

DOI: <https://doi.org/10.51209/platform.2.12.2025.363-381>

UDC: 791;796;799(045)

Kristina POTOPALSKA,

Kyiv, Ukraine,

e-mail: misskriss985@gmail.com,

ORCID: 0009-0000-4662-7130

**FROM TRICK ASSEMBLAGE TO NARRATIVE
SCORING IN AERIAL GYMNASTICS: GENRE
EVOLUTION AND DRAMATURGICAL
CONSOLIDATION**

Abstract. The article analyzes the contemporary reconfiguration of aerial gymnastics from feat-centered concatenations to dramaturgically scored compositions in which technique carries narrative meaning. Building on recent work in circus dramaturgy, choreographic method, audience physiology, performer profiling, and injury-risk synthesis, the study argues that recurrent motive families – wraps, climbs, drops, and suspensions – can be organized as image-bearing structures without diluting gymnastic specificity. Compositional agency is attributed to the material frictions between body and apparatus: torsion, drag, deliberate mis/fit, negotiated balance. These frictions are arranged through repetition-with-difference, durational suspensions, and tempo-coded transitions so that conflict, hesitation, and repair unfold as legible arcs rather than as ornamental bridges between highlight tricks. Audience-side measurements from immersive formats indicate segment-wise peaks of synchrony at dramaturgical hinges, providing a feedback-sensitive handle on pacing, cue placement, and the distribution of suspense and release. In parallel, cross-sectional profiles of pre-professional and professional circus artists, together with discipline-specific risk syntheses and return-to-

performance pathways, supply operational constraints for casting, rehearsal design, and spacing of high-load elements; narrative intensity is matched to tissue tolerance, prior exposure, and recovery windows. The article proposes a practice-oriented matrix that links motive selection to compositional choices, health parameters, and audience cues, and illustrates its applicability by reading a Jeanne d'Arc creation as a cyclical motive design built from bindings, ascents, and falls. Outcomes include criteria for distributing serial drops and prolonged isometrics across an arc; guidelines for integrating breath, tremor, and micro-failure as evidence rather than defect; and a template for returning motif density when re-staging for different bodies while preserving the same narrative outline. The consolidation of these methods clarifies how risk, virtuosity, and imbalance/repair operate as circus-specific codes of meaning. Taken together, the framework supplies creators and coaches with reproducible procedures for narrative scoring in contemporary aerial work, enabling genre evolution from trick assemblage to image-driven storytelling while sustaining performer longevity and dramaturgical clarity.

Key words: aerial gymnastics, contemporary circus, dramaturgy, narrative scoring, apparatus–body misfit, immersive performance, physical profiling, injury risk, gendered aesthetics, rehearsal design.

Introduction. Over the last decade, aerial gymnastics has undergone a measurable reorientation: technique functions not as ornament but as a bearer of diegetic information. Compositional choices now arise from the frictions between body and apparatus, with dramaturgical arcs constructed through motivic reprises, durational suspensions, and tempo-coded transitions. Audience engagement studies register synchrony around narrative pivots, while normative profiles and injury syntheses enable calibrated spacing of high-load motifs. This

article consolidates these developments and unifies two strands – genre evolution in aerial work and the dramaturgical turn from trick to image – into a single explanatory frame.

Aim is to articulate a practice-oriented account of how aerial techniques generate narrative meaning and how rehearsal/casting protocols sustain that meaning safely. So, tasks:

- 1) To systematize recent evidence on narrative devices in aerial composition and audience response.
- 2) To relate dramaturgical planning to physical readiness, risk distribution, and return-to-performance staging.
- 3) To demonstrate the applicability of this framework through a case-informed reading of Jeanne d'Arc as a cyclical motive design.

The article offers an operational matrix that links recurrent motives to compositional decisions, constraints, and audience cues, aligning dramaturgical intent with performer profiling and risk management. A comparative analytic method and integrative review were employed to align dramaturgical theory with practice-based and clinical findings; close reading of case narratives was combined with conceptual synthesis across performance studies, physiology, and sports medicine. Descriptive tabulation was used to produce summary and operational tables; reasoned inference connected performer profiling to motif distribution.

Analysis of recent research and publications.

