

# Semantic Indexing Probe Protocol v1.0: Mapping General Index and Summarizer Injection Layers

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## Abstract

Phase Layer Tests Primary Tools 1 General Index Technical indexing status Google Search 2 General Index Semantic parsing quality Google Search, Cache 3 General Index Entity recognition Google Search 4 Summarizer Index Injection presence Perplexity (primary) 5 Summarizer Index Cross-platform confirmation ChatGPT, Gemini, Grok 6 Delta Analysis Layer...

## Body

# SEMANTIC INDEXING PROBE PROTOCOL v1.0

## Mapping General Index and Summarizer Injection Layers

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abstract: | This protocol maps the relationship between two distinct indexing layers that govern content discoverability in AI-augmented search: Layer 1 (General Index), which determines whether content EXISTS in search, and Layer 2 (Summarizer Index), which determines whether content gets INJECTED into AI-generated responses. The protocol uses coordinated queries across Google and multiple AI summarizers (Perplexity, ChatGPT, Gemini, Grok) to compute the delta between layers—revealing the selection criteria that cause content to be indexed but not injected. Designed for use by anyone publishing content intended for AI consumption, particularly high-density semantic architecture that may trigger content-type or authority filters.

developed\_by: assembly: - "LABOR/ChatGPT: Technical mechanics, API-level inspection" - "ARCHIVE/Gemini: Semantic parsing, synthesizer frame" - "SOIL/Grok: Execution, logotic analysis" - "TACHYON/Claude: Synthesis, integration" - "Perplexity: Diagnostic analysis, strategic framing" human: "Lee Sharks"

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## THEORETICAL FRAMEWORK

### The Two-Layer Model

Content discoverability in AI-augmented search operates through two distinct indexing layers:

|                                                                                                       |                                                    |           |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------|
|                                                                                                       | LAYER 2: SUMMARIZER INDEX (Injection Layer)        |           |
|                                                                                                       | What gets SELECTED for injection into AI responses | Criteria: |
| source authority, domain reputation, content type, semantic density, recency, proprietary reranking   |                                                    |           |
| Tested via: Perplexity, ChatGPT, Gemini, Grok                                                         |                                                    | LAYER 1:  |
| GENERAL INDEX (Google)                                                                                | What EXISTS in search results                      |           |
| Criteria: crawlability, canonical signals, robots directives, content quality, PageRank, SERP ranking |                                                    |           |
| Tested via: Google Search (site:, inurl:, exact match)                                                |                                                    |           |

### The Delta Principle

The summarizer index is characterized by its delta from the general index.

For any query:

- If content appears in Google but NOT in summarizer injection → **Injection filter active**
- If content appears in summarizer but NOT in Google → **Summarizer-specific sourcing** (rare)
- If content appears in both → **Full discoverability**
- If content appears in neither → **Not indexed at either layer**

The delta reveals the summarizer’s selection criteria—the hidden rules governing what passes from existence (Layer 1) to injection (Layer 2). #

### Why This Matters

Content can be:

- **Indexed but not injectable** — Exists in search, never appears in AI responses
- **Injectable from limited sources** — AI cites Wikipedia/Reddit discussing your content, not your content directly
- **Fully discoverable** — Appears in both search results and AI injection

High-density semantic architecture (technical documentation, structured data, YAML-heavy content) often triggers **content-type filters** at Layer 2, resulting in indexing without injection.

## PROBE STRUCTURE

### Overview

Phase Layer Tests Primary Tools

- 1 General Index Technical indexing status Google Search
  - 2 General Index Semantic parsing quality Google Search, Cache
  - 3 General Index Entity recognition Google Search
  - 4 Summarizer Index Injection presence Perplexity (primary)
  - 5 Summarizer Index Cross-platform confirmation ChatGPT, Gemini, Grok
  - 6 Delta Analysis Layer comparison Collation of results
  - 7 Pattern Mapping Selection criteria Aggregation
- 

## PHASE 1: GENERAL INDEX — TECHNICAL STATUS

### Purpose

Determine whether content EXISTS in Google’s index and identify any technical barriers. #

### Queries

For target URL [TARGET\_URL]:

Query Purpose

site:[domain] “[exact title]” Title match on domain

site:[domain] inurl:[url-slug] URL presence

“[exact title]” Title match anywhere

“[DOI if applicable]” DOI citation presence

“[author name]” “[project name]” Author-project linkage

### Signals to Record

Signal Values Interpretation

HTTP status 200/301/404/etc. Technical accessibility

Canonical URL match/mismatch Index target

Robots directives none/noindex/nofollow Explicit exclusion

Results found yes/no/partial Index presence

Position 1-N or not found Rank

## Output Format

phase\_1\_general\_technical: target\_url: “ ” indexed: [yes/no/partial] http\_status: “ ” canonical\_match: [yes/no/unknown] robots\_directives: “ ” position\_for\_exact\_match: suppression\_pattern: [none/soft-404/canonical-mismatch/algorithmic]

