This document expands upon the implementation of the Attribute and Derivative Systems as presented in the Frontiers Overview.

It also offers a few Variants and Alternatives for those who want a different version or different resolution system entirely.

Like the core Release document for this version of Frontiers, the material presented here is modular by design. Sections may be adopted, modified, or omitted depending on the needs of the system being built.

Attributes

Every character in Frontiers is defined by four core Attributes:

- ❖ **Vigor**
- □ **Finesse**
- □ **Acuity**
- □ **Resolve**

Attributes represent broad domains of capability. They define what a character is naturally suited for, how durable they are under pressure, and how effectively they perform when uncertainty matters. They determine effectiveness.
Each Attribute exists on a 0–10 scale.

Attributes produce two mechanical values:

- **Attribute Score** — the full 0–10 value
- **Attribute Modifier** — half the Score, rounded down, presented as “+0, +1, +2, etc”

The **Score** is most commonly used for totals, thresholds, and defensive values.
The **Modifier** is most commonly added to Resolution Rolls, Abilities, and other active checks (which Attribute applies is often determined by the GM).

Attribute Floor and Ceiling

- Scores are assumed to be within **0–10** by default.
- If an Attribute Score becomes **0**, it is treated as **0** for all calculations.
- Systems may allow values beyond 10; if so, that is an explicit system-level override, not the engine default.

Attribute Definitions

❖ Vigor

❖Vigor represents physical strength, endurance, bodily resilience, and resistance to trauma.
It governs how much punishment a character can withstand, how long they remain standing after injury, and how physically demanding burdens affect them.
Vigor is commonly applied when brute force, stamina, durability, or survival under physical stress are involved.

□ Finesse

□Finesse represents coordination, agility, reflexes, balance, and control of tempo.
It governs how efficiently a character moves, how precisely they act under pressure, and how effectively they react to rapidly shifting situations.
Finesse is commonly applied when speed, precision, positioning, dexterity, or reaction time are involved.

□ Acuity

□Acuity represents perception, reasoning, adaptability, pattern recognition, and mental sharpness.
It governs how clearly a character observes the world, how quickly they process information, and how broadly they develop specialized capabilities.
Acuity is commonly applied when investigation, analysis, problem-solving, or environmental awareness are involved.

□ Resolve

□Resolve represents mental fortitude, emotional stability, composure under pressure, and psychological endurance.
It governs how much mental strain a character can endure before collapsing and how resilient they remain when subjected to stress, fear, or overextension.
Resolve is commonly applied when composure, conviction, morale, or resistance to psychological pressure are involved.

Derivatives

Derivatives are statistics shaped by Attributes, but function independently during play.
Some are influenced not only by Attributes, but also by Archetypes, Origins, Backgrounds, Equipment, and Abilities.

The primary Derivatives in Frontiers are:

- ✙ **Health Pool (HP)**

- **□ Wounds**
- **□ Fatigue**
- **⧗ Momentum**
- **⚡ Energy**
- **□ Physical Defense**
- **□ Mental Defense**
- **□ Awareness**
- **∞ Intuition**
- **⛃ Carrying Capacity**

When an Attribute contributes to a Derivative, the rule must explicitly state whether it uses the **Score** or the **Modifier**.

Derivatives by Attribute

This section defines what each Attribute contributes to by default, and exactly how those values are calculated.

❖ Vigor Derivatives

✙ Health Pool (HP)

✙Health Pool represents a character's current physical vitality.

- A character's **starting ✙HP** is determined by system design, typically using:
  (Origin Bonus + Background Bonus)
- When a character **Advances a Level** (including Level 1), their **maximum ✙HP increases by**:
  (❖Vigor Modifier + Archetype Modifier)

Origin, Background, and Archetype determine baseline durability.
❖Vigor determines how efficiently that durability scales over time.

⛃ Carrying Capacity

⛃Carrying Capacity represents how much equipables, gear, and physical burden a character can manage without penalty.

A character's ⛃Carrying Capacity is determined by system design, typically using a calculation like:
(Base Value + ❖Vigor Modifier)

The intended starting value for ⛃Carrying Capacity is often somewhere between **5–15**, but the final choice is up to System Designers and how they wish to integrate Equipment.

□ Maximum Wounds Value

□Wounds represent lasting physical trauma.

When a character is reduced to 0 ✙HP:

- They gain **1 ▯Wound** and fall **Unconscious**.
- They cannot take ✶Activities or ✦Actions of any kind, or spend »MP.
- They remain Unconscious until they regain at least 1 ✙HP.
- If the Encounter concludes, they automatically reawaken with 1 ✙HP if an ally can reach them.