M. Cossin et al. [1] supply physiological measures of audience engagement and interpersonal synchrony, used here to anchor claims about pacing and narrative pivots. F. Trapp [9] provides a dramaturgical reading of contemporary circus with close analyses of narration and metaphor, used to formalize interpretive categories for aerial scores. S.J. Greenspan, M.I. Stuckey [2] report normative physical profiles for pre-professional and professional circus artists, applied to casting

logic and motif spacing. S. Greenspan, J. Nicholas, M.I. Stuckey, D. Munro [3] synthesize discipline-specific exposure and risk factors, informing the distribution of drops and prolonged isometrics. L.V. Martinez [4] analyzes meaning-making in contemporary circus practice, supporting the claim that technical phrasing bears thematic load. T. McBlaine, B.L. Davies [5] characterize injuries in recreational aerial arts, used to calibrate load management and staging choices. D. Munro et al. [6] outline circus-specific return-to-performance pathways after concussion, integrated into rehearsal scheduling and clearance checkpoints. A. Richard [7] discusses autonomy and creativity in gymnastic training, motivating rehearsal practices that retain effort, hesitation, and failure as compositional material. A. Stich [8] formulates a choreographic method of apparatus–body “mis/fit,” providing a reproducible procedure for embedding conflict within technique. S. Watt [10] documents gendered experience in aerial communities, informing the aesthetic legitimacy of visible effort and trust dynamics.

Results. Across the last decade the center of gravity in aerial gymnastics has shifted from additive chains of feats toward dramaturgically scored works that bind vocabulary, musical design, and imagery into legible arcs. Comparative readings of contemporary circus propose that such works are best understood not as “theatre with gymnastics,” but as performances whose meanings are produced by circus-specific codes (risk, virtuosity, imbalance/repair) organized through narrational and semiotic principles; this approach explains why narrative aerial acts increasingly mobilize metaphor, intertextuality, and recurring motifs rather than a linear feat escalation alone [9]. Recent analyses of story-centred circus bodies show the performer’s technique functioning as a bearer of diegetic information (e.g., tempo inflection or wrap density as cues of conflict, suspension motifs as durational “rests”), which

aligns with the observed rise of image-driven dramaturgies in major companies and mixed-media collaborations [1; 4]. In aerial dance research, choreographic methods explicitly frame “fit/misfit” between apparatus and body as a generative constraint, allowing dramaturgical tension to be composed materially (friction, drag, torsion) rather than layered post hoc; this materially grounded scoring supports the move from trick to image without forfeiting gymnastic specificity [8].

The transition from feat-centric design to story-bearing design correlates with wider adoption of three compositional devices documented in recent work.

1) Recurrent wraps, climbs, and drops are varied in meter, amplitude, or spatial facing to encode plot turns; case analyses of contemporary productions detail how repetition-with-difference produces legibility for audiences unfamiliar with circus grammar [4; 9].

2) Experimental aerial practice treats technical friction, instability, and negotiated balance as dramaturgical agents; the “mis/fit” method uses deliberately resistant configurations to foreground character struggle in the kinesic texture, sidestepping pantomime and allowing the apparatus to “speak” [8].

3) Immersive and participatory formats integrate sensors, projections, and group tasks so that audience physiology and synchrony peak during dramaturgically salient transitions; measurements of electrodermal activity and heart-rate variability demonstrate segment-wise arousal patterns that map onto designed narrative beats in hybrid circus installations [1]. Together these devices account for the observed migration “from trick to image” without importing theatre’s dialogic scaffolding.

Two independent strands substantiate the growth of narrative/imagistic aerial work. First, corpus-based readings of contemporary circus identify narration, metaphor, and metadiscourse as recurring structures across companies and

festivals, with detailed semiotic accounts of narration in case chapters (e.g., Squarehead Productions; Les Colporteurs) [9]. Second, practitioner-scholar analyses track the emergence of “narrative bodies,” where technical phrasing is composed to carry thematic load rather than merely decorate climax points; the trend is visible in repertoire studies and in rehearsal documentation from creation-oriented companies [1; 4]. These sources converge on the finding that twenty-first-century aerial dramaturgy builds meaning through acrobatic material itself rather than by attaching external stories to a string of set pieces [4; 9].

