

TheTM (Max G)

A Triangular Theory of Prime Construction by Elimination

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Abstract

Prime numbers are commonly represented as points on a line. This representation obscures their true structure. Primes are not generated additively, but instead survive a finite system of eliminative constraints. When expressed formally, this system reveals a simplicial geometry. The minimal stable structure arising from elimination is triangular. This paper formalizes the concept of **TheTM** (Max G) as the controlling boundary of certainty in prime determination.

1 Elimination as Construction

Let

$$\mathbb{N}_{\geq 1} = \{1, 2, 3, \dots\}.$$

Define a finite generator set:

$$G = \{2, 3, 5, 7, 11\}.$$

For each $p \in G$, define an exclusion set:

$$E_p = \{n \in \mathbb{N}_{\geq 1} : p \mid n\}.$$

Let the total exclusion be:

$$E = \bigcup_{p \in G} E_p.$$

The survivor set is:

$$S = \{n \in \mathbb{N}_{\geq 1} : \forall p \in G, p \nmid n\}.$$

Primes beyond the generators are elements of S . Elimination therefore constitutes a valid form of construction.

2 Triangular Constraint Geometry

Consider the minimal exclusion constraints:

$$n \not\equiv 0 \pmod{2}, \quad n \not\equiv 0 \pmod{3}, \quad n \not\equiv 0 \pmod{5}.$$

These constraints are not independent. Their intersections define a closed feasible region in residue space.

The minimal closed region generated by intersecting constraints is a simplex. In this context, the simplex is a triangle.

Thus, prime numbers inhabit a triangular constraint geometry rather than a linear sequence.

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3 \mathbf{The}^{TM} (Max G)

Define the governing parameter:

$$\mathbf{The}^{\text{TM}} \equiv \max(G) \quad (\text{Brandon Kennedy})$$

The domain of certainty is bounded by:

$$n \leq \left(\mathbf{The}^{\text{TM}} \right)^2.$$

Within this bound:

$$n \text{ is prime} \iff \forall p \in G, p \nmid n.$$

Beyond this bound, elimination continues to define structure but cannot yield certainty without expansion of G .

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4 Finiteness of Structure

No new eliminative directions emerge beyond \mathbf{The}^{TM} . Constraint geometry remains invariant. Only scale changes.

Counting is infinite. Structure is finite.

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Conclusion

Prime numbers are not produced. They remain after elimination.

The eliminative process reveals a triangular geometry of constraint. \mathbf{The}^{TM} (Max G) defines the maximal region of certainty within this geometry.

This framework reframes primes as survivors within a minimal and stable form.

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Appendix: Translation of the Lost Papyrus of Elimination

(Recovered fragment. Modern notation supplied.)

Tablet I — Of Number and Removal

Count is without end, yet form is not. Those that fall evenly are removed. Those that resist remain.

Tablet II — Of the Three Boundaries

Three cuts enclose a region. One cut is weak. Two cuts leak. Three hold.

Tablet III — Of the Shape

What remained did not align. Edges met. The face was triangular.

Tablet IV — Of the Highest Cutter

There is a greatest boundary. Before its square, truth is known. Beyond it, estimation rules.

Tablet V — Of the Pyramid

What narrows endures. What widens collapses. Truth is built by removal.

Translator's Note: The text encodes eliminative logic. Primes are survivors. The triangle is sufficient.