READING QUESTIONS 4 MARCH

Hi Iva! This week, I primarily re-read the stuff on page 61, working through the definition of $\hat{g}$ for an explicit example in the $n = 1$ case, and I believe I now understand the proof of Lemma 2.18. I also attempted to understand the discussion on page 63, which motivates the construction used in the proof of Theorem 2.20, but I certainly have more work to put in before I totally understand that; it is less intimidating now though. Here are my questions:

(1) Directly after the statement of Theorem 2.20, Hatcher says that "properties (2) and (3) give $\psi^k(L_1 \oplus \cdots \oplus L_n) = L_1^k + \cdots + L_n^k$." I do not understand this yet, and I feel that if I have any hope of understanding the next two pages, I should certainly understand this. Here are my thoughts/questions so far on this:
   (a) Firstly, what does the notation L^k mean? I would guess this k tensor products of L?
   (b) Also, when we apply $\psi(L)$, we are actually acting on the equivalence class of L.

   Overall, I'm not sure how to get this addition result using (2) and (3).

(2) Secondly, at the bottom of page 60 in the list of four properties on exterior powers, I do not think I am familiar with (i). I buy all of the other properties though.

(3) Also, not a question but I reread some of the earlier section of Hatcher and figured out why we have the cancellation property for the monoid. I believe it comes from Proposition 1.4. Also, as far as I can tell, I believe all of the Compact Hausdorff assumptions stem from this Proposition, for it uses Urysohns Lemma. Interesting!

That's it for this week.