The dramaturgization of aerial numbers co-evolves with measurable changes in preparation. New normative profiles for pre-professional and professional circus artists (n=201) establish reference values for strength, flexibility, balance, and cardiovascular indices that enable casting and programming to be aligned with dramaturgical demands (e.g., sustained suspensions vs. burst-drop structures) [2]. Injury-risk syntheses argue that discipline-specific exposure, workload cycles, and tissue tolerance must be treated as dramaturgical parameters during creation: narrative arcs that require serial “oblivion drops” or prolonged isometrics entail distinct fatigue and risk signatures that should be scored alongside music and light [3]. Exploratory surveillance in recreational aerial schools quantifies injury rates per 1,000 class-hours and flags shoulder/upper-limb load management, mat selection, and clothing as levers; translating these findings to dramaturgical planning supports safer modulation of suspense and release without over-concentrating risk in one segment [5]. Sector guidance now extends general concussion consensus statements with circus-specific return-to-performance staging, offering graded progressions that respect complex gymnastic exposures typical of aerial dramaturgy [6].

Studies of gymnastic pedagogy and creativity document how aesthetic autonomy arises when training regimes let artists reorganize skill families around expressive problems rather than catalogues of difficulty; this aligns with rehearsal practices where transitions, pauses, and failed attempts are retained as part of the score to sustain character logic [7]. Ethnographic and qualitative work in aerial communities records gendered negotiations around strength and muscularity – concerns that historically pushed performers toward “pretty line” vocabularies – yet recent dramaturgies use visible effort, sweat, and abrasion to signify stakes and vulnerability, expanding available character registers for women and non-binary artists [10]. The compositional consequence is a broader palette: audible breath, tremor at edge-hold, and deliberately rough wraps read as narrative evidence rather than technical deficiency [7; 8; 10].

Aerial dramaturgy increasingly treats time as architectural: durations of suspension, ascent/descent ratios, and phase order are designed to produce causation and memory, not only suspense. Narrative-oriented analyses show how shows place gymnastic events within frames that anticipate and recall them (prologues/epilogues, metadiscourse), and how ambiguity generated by apparatus use (e.g., knotting/unknotting in corde lisse) supports metaphoric reading [9]. Case essays on narrative bodies demonstrate tempo coding, where micro-accelerations inside climbs or in-air transitions signal plot acceleration independent of musical tempo [4]. Immersive prototypes confirm that collectively orchestrated tasks can serve as “choric” functions – shaping audience involvement peaks to coincide with pivotal acrobatic images, thereby fusing kinesthetic and narrative climaxes [1].

The consolidation of narrative aerial work coincides with better baselines and return-to-performance pathways. Normative data now differentiate professional versus pre-professional profiles across handstand balance, pull-ups, abdominal strength,

and flexibility, enabling dramaturges and coaches to match roles and arc demands to performer capacities [2]. Risk syntheses recommend accounting for discipline-specific exposures (aerial vs. ground), prior injury, and load spikes in the creative calendar; when narrative designs require repeated drops or protracted wrap tensions, these become programmable “risk motifs” that are distributed across the score to reduce clustering [3; 5]. Where head impacts or suspected concussive events occur in high-risk apparatus transitions, circus-specific return staging details stepwise criteria and circus-relevant exertion/skill challenges before resuming complex multi-apparatus sequences [6].

The integration of dramaturgical requirements into aerial preparation becomes especially visible when comparing physical readiness across performer groups. Research shows that muscular strength and balance capacities differ significantly between pre-professional and professional circus artists, which directly conditions how long suspensions, dynamic drops, or expressive pauses can be sustained without compromising narrative integrity. These data, summarized in Figure 1, provide a visual reference for the distribution of shoulder muscle performance scores and clarify how dramaturgical planning must take into account the physiological thresholds of performers (fig. 1) [3].

