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A COMBINATORIAL MODEL OF THE PATH FIBRATION

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For the path fibration $\Omega Y \rightarrow P Y \rightarrow Y$ on a path-connected polyhedron $Y = |X|_{\xi}$ we construct a cellular model $|\Omega X| \rightarrow |P X| \rightarrow |X|$, where X is a simplicial complex, ΩX is a monoidal cubical set and $P X$ is a contractible cubical set. The restriction $\xi^{-1}(Y^1) \rightarrow Y^1$ of ξ to the 1-skeleton of Y is a simplicial approximation of the Cayley graph of the fundamental group $\pi_1(Y^1)$. The chain algebra $C_*(\Omega X)$ can be identified with the Cobar construction of the coalgebra $C_*(X)$. As a consequence the simply connectedness condition for certain constructions is reflexed. This is the joint work with Manuel Rivera.