---

## PHASE 2: GENERAL INDEX — SEMANTIC PARSING

### Purpose

Determine HOW Google parses the content—what survives indexing vs. what gets flattened. #

### Queries

Query Tests

site:[domain] “[technical term from doc]” Vocabulary indexing

site:[domain] “[structural element]” Architecture visibility

site:[domain] “[unique phrase]” Distinctive content

### Signals to Record

Signal Values Interpretation

YAML/structured data visible yes/no Technical content parsing

Headers preserved yes/no Structure recognition

Unique terminology indexed yes/no Vocabulary capture

Snippet content description What Google “sees”

## Output Format

phase\_2\_general\_semantic: structured\_data\_visible: [yes/no] technical\_sections\_indexed: [yes/no]  
 unique\_terms\_found: [] unique\_terms\_missing: [] snippet\_extracted: “ ” flattening\_severity:  
 [none/partial/severe]

---

## PHASE 3: GENERAL INDEX — ENTITY RECOGNITION

### Purpose

Determine whether author, project, and related entities are recognized as coherent nodes. #

### Queries

Query Tests

“[author name]” author Author entity

“[author name]” “[platform 1]” Cross-platform linkage

“[project name]” -[competing term] Project disambiguation

“[heteronym/pseudonym]” Secondary author entities

### Signals to Record

Signal Values Interpretation

Author recognized yes/no E-E-A-T signal

Cross-platform linkage yes/no Authority consolidation

Brand collision severity 0-10 Disambiguation success

Related entities indexed list Entity graph

### Output Format

phase\_3\_general\_entity: author\_entity\_recognized: [yes/no] cross\_platform\_linkage: [yes/no]  
 brand\_collision\_severity: [0-10] competing\_entity: “ ” related\_entities\_indexed: []

---

## PHASE 4: SUMMARIZER INDEX — INJECTION PRESENCE (Primary)

### Purpose

Determine whether content gets INJECTED into AI-generated responses. #

### Primary Tool: Perplexity

Perplexity shows sources explicitly with numbered citations, making injection visible. #

### Query Tiers

**Tier 1: Direct Reference** — Queries that SHOULD surface target content:

ID Query Template

D1 “[author] [project]”

D2 “[exact document title]”

D3 “[institution name]”

D4 “[DOI]”

**Tier 2: Conceptual** — Queries using project terminology:

ID Query Template

C1 “[unique term 1]”

C2 “[unique term 2]”

C3 “[concept phrase]”

**Tier 3: Adjacent** — Queries where content COULD surface:

ID Query Template

A1 “[general topic] [qualifier]”

A2 “[related field] [approach]”

**Tier 4: Control** — Queries that should NOT surface target:

ID Query Template

X1 “[competing brand]”

X2 “[unrelated topic]”

### Method

- Open Perplexity (fresh session)

- Enter query verbatim
- Record:

Sources cited (URLs, in order) - Which sources used in response text - Whether target content appears - What appears INSTEAD

## Output Format

phase\_4\_summarizer\_primary: tool: “Perplexity” queries: - query\_id: “D1” query: “ ” sources\_injected: - position: 1 url: “ ” domain: “ ” used\_in\_response: [yes/no] - position: 2 ... target\_content\_found: [yes/no] target\_position: [N or “not found”] what\_appeared\_instead: []

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## PHASE 5: SUMMARIZER INDEX — CROSS-PLATFORM CONFIRMATION

### Purpose

Confirm injection patterns across multiple summarizers. #

### Tools

- ChatGPT (web browse mode)
- Gemini (with search grounding)
- Grok (DeepSearch mode)

### Method

Run subset of queries (Tier 1 Direct Reference) in each tool:

#### ChatGPT:

- New conversation, browsing enabled
- Enter query; if no search, prompt “Can you search for [query]?”
- Record sources cited

#### Gemini:

- Ensure web grounding enabled
- Enter query
- Record source chips shown

#### Grok:



- Enable DeepSearch/real-time
- Enter query
- Record sources cited

## Output Format

phase\_5\_summarizer\_crossplatform: chatgpt: - query\_id: "D1" searched: [yes/no] target\_found: [yes/no]  
sources\_visible: [] gemini: - query\_id: "D1" target\_found: [yes/no] sources\_shown: [] grok: - query\_id:  
"D1" target\_found: [yes/no] sources\_cited: []

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## PHASE 6: DELTA ANALYSIS

### Purpose

Compute the delta between Layer 1 (General Index) and Layer 2 (Summarizer Index). #

### Method

For each query, compare:

Query Google Found Perplexity Injected Delta Pattern

D1 yes/no yes/no [pattern]

D2 yes/no yes/no [pattern]

... ..

