

Figure 1: from: [www.history.mcs.st-and.ac.uk/~john/MT4521/Lectures/L23.html](http://www.history.mcs.st-and.ac.uk/~john/MT4521/Lectures/L23.html)

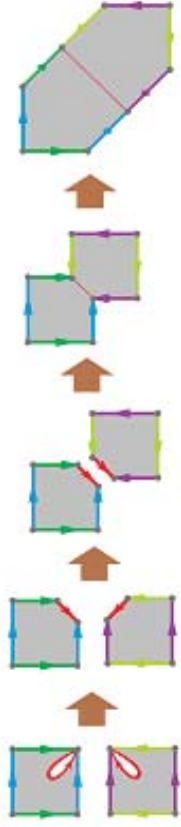
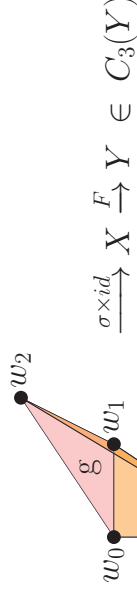
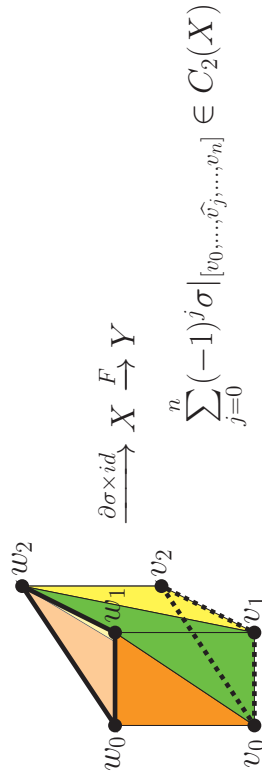
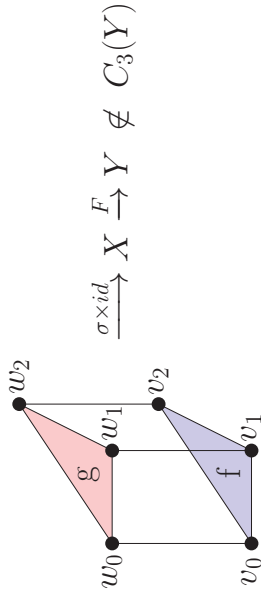
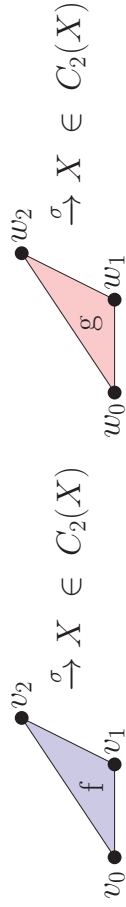
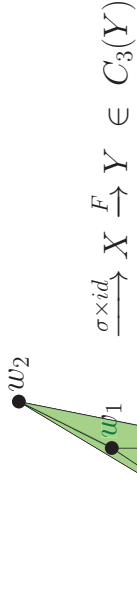


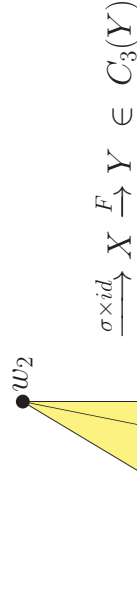
Figure 2: from: <http://imperc.com/wiki/index.php?title=Manifolds>



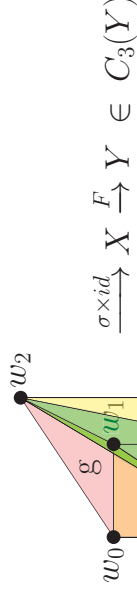
$$[v_0, w_0, w_1, w_2] \rightarrow Y \in C_3(Y)$$



$$-[v_0, v_1, w_1, w_2] \rightarrow Y \in C_3(Y)$$



$$[v_0, v_1, v_2, w_2] \rightarrow Y \in C_3(Y)$$



$$P(\sigma) = \sum_{i=0}^n (-1)^i F \circ (\sigma \times id) |_{[v_0, \dots, \hat{v}_i, \dots, w_n]} \in C_{n+1}(Y)$$