## **NGF Stage-11 Handoff (Thread Context)**

This handoff provides context for continuing the discussion in a new thread. High-Level Intuition: In Stage-10 (synthetic/latent ARC), the battlefield was flat and orderly. The geodesic parser worked well, using weapons like perpendicular energy, exclusive residuals, matched filtering, and dual gates. In LLM integration, the battlefield changes. The manifold is rough and full of competing domain wells (strong attractors from different knowledge areas). The same weapons still apply, but they fail without reshaping the ground first. Stage-11 Doctrine (Warp  $\rightarrow$  Detect  $\rightarrow$  Denoise): 1. Warp: Engineer the latent manifold into a single dominant well (funnel fit + priors). 2. Detect: Use the same parser (matched filtering + residuals), but add statistical calibration. 3. Denoise: Stabilize with smoothing, phantom-guard probes, lateral inhibition, and jitter averaging. Key Takeaway: The same "weapons of warfare" from Stage-10 still apply, but Stage-11 makes them effective in the wild, noisy terrain of an LLM. The job of Stage-11 is battlefield engineering: impose a single dominant well so the parser can function reliably, while suppressing phantom/domain wells without destroying their useful contributions. This captures the crux of LLM integration: not inventing new tools, but reshaping and stabilizing the environment so the existing tools can work.

## Visual Metaphor

The figure below illustrates the core idea: in raw LLM space, many domain wells compete, pulling trajectories in different directions. Stage-11 reshapes the terrain so a single, engineered cognition well dominates, while domain wells remain but no longer hijack behavior.