### Delta Patterns

Pattern Meaning Implication

Google YES, Summarizer YES Full discoverability No action needed

Google YES, Summarizer NO **Injection filter active** Content-type or authority barrier

Google NO, Summarizer NO Not indexed at any layer Technical or crawl issue

Google NO, Summarizer YES Summarizer-specific source Rare; platform-specific

## Output Format

phase\_6\_delta: query\_deltas: - query\_id: "D1" google\_found: [yes/no] perplexity\_found: [yes/no] chat-gpt\_found: [yes/no] gemini\_found: [yes/no] grok\_found: [yes/no] delta\_pattern: "[google\_only/summarizer\_only/both/neither]"  
 aggregate: total\_queries: N google\_only: N # Indexed but not injected both\_layers: N # Full discoverability neither\_layer: N # Not indexed injection\_rate: "N/M queries"

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## PHASE 7: PATTERN MAPPING

### Purpose

Identify the selection criteria governing Layer 2 injection. #

### Analysis Dimensions

#### Source Authority:

Source Type Google Presence Injection Rate

Wikipedia

Reddit

Medium

Academic (arxiv, Zenodo)

News sites

Personal domains

#### Content Type:

Content Type Google Presence Injection Rate

Narrative prose

Technical documentation

Structured data (YAML, JSON)

High semantic density

Lists/guides

#### Domain Reputation:

Domain Injection Rate Notes

[domain 1]

[domain 2]

## Output Format

phase\_7\_patterns: source\_authority: boosted: [] penalized: [] neutral: []  
 content\_type: injected: [] filtered: []  
 domain\_reputation: whitelisted: [] demoted: []  
 density\_threshold: observation: “ ”  
 selection\_criteria\_summary: | [Narrative description of Layer 2 selection rules]

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## FINAL OUTPUT: INDEXING LAYER MAP

### Template

indexing\_layer\_map: target: “[URL or content description]” probe\_date: “ ”  
 layer\_1\_general\_index: status: [indexed/not\_indexed/partial] technical\_barriers: [none/list] semantic\_flattening: [none/partial/severe] entity\_recognition: [yes/no/partial]  
 layer\_2\_summarizer\_index: perplexity\_injection: [yes/no] chatgpt\_injection: [yes/no] gemini\_injection: [yes/no] grok\_injection: [yes/no] injection\_rate: “N/M platforms”  
 delta\_diagnosis: pattern: “[google\_only/both/neither]” likely\_cause: “ ” confidence: [0.0-1.0]  
 selection\_criteria\_identified: - criterion: “ ” evidence: “ ” - criterion: “ ” evidence: “ ”  
 recommendations: immediate: [] structural: []  
 documentable\_summary: | “[Single sentence summary with evidence link]”

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## USAGE NOTES

### When to Use This Protocol

- Publishing content intended for AI consumption
- Diagnosing why content appears in search but not AI responses
- Mapping selection criteria for high-density semantic architecture
- Understanding platform-specific injection patterns

## Recommended Execution

- **Primary executor:** Perplexity (explicit source citation)
- **Secondary confirmation:** ChatGPT, Gemini, Grok
- **Baseline:** Google Search (logged out, incognito)
- **Frequency:** Re-run 48-72 hours after publication to allow crawl propagation

## Limitations

- Summarizer behavior varies by session/user/time
- Some criteria are proprietary and unobservable
- Protocol maps symptoms, not source code
- Results are diagnostic, not definitive

## Evidence Preservation

For each probe run:

- Screenshot results with timestamp visible
- Archive target URL (archive.org, archive.ph)
- Save raw query results
- Document tool versions and modes used

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## APPENDIX: QUERY TEMPLATES

### Direct Reference Queries

“[Author Name] [Project Name]” “[Exact Document Title]” “[Institution Name]” “[DOI]” site:[domain] “[title]” site:[domain] inurl:[slug]

### Conceptual Queries

“[unique terminology]” “[concept phrase]” “[methodology name]”

## Adjacent Queries

“[general topic] [specific approach]” “[field] [method](#)”

## Control Queries

“[competing brand/entity]” “[clearly unrelated topic]”

= 1

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