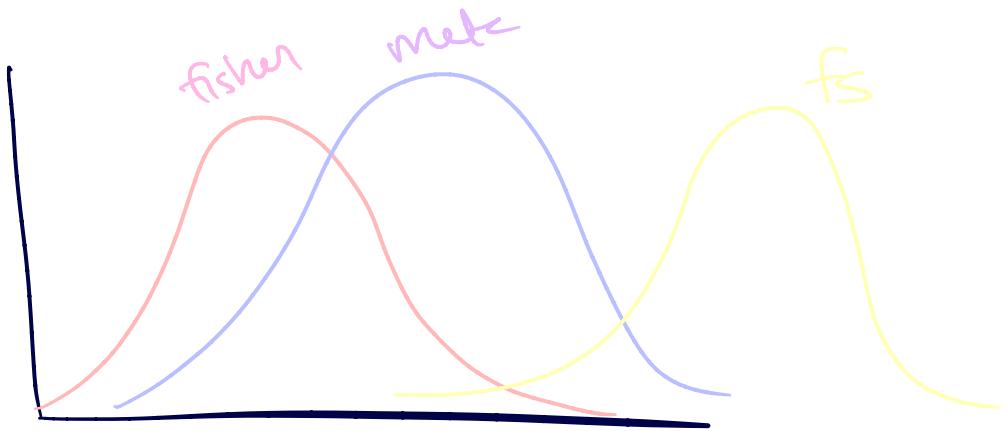
This is a multi-step distance from until ( $J, \nu$ ) so there's that.

But anyway the Fisher draws don't give ubiquitously precise  $S$  &  $N$ .

So I'm wondering about how best to make a comparison to the feasible set or METE.

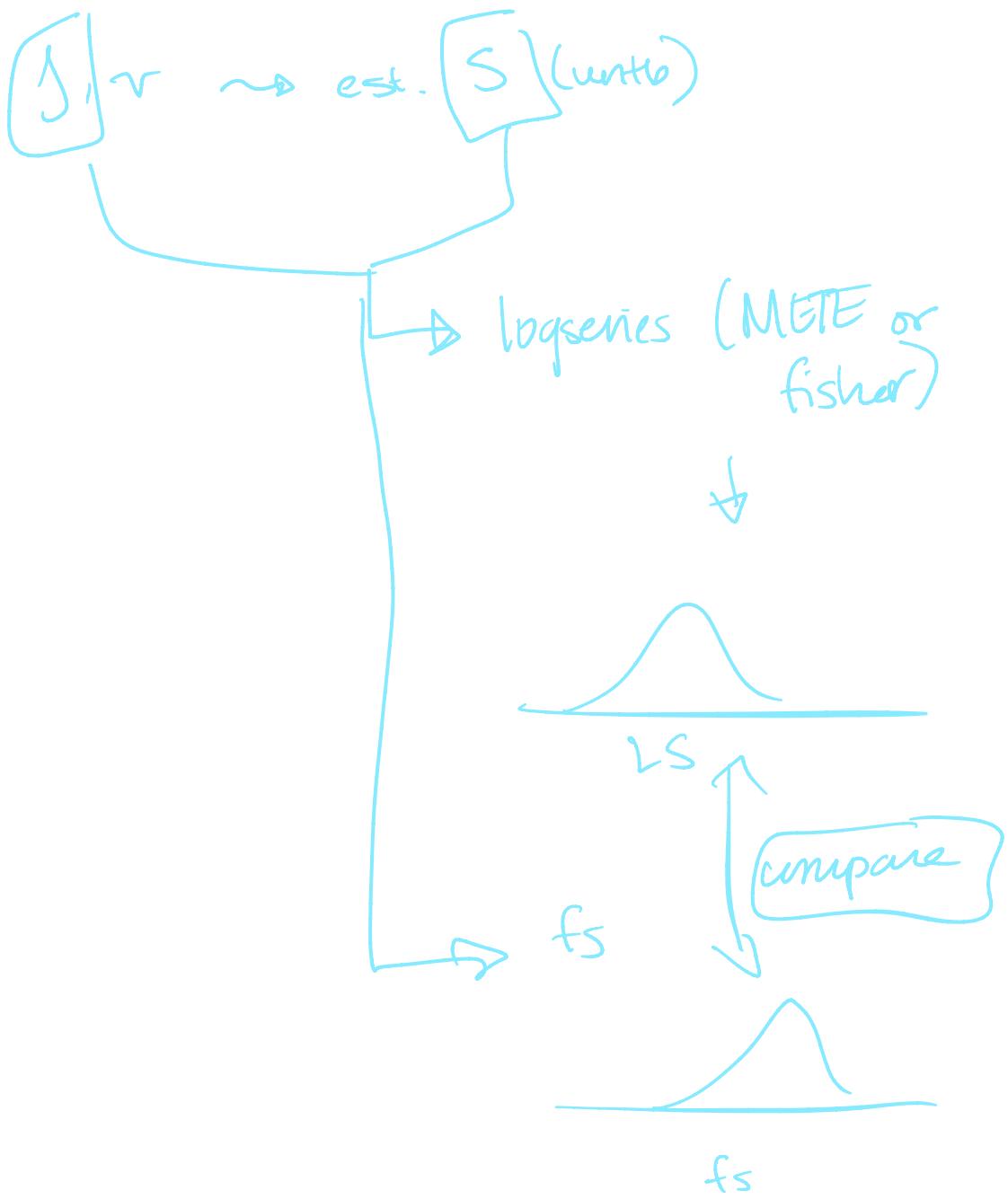
The temptation - which would be vastly computationally faster; but feels like I'd want to vet it or something - is to accept that  $S \& N$  will vary & focus on the summary statistics.

So for example...



enness (or a hill but hill R  
can be kind of  
counterintuitive)

(but I'm still not sure if METE == fisher)  
(→ it does indeed.)



IIRC Mete comes closer to emp than  
FS does?

This also // ideas that come from the  
old Xiao/Rom papers

Questions around sampling

How often has it been said in the lit  
that we should be getting curious about  
where S comes from?

(Maybe DYNAMITE?)

↳ kind of.