Maximum ▯Wounds Value is:

- **Maximum ▯Wounds = 1 + ❖Vigor Modifier**

Each ▯Wound inflicts a stacking penalty:

- -2 to ▯ Physical Defense Value
- -2 to ▯ Mental Defense Value

If a character runs out of ✙HP and would exceed their maximum ▯Wounds, they die.

▯Wounds are removed during zᶻDowntime at a rate of **1 per hour**.

▯ Physical Defense

❖Vigor contributes its **Score** to ▯Physical Defense.

- **▯Physical Defense = ❖Vigor Score + ▯Finesse Score + Equipment Bonuses**

Defenses act as a DR against incoming attacks: attackers must roll equal to or higher than the relevant Defense to succeed. Defenses may also negate or reduce effects if an Ability specifies a threshold against a Defense.

▯ Finesse Derivatives

▯Finesse influences two major areas: »Movement and ⧖Momentum. It also contributes directly to ▯Physical Defense.

» Movement Points (MP)

- **»MP Value = 3 + ▯Finesse Modifier**

1 »MP = 1 ▯Unit moved. »MP refreshes at the start of each Turn and can be used any time during that character's Turn. Movement does not normally cost ✦AP unless a rule states otherwise.

⧖ Momentum (Turn Order Value)

Each character has a starting Momentum Value (MV) ranging from 0 to 10. Lower Momentum acts earlier; higher Momentum acts later.

At the start of an Encounter:

- A character may keep their MV (provided by Archetype), or
- Adjust it by adding or subtracting up to their **▯Finesse Modifier**

Momentum may be further adjusted situationally at the GM’s discretion, and some effects may temporarily raise or lower MV beyond 0–10 (permitted within the engine).

□ Physical Defense (Finesse Portion)

□Finesse contributes its **Score** to □Physical Defense.

(Formula is listed above under □ Physical Defense.)

□ Acuity Derivatives

Acuity influences two major areas: □Awareness and additional Skills. It also contributes directly to □Mental Defense.

□ Awareness

□Awareness is a rollable value equal to:

- □**Acuity Modifier**

Awareness is used to notice hidden threats, environmental changes, concealed objects, or subtle sensory details. A system may allow passive use, but it is fundamentally roll-based.

Additional Skills

A character gains a number of additional Skills equal to:

- □**Acuity Modifier**

These Skills represent expanded mental breadth and specialization beyond baseline training.

□ Mental Defense (Acuity Portion)

□Acuity contributes its **Score** to □Mental Defense.

(Formula is listed below under □ Mental Defense.)

□ Resolve Derivatives

Resolve influences two major areas: ∞Intuition and Maximum □Fatigue. It also contributes directly to □Mental Defense.

∞ Intuition

∞Intuition is a rollable value equal to:

- □**Resolve Modifier**

It is used to assess deception, detect manipulation, read social dynamics, and interpret emotional nuance.

□ Maximum Fatigue Value

□Fatigue represents mental exhaustion, strain, and overextension.

- **Maximum □Fatigue = 1 + □Resolve Modifier**

Fatigue may be gained from overspending ⚡Energy, extended lack of rest, severe psychological stress, or narrative strain.

Each □Fatigue inflicts a stacking penalty:

- -2 to □Awareness
- -2 to ∞Intuition

If a character would exceed their maximum □Fatigue, they fall Unconscious and cannot take ✶Activities, ✦Actions, or spend »MP until their □Fatigue is reduced below maximum.

□Fatigue is removed during zᶻDowntime at a rate of **1 per hour**.

□ Mental Defense (Resolve Portion)

□Resolve contributes its **Score** to □Mental Defense.

□ Mental Defense (Full Formula)

□Mental Defense is calculated as:

- **□Mental Defense = □Acuity Score + □Resolve Score + Equipment or Ability Bonuses**

Defenses act as a DR against incoming attacks and may also negate or reduce Ability effects that check against a Defense threshold.

When Values Update

Frontiers uses two kinds of numbers here:

1) **Attributes (Score/Modifier)**
2) **Derivatives (thresholds/pools/limits computed from Attributes + other sources)**

This expansion defines when each updates, to prevent “temporary dip kills you” edge behavior.

Attribute Updates

If an Attribute Score changes for any reason:

- Recalculate that Attribute’s **Modifier** immediately (Score ÷ 2, rounded down).
- Any rolls, checks, or effects that reference that Attribute’s **Modifier** use the updated Modifier from that moment forward.

Derivative Updates

Derivatives are split into two categories:

A) **Live Derivatives** (safe to update immediately)
These can update in real time without creating retroactive contradictions.

