(1) Make sure the order is logical; make sure each sentence is clear. E.g., underlined sentence is very unclear: if neurons are indep., why would single-neuron coding depend on population size ?!

(2) Explain better the differences: irregular tuning curves; deeper layer. (Not "usually"!)

(3) This is true for all of population coding; not clear what you want to say.

(4) Strictly, it is always 1d; has to be explained better,

(5) This is not what they say.

(6) Meaning not clear.

(7) They didn't invent Gaussian manifolds!

(8) Very opaque.

(9) Gaussian manifold can be defined with arbitrary auto-correlation function, so not clear what your statement is.

(10) This first sub-section is about 2 different things, which are weirdly combined:
(a) coding with tuning curves;
(b) statistics of population respons.

It should be $\underline{\underline{2}}$ sub-sections, and each should be very clear about the relation of our work to past work discussed.

(11) State that grid cells is a <u>particular</u> realization of a more general idea, as illustrated by our work & as shown long ago by Shannon. Stress that Shannon was concerned with coding a <u>continuous</u> signal. Stress that he allowed if to be mapped to <u>higher</u> dim. Show diagram adapted from Shannon's paper.

(12) Be more explicit about Shannon's random code, and say what more we do here.

(13) Not clear what Abbott did. Connection continuous $\Longleftrightarrow$ discrete not clear. This maybe fits better with earlier passage where you say that the population activity as a whole is doing the encoding.

(14) Afou call this sub-section "combinatorial codes" but you never define what it means — in fact, you don't talk once about "combinatorial code" in the entire sub-section!

(15) Intuition is that mixed selectivity comes from combined 'pure' inputs, i.e., compression. Why expansion ?!

(16) Impossible to understand. Not even clear what is "representations of input patterns"!

(17) A Discussion is not a list of references! This is how this paragraph reads, and it is not clear why it's relevant to our work.

(18) Two remarks:

(a) No apparent connection between 1st sentence & the rest.

(b) Should draw analogy bet. compressed sensing & our network:

$$\text{low-D / sparse} \longrightarrow \text{High-D} \longrightarrow \text{recovery by random projections}$$

Also, I don't know if discussing compressed sensing fits with a discussion on expansion/compression in neural systems.

(19) Which framework? Applied how? With what results? Connection with our work?

(20) All the CS discussion should appear together; too much back-and-forth. Also, I'm not sure that this is a real distinction because high-dim. signals are sparse.

(21) Way too naïve given neurobiological knowledge!

(22) Why is this needed, since we never discuss the Fisher information?

(23) Say that even though we assumed ideal decoder, it is not in principle a limitation as can be implemented in network.

(24) Be clearer.

(25) Very nice connection, but needs to be unpacked / explained more.