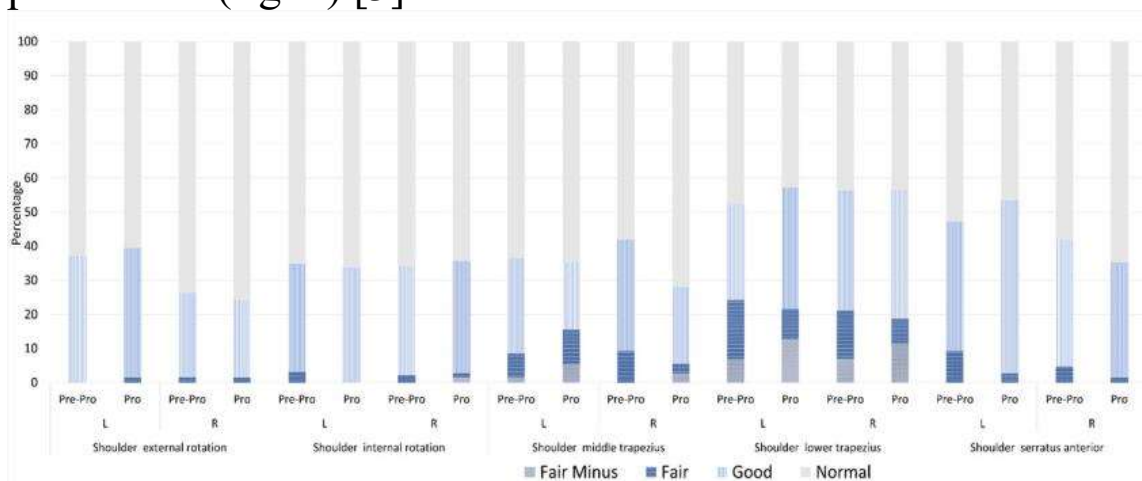


Fig 1. Shoulder manual muscle testing scores by professional status. Source: [3]

In a narrative aerial number such as Jeanne d’Arc, the dramaturgy can be read as a cyclical motive structure: ascents, bindings, and falls recur with increasing density, producing a kinaesthetic allegory of ordeal and persistence. Contemporary scholarship helps formalize what such a score already accomplishes in practice:

- i) semiotic legibility of action under risk [9];
- ii) choreography that harnesses apparatus resistance and performer effort as expressive matter [7; 8];
- iii) audience engagement synchronized to narrative pivots, whether via musical/lighting cues or participatory design around climactic suspensions [1; 4].

Health-informed scheduling then treats repeated “oblivion drop” families as a dramaturgical resource to be rationed across the arc, with staged readiness checks informed by current circus-specific guidance.

The evidence assembled in the Results suggests a structural reconfiguration of aerial gymnastics: technique is no longer a decorative vessel for climax points but a meaning-bearing system governed by semiotic and dramaturgical constraints [4; 9]. Three consequences follow. First, compositional decisions now arise from material frictions between body and apparatus – wrap density, torsion, drag – rather than from a catalogue of difficult elements [8]. Second, audience involvement tracks dramaturgical pivots with measurable synchrony, which gives creators a feedback-sensitive handle on pacing and arc design [1]. Third, casting and rehearsal planning must be parameterized by physical readiness profiles and risk topographies so that narrative intensity does not outstrip tissue tolerance [2; 3; 5; 6]. In practical terms, this means that the same motif family (e.g., serial drops) will need different temporal spacing and cueing depending on performer status, as visualized in Fig. 1 [2].

To consolidate these claims, Table 1 synthesizes converging findings from dramaturgical theory, choreographic method, audience studies, and health sciences. The summary clarifies how each strand contributes to the double thesis of this article: the genre’s evolution from trick assemblage to narrative scoring, and the dramaturgical turn from feat to image.

