

Two-dimensional Adjunctions and Distributive laws

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Abstract.

Our structure of interest here is a two dimensional adjunction, first described in general form without coherence conditions by John Gray in Lecture Notes in Mathematics 391. These structures were later referred to as soft adjunctions by MacDonald and Stone in JPAA 60. Yes, we will have 2-dimensional distributive laws connecting pairs of 2-dimensional monads but will also show how 1-dimensional distributive laws show up within every 2-dimensional adjunction.