- Physical Defense (uses Scores)
- Mental Defense (uses Scores)
- »MP Value (uses Finesse Modifier)
- Awareness (uses Acuity Modifier)
- ∞Intuition (uses Resolve Modifier)
- Additional Skills (uses Acuity Modifier)
- ⧖Momentum adjustment at Encounter start (uses Finesse Modifier)

B) **Anchored Derivatives** (do not auto-recompute during temporary changes)
These represent stateful tracks or maximum thresholds that create contradictions if they shrink mid-scene.

- ✙HP maximum and starting baseline (system design + level scaling)
- Maximum Wounds Value (1 + ❖Vigor Modifier)
- Maximum Fatigue Value (1 + Resolve Modifier)
- ⛃ Carrying Capacity baseline (system design, typically Base + ❖Vigor Modifier)

Default ruling for Anchored Derivatives:

- If an Attribute changes **temporarily**, Anchored Derivatives do **not** shrink or expand unless the effect explicitly says it recalculates that Derivative.
- If an Attribute changes **permanently** (advancement, lasting injury, rebuild, etc.), Anchored Derivatives are recalculated normally the next time the character sheet is updated (immediately if not under active pressure; otherwise at the end of the Encounter).

This keeps “temporary penalties” from creating instant death loops or retroactive invalid states.

Downtime and Recovery References

(These are listed here because they are mechanically bound to Derivatives, even though Flow of Play defines their timing.)

- Wounds are removed during zᶻDowntime at a rate of **1 per hour**.
- Fatigue is removed during zᶻDowntime at a rate of **1 per hour**.

The following rulings clarify ambiguous or high-risk interactions involving Attributes and Derivatives.

These rulings apply unless a specific rule explicitly overrides them.

1. Attribute Reduced to 0

If an Attribute Score becomes 0 permanently:

- Its Modifier is calculated normally.
- All live Derivatives update immediately.
- Anchored Derivatives do not collapse unless the change is Permanent.

An Attribute Score of 0 does not automatically cause death or incapacitation unless another rule specifies such a consequence.

2. Attribute Reduced Below 0

Attribute Scores cannot fall below 0 unless a rule explicitly overrides the engine’s minimum bound.

If a rule attempts to reduce an Attribute below 0 and does not explicitly allow it:

- Treat the Attribute as 0.

3. Multiple Attribute Changes Simultaneously

If multiple Attribute changes occur at the same time:

- Apply all Score changes first.
- Recalculate Modifiers.
- Then update Live Derivatives.
- Anchored Derivatives follow Permanent/Temporary rules.

No intermediate recalculation occurs between stacked effects.

4. Modifier Stacking

If multiple effects modify the same Attribute Score:

- Additive modifiers stack.
- Multiplicative effects apply after additive adjustments.
- If a rule modifies the Modifier directly, apply that after recalculating from Score.

Unless stated otherwise, all bonuses and penalties stack.

5. Modifier Modifying a Modifier

If an effect modifies an Attribute Modifier directly:

- It does not alter the Attribute Score.
- It affects Resolution Rolls and any Derivative that explicitly references the Modifier.
- It does not affect Derivatives that reference the Score.

6. Temporary Attribute Expiration Mid-Encounter

If a Temporary Attribute change expires during Encounter Play:

- Recalculate the Attribute Modifier immediately.
- Update Live Derivatives immediately.
- Anchored Derivatives remain unchanged unless explicitly recalculated by the effect.

Expiration does not retroactively invalidate resolved Actions.

7. Permanent Attribute Change During Encounter

If an Attribute permanently changes during Encounter Play:

- Modifier updates immediately.
- Live Derivatives update immediately.
- Anchored Derivatives recalculate at the end of the current Encounter unless the rule explicitly states immediate recalculation.

This prevents mid-combat threshold collapse.

8. Anchored Derivative Reduction Below Current Value

If a Permanent change reduces an Anchored Derivative maximum below the character's current value:

- Reduce the current value to the new maximum.
- If this causes maximum Wounds or Fatigue to be exceeded, apply death or Unconsciousness accordingly.

Temporary changes cannot trigger this effect.

9. Carrying Capacity Reduced Mid-Encounter

If ❖Vigor temporarily decreases and reduces ⛃Carrying Capacity:

- No immediate forced item drop occurs.

- The character is considered Overburdened.
- The GM may impose movement penalties until the situation resolves.

If the change is Permanent, the character must adjust carried equipment at the next reasonable pause.

10. Additional Skills Reduction

If Acuity temporarily decreases and reduces Additional Skills:

- The player chooses which Skills become temporarily inaccessible.
- Core Skills granted by Archetype or Origin remain unaffected unless explicitly stated.

When Acuity returns, access is restored.

11. Momentum and Temporary Finesse Changes

If Finesse temporarily changes after Momentum has been established:

- It does not retroactively alter current MV.
- It may affect MV at the start of the next Encounter.
- It affects »MP immediately.