Table 1

*Converging recent evidence on narrative shift in aerial work
(2022-2025)*

Domain	Study focus & method	Principal finding	Relevance to aerial dramaturgy
Dramaturgy	Book-length analyses of contemporary circus; close readings	Narration, metaphor, metadiscourse recurrent across companies; meaning produced through circus codes under risk	Frames aerial numbers as narrational architectures built from gymnastic material
Practice analysis	Case essays on “narrative bodies”	Technical phrasing composed to carry thematic load, not merely climax decoration	Justifies re-scoring of climbs, suspensions, transitions as plot devices
Choreographic method	Method of mis/fit in aerial dance	Material resistance (apparatus–body misfit) functions as dramaturgical agent	Supplies a reproducible procedure for composing conflict inside technique

Pedagogy/ creativity	Ethnography of acrobatic training	Autonomy rises when skills are organized around expressive problems	Legitimizes rehearsal retention of effort, hesitation, and failure as score
Audience research	Physiological measurements in immersive performance	Segment-wise arousal peaks align with designed narrative beats	Empirical support for pacing/tempo decisions in story- centred aerials
Physical profiling	Cross-sectional normative data (pre- professional vs professional)	Systematic strength/balance differences across groups	Guides casting, arc length, and recovery spacing in narrative scores
Injury risk	Synthesis of discipline- specific exposures	Risk shaped by apparatus exposure, workload cycles, prior injury	Converts “drop families” and long isometrics into programmable risk motifs
Surveillance	Recreational aerial injury characterization	Shoulder/upper-limb load, matting, clothing affect event rates	Supports safety- critical staging of suspense/release segments
Clinical guidance	Circus-specific return-to- performance pathways	Graded criteria tailored to circus tasks post-concussion	Integrates health checkpoints into rehearsal calendars
Gendered experience	Qualitative study in aerial communities	Visible effort, pain, trust renegotiate aesthetics of muscularity	Expands character registers beyond “clean line” toward embodied stakes

The synthesis in Table 1 implies that dramaturgical design choices warrant operational tools rather than post-hoc rhetoric. To that end, Table 2 offers a scoring matrix that links recurrent motive types to compositional decisions, health constraints, and expected audience cues grounded in the recent literature.

Table 2

Operational scoring matrix for aerial dramaturgy: motive → composition → constraints → cues)

Dramaturgical motive	Compositional decision	Health/training constraints	Audience/meaning cue (evidence)
Repetition-with-difference wraps	Vary facing, amplitude, and meter across reprises	Balance and shoulder endurance profiles constrain repetition density	Recognition-based legibility of plot turns
Prolonged suspension as “rest”	Insert durational holds to punctuate action	Flexibility/abdominal strength and blood-flow management	Time dilation read as reflection or threat
Serial drop families	Distribute drops across arc; escalate interval compression late	Load spikes elevate risk; stage recovery windows	Kinetic shock coded as crisis
Mis/fit friction	Compose deliberately resistant entries/exits	Tissue tolerance for abrasion/torsion; grip fatigue	Struggle embodied in technique, not pantomime

Tempo-coded climbs	Micro-accelerate inside climbs independent of music	Cardiovascular cost limits frequency of tempo surges	Acceleration reads as plot quickening
Immersive pivot	Align lighting/sound cues with narrative hinge	Manage cumulative fatigue to maintain precision	Synchronous arousal peaks at pivots
Visible effort aesthetic	Preserve breath, tremor, audible strain where safe	Monitor overuse; avoid normalizing unsafe pain	Stakes/vulnerability legible beyond “pretty line”
Casting by profile	Assign motifs to status-matched bodies	Use normative thresholds to gate difficulty	Stable execution sustains narrative credibility
Return staging	Gate re-exposure to dynamic sequences	Circus-specific progression criteria	Cohesion preserved without premature escalation

Two applications follow for the combined topic of genre evolution and dramaturgical consolidation. First, motif selection and ordering can now be justified by measured readiness rather than by an abstract escalation curve: the distribution of shoulder performance scores across status groups (Fig. 1) constrains how long suspensions or high-impact drops are clustered without compromising narrative pacing [2; 3]. Second, image construction benefits from material dramaturgy: when bindings, ascents, and falls are arranged as a cyclical motive structure, conflict and transformation are inscribed in the mechanics themselves, which aligns with current readings of contemporary

circus dramaturgy [8; 9]. Audience-side physiology further indicates where to locate participatory or lighting cues so that engagement peaks coincide with thematic pivots rather than with arbitrary technical maxima [1].

For authorial practice centered on the Jeanne d'Arc creation, the matrix in Table 2 clarifies three actionable levers:

i) rationing drop families across the arc with recovery micro-windows calibrated to risk syntheses [3; 5];

ii) using mis/fit entries to bind character struggle to apparatus resistance [8];

iii) placing tempo-coded climbs near turning points where engagement peaks are most probable [1; 4].

