Takashi Nishimura* (nishimura-takashi-yx@ynu.jp), Research Group of Mathematical Sciences, Yokohama National University, Yokohama, 240-8501, Japan. Whitney umbrellas and swallowtails.

We introduce map germs of pedal unfolding type and the notion of normalized Legendrian map-germs. We show that the fundamental theorem of calculus provides a natural one to one correspondence between Whitney umbrellas of pedal unfolding type and normalized swallowtails. (Received November 13, 2011)