12. Defense Changes During Attack Resolution

If an Attribute change alters Physical Defense or Mental Defense during an attack:

- Use the Defense value at the moment the attack roll is made.
- Subsequent Defense changes do not retroactively alter that roll.

13. Attribute Change While Unconscious

If an Attribute changes while a character is Unconscious:

- Apply recalculation normally.
- If the change removes the condition causing Unconsciousness, the character regains eligibility to act.

14. Attribute Increase Beyond 10

If a rule increases an Attribute beyond 10:

- The Modifier continues scaling normally.

- This is considered an explicit system override of the default bound.

Such changes are assumed to be rare and system-driven.

15. Simultaneous Level Advancement and Attribute Change

If a character Levels up and also gains a Permanent Attribute increase:

- Apply the Attribute change first.
- Recalculate Modifiers.
- Then apply Level-based Derivative scaling (e.g., ✙HP increase).

This prevents double-counting inconsistencies.

The following Variants modify specific parts of the Default Attribute & Derivative structure.

Each Variant explicitly replaces or modifies part of the Default Rules. All other Default Rules remain in effect unless stated otherwise.

These Variants preserve the four-Attribute framework and derivative philosophy.

Modifier Scaling Variant (Linear Modifier)

Replaces: Attribute Modifier formula

Instead of:

Attribute Modifier = (Score − 10) ÷ 2, rounded down

Use:

Attribute Modifier = Attribute Score

Under this Variant:

- Resolution Rolls add the full Score.
- Derivatives referencing the Modifier use the full Score.

What Stays the Same: - 0–10 scale. - All derivative relationships. - Anchored vs Live Derivative distinction.

Designer Considerations: This increases scaling intensity dramatically. Resolution totals, HP growth, and Fatigue limits will all scale faster. Difficulty Ratings must be recalibrated.

Flat Defense Variant

Replaces: Score-based Defense formulas

Instead of:

 Physical Defense = ❖Vigor Score + Finesse Score + Bonuses
 Mental Defense = Acuity Score + Resolve Score + Bonuses

Use:

Defense = Base Value + relevant Attribute Modifier + Bonuses

This reduces raw Attribute Score impact on defensive thresholds.

What Stays the Same: - Wound and Fatigue penalties. - Other derivative relationships.

Designer Considerations: Reduces runaway Defense scaling and makes offensive rolls more reliable at higher levels.

Immediate Pool Recalculation Variant

Replaces: Anchored Derivative delay rule

All Derivatives, including ✙HP, Wounds, and Fatigue maximums, recalculate immediately whenever the underlying Attribute changes, whether Temporary or Permanent.

If recalculation reduces a maximum below current value:

- Clamp current value to the new maximum.
- Apply death or Unconsciousness if thresholds are exceeded.

What Stays the Same: - Score and Modifier rules. - Formula relationships.

Designer Considerations: Creates high volatility. Temporary debuffs can become lethal. Suitable for harsher or grittier systems.

Attribute Cap Variant

Replaces: 0–10 hard ceiling

Remove the 10 maximum cap.

Attributes may scale beyond 10 without restriction.

Modifier calculation remains unchanged.

What Stays the Same: - All derivative formulas. - Anchored vs Live logic.

Designer Considerations: Supports epic or mythic scaling. Requires recalibration of Difficulty Ratings and Defense expectations.

The following Alternatives replace major portions of the Attribute & Derivative architecture.

Adopting these requires recalibration of Abilities, Difficulty Ratings, and Level progression assumptions.

No Derivatives Alternative

Remove derived maximum calculations tied to Attributes.

- ✙HP, Fatigue, and Wounds are fixed by Level or Archetype only.
- Attributes affect Resolution Rolls only.

Impact: Separates survivability from core Attributes. Simplifies recalculation but reduces Attribute influence.

Attribute-Lite Alternative

Retain Attributes for narrative and roll guidance only.

- Remove Attribute Modifiers entirely.
- Resolution Rolls add Skill or Level bonuses only.
- Defenses become static values determined by Level or equipment.

Impact: Reduces math density. Attributes become descriptive rather than mechanical drivers.

Unified Resilience Alternative

Replace ✙HP, Wounds, and Fatigue with a single track called Resilience.

- Resilience Maximum = Base + Level.
- Attributes modify checks only, not survivability thresholds.
- When Resilience reaches 0, apply escalating penalties.

Impact: Simplifies health architecture. Removes dual physical/mental collapse tracks.

Level-Dominant Scaling Alternative

Attributes remain 0–10, but:

- Maximum pools scale primarily with Level.
- Attribute Modifiers provide minor bonuses only.

Example: - ✙HP per Level = fixed value. - ❖Vigor adds +1 per 2 Levels.

Impact: Shifts survivability progression from Attribute-driven to Level-driven scaling.
