Remark 1. $C_*(\mathcal{C})$ does not have enough projective objects.

Theorem 2. *The sequence of functors* $\{H_i\}_{i=0}^{\infty}$ *gives us a* universal δ-functor *(takes short exact sequences to long exact sequences), i.e. if we have another sequence* T_i *such that* $T_0 = H_0$*, then* $\forall_i H_i^* = T_i^*$.

Lemma 3. *For a given* $C_* \in C_*(\mathcal{C})$ *there exists* $P_* \twoheadrightarrow C_*$ *such that* $H_i(P_*) = 0$ *for* $i > 0$.

Remark 4. If $p+q=n$, let $f_{pq} : X_{nn} \to X_{pq}$ be defined as $d^h_{p+1} \circ \ldots \circ d^h_n \circ d^v_0 \circ \ldots \circ d^v_0$, and then the Alexander-Whitney map $\sum_{p+q=n} f_{pq} : X_{nn} \to \bigoplus_{p+q=n} X_{pq}$ gives a chain homotopy equivalence of $k(X_{pp})$ and $\mathrm{tot}(kX_{pq})$.

Remark 5. We may take a projective simplicial resolution P_* of A of degree $n > i$, then $L_i^s T(A) = H_{n+i}(T(P_*))$.

Theorem 6. $\deg L_i T(\bullet, n) \leqslant \lfloor \frac{i}{n} \rfloor$.

Remark 7. Or theorem? Or proof? It is written that
$T((A,n) \oplus (B,n)) = T(A,n) \oplus T(B,n) \oplus V$ where V is trivial below $2n$.

Proposition 8. $\forall_i\, L_i^s T$ *is an additive functor.*

Proposition 9. *Let* $0 \to A \to B \to C \to 0$ *be exact in* $\mathcal{C}$*. Then we have a long exact sequence* $\ldots \to L^s_{q+1}T(C) \to L^s_q T(A) \to L^s_q T(B) \to L^s_q T(C) \to \ldots$.

Proposition 10. *If* $0 \to T' \to T \to T'' \to 0$ *is an exact sequence of functors, then we have a long exact sequence of functors* $\ldots \to L^s_{i+1}T'' \to L^s_i T' \to L^s_i T \to L^s_i T'' \to \ldots$.

Proposition 11. *Let* U *be an additive functor, then for any functor* T *we have*
$\mathrm{Hom}_{sth}(T, U) \simeq \mathrm{Hom}_{sth2}(L_0^s T, U)$.