1108-53-221 Nathaniel Bottman* (bottman@math.mit.edu) and Katrin Wehrheim (katrin@math.berkeley.edu). A way to build maps between Fukaya categories.

I will explain work-in-progress with Katrin Wehrheim in which we aim to bind together the Fukaya categories of many different symplectic manifolds into a single algebraic object. This object is the "symplectic A_{∞} -2-category", whose objects are symplectic manifolds, and where hom $(M, N) := \operatorname{Fuk}(M^- \times N)$. In particular, a Lagrangian correspondence $\Lambda \subset M^- \times N$ will induce an A_{∞} -functor F_{Λ} : $\operatorname{Fuk}(M) \to \operatorname{Fuk}(N)$, improving on a result of Ma'u–Wehrheim–Woodward. At the core of our project are pseudoholomorphic quilts with figure eight singularity, and I will discuss several analytical results related to these objects, including a removal of singularity and a Gromov compactness theorem. (Received January 14, 2015)