

Mech-E Concepts & Stases	Pieces of a Thesis
Form (fact & definition)	Features of the text
Function (causation)	The effect of text features
(Conclusion of) Analysis (value)	Significance
	HASS land: examples from STLane handout
Form	Through the use of story-telling techniques of “magical realism”
Function	Gabriel Garcia Marquez challenges traditional notions of linear time
Analysis	which functions to create great sympathy for the peasants of his country.
Form	Lincoln’s use of passive voice and minimal self-references
Function	encourages his audience to avoid assigning blame for the Civil War and
Analysis	provides a model rhetoric for reconciliation.
	What are the form/function/analysis triangles in the sample <i>Stage Coach</i> papers?
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	Engineering land: from Slocum <i>et al</i> paper
Form	A new family of compliant and self-locking tapered torsional couplings have been developed as an alternate to spline-type couplings.
Function	The couplings use designed compliance to ensure constant contact between mating beam-like teeth. The tip of one tooth is larger, but tapered, so that when it mates at the base of the opposed tooth, it deflects radially. The taper is self-locking to prevent radial deflection under torsional load.
Analysis	This eliminates backlash between parts while maintaining a relatively high torsional stiffness. The large number of mating teeth elastically average errors in the teeth.
	Engineering land: from Hosoi <i>et al</i> paper
Form	Nectar-drinking bats and honeybees have tongues covered with hairlike structures,
Function	enhancing their ability to take up viscous nectar by dipping. Using a combination of model experiments and theory, we explore the physical mechanisms that govern viscous entrainment in a hairy texture. Hairy surfaces are fabricated using laser cut molds and casting samples with polydimethylsiloxane (PDMS) elastomer.
Analysis	We model the liquid trapped within the texture using a Darcy-Brinkmann-like approach and derive the drainage flow solution. The amount of fluid that is entrained is dependent on the viscosity of the fluid, the density of the hairs, and the withdrawal speed. Both experiments and theory reveal an optimal hair density to maximize fluid uptake.