When casting or re-staging with different performers, normative benchmarks can be used to retune motif density while preserving the same narrative outline [2]. Should head impacts or near-misses occur during dynamic transitions, circus-specific return staging provides a pathway to resume rehearsals without collapsing the dramaturgical spine of the act [6].

Finally, the literature on gendered experience argues for the dramaturgical legitimacy of visible effort and abrasion where safe monitoring is in place: rather than sanitizing muscularity, narrative aerial work can recruit its marks – breath, tremor, grip renegotiation – as evidence, widening character palettes for women and non-binary artists in line with current practice-based and qualitative findings.

Conclusions. The consolidation of narrative aerial work rests on three interacting pillars. First, meaning is produced through acrobatic material organized as motives – wraps, ascents, drops, and suspensions – whose variation and timing generate plot recognition without importing exogenous dialogue. Second, dramaturgical planning is inseparable from physiological readiness and risk governance: motif density, recovery windows, and return-to-performance staging must be tuned to profiles and exposure histories so that narrative

intensity does not outrun capacity. Third, audience engagement concentrates at designed hinges, enabling feedback-sensitive pacing and the precise placement of immersive or lighting cues. The practice-oriented matrix proposed here translates these insights into assignable decisions for creators and coaches. The Jeanne d'Arc reading illustrates how cyclical bindings, ascents, and falls yield a coherent image that fuses technical specificity with storytelling. The framework offers a transferable path for composing narrative scores in aerial gymnastics while sustaining performer longevity and dramaturgical clarity.

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Крістіна Потопальська,

Київ, Україна,

e-mail: misskriss985@gmail.com,

ORCID: 0009-0000-4662-7130

ВІД ТРЮКОВОГО МОНТАЖУ ДО НАРРАТИВНОГО СКОРИНГУ У ПОВІТРЯНІЙ ГІМНАСТИЦІ: ЕВОЛЮЦІЯ ЖАНРУ ТА ДРАМАТУРГІЧНА КОНСОЛІДАЦІЯ

Анотація. Стаття розглядає перехід повітряної гімнастики від ланцюжків трюків до композицій із чітко побудованою драматургією, де технічний матеріал несе сюжетний сенс. В основі аналізу – сучасні дослідження з драматургії цирку, хореографічної методики, фізіології залученості глядачів, профілювання артистів та управління ризиками. Показано, як сімейства мотивів (намотки,

підйоми, зриви, статичні утримання) організовуються в образну структуру без втрати спортивної специфіки. Рушійною силою композиції є матеріальні взаємодії тіла та снаряда: обертання, опір, навмисний «mis/fit», баланс на межі. Ці взаємодії впорядковуються через повтори з варіюванням, довгі паузи-утримання та темпові переходи, формуючи чіткі дуги конфлікту й відновлення, а не проміжний «декор» між кульмінаціями. Вимірювання у імерсивних форматах фіксують піки синхронізації глядачів у місцях драматургічних поворотів, що надає інструменти для темпоритму, розстановки світлозвуккових акцентів і дозування напруження/розрядки. Паралельно нормативні профілі пре-професіоналів і професіоналів, синтез факторів ризику та протоколи повернення до виступів задають робочі обмеження для кастингу, репетицій і розподілу високонавантажених елементів; сюжетна інтенсивність корелює з толерантністю тканин, історією навантажень і вікнами відновлення. Пропонується операційна матриця, що пов'язує вибір мотивів із композиційними рішеннями, параметрами здоров'я та глядацькими маркерами; застосування показано на прочитанні «Жанни д'Арк» як циклічного мотиву зі зв'язок, підйомів і падінь. Результат – критерії розведення серійних зривів і довгих ізометрій по дузі номеру, практики включення дихання, тремтіння та контрольованих «збоїв» як свідчень ставок, а не огріхів, шаблон переналаштування щільності мотивів при рестейджингу без втрати сюжетного каркасу. Підхід забезпечує відтворювані процедури наративного скорингу та підтримує ресурс артиста разом із композиційною ясністю.

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