

The Definition of Animation: A Cursory Study of the Definition of Animation and How the Researcher Defines It After Years of Practical Experience as an Animator

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ABSTRACT

The concept of animation has been defined differently across artistic, cinematic, technological, and computational disciplines. Traditional definitions primarily emphasize animation as the creation of the illusion of life and movement through sequential imagery, while contemporary computer graphics literature increasingly frames animation as the temporal transformation of digital objects within virtual environments. Despite the richness of these perspectives, existing definitions often privilege either artistic performance, narrative representation, or computational mechanics without adequately integrating the multidimensional realities of contemporary animation practice. This study critically examines major definitions of animation from classical animation theory, film studies, visual communication, stop-motion scholarship, and computer graphics research to determine their adequacy in explaining modern animation workflows. Through a conceptual and literature-based analysis, the study identifies a theoretical gap in current definitions, particularly regarding procedural animation, simulation-driven systems, visual effects, and physically based digital production pipelines. In response, the paper proposes a transformation-centered definition of animation that conceptualizes animation as the art and process of transforming design elements through translation, rotation, scaling, deformation, and particle motion within space and time to produce perceptible change and controlled motion for the communication of ideas, emotions, or narrative. The proposed definition integrates artistic, technical, and communicative dimensions into a unified framework capable of accommodating traditional and contemporary animation practices, including 2D animation, 3D computer graphics, stop-motion, motion capture, procedural animation, and simulation-based visual effects. The study contributes to animation studies by offering a theoretically grounded and practice-informed conceptual framework that reflects the evolving nature of animation within contemporary digital media production.

BACKGROUND

The expression of life in imagery could be dated as back as more than 30, 000 years ago during the Palaeolithic period. Caves as Altamira, Lascaux and Niaux also inhibits paintings between 12,000 to 17,000 years old during the Magdalenian period (Valladas, et al., 2001). The painting mostly depicts horses as the main animals drawn on the cave walls with charcoal pigment and oil from animal fat. The animals are drawn in an athletic posture depicting their environment as well (Pruvost, et al., 2011).

Photography also as a form of visual expression has evolved over the past 150 and more years. Photography which can also be referred to as the art of writing with light has innumerable uses which spans from entertainment, fashion, education, research, archiving, documentation and scientific purposes. Photographs are meant to record the exact happenings of an event (Davenport, 1999).

Animation has been defined and theorized across artistic, cinematic, and computational traditions, reflecting its interdisciplinary nature. Early foundational literature situates animation as the creation of the illusion of life through movement. Thomas and Johnston (1981) describe animation as an artistic process in which drawn or constructed forms are imbued with believable motion, personality, and emotional expressiveness. This perspective establishes animation not merely as motion, but as performance and storytelling driven by timing,

exaggeration, and physical believability. Williams (2009) reinforces this position by emphasizing that animation concerns the design of motion rather than the movement of drawings themselves, foregrounding motion logic as the core of the medium.

LITERATURE REVIEW

The definition of animation cannot be attributed to only one school of thought or author. The word can be dated back as far as the cave man's era and has evolved till present days.

Below are scholarly and consolidated presentation of definitions of animation drawn from books, peer-reviewed journals, authoritative industry publications, and reputable educational websites. These definitions are grouped thematically to show how the understanding of animation has evolved across artistic, technical, cinematic, and digital contexts.

Classical and Foundational Definitions (Books)

One of the most authoritative and frequently cited definitions of animation comes from Disney animators Frank Thomas and Ollie Johnston, who situate animation within the illusion of life:

Animation is the art of bringing drawings to life through movement that appears believable, expressive, and emotionally engaging (Thomas & Johnston, 1981). This definition emphasizes movement, believability, and emotional communication, positioning animation as both a technical craft and an artistic discipline.

Paul Wells expands this view by situating animation within cinematic language: Animation is a filmmaking practice in which the illusion of movement is created frame by frame, allowing artists to visualize ideas that cannot be captured through live-action cinema (Wells, 1998).

Similarly, Richard Williams defines animation in functional and performance terms: Animation is not the art of drawings that move, but the art of movements that are drawn (Williams, 2009). This definition foregrounds motion design and timing as the core of animation rather than drawing alone.

Academic and Journal-Based Definitions

From an academic perspective, animation is often defined in relation to perception and visual cognition. Animation is the simulation of movement through the rapid display of a sequence of static images that differ slightly from one another (Furniss, 2014).

In media studies, animation is described as a representational system: Animation is a mode of visual communication that constructs motion, space, and narrative through sequential imagery, independent of physical reality (Manovich, 2001).

In computer graphics research, animation is defined more technically: Animation refers to the generation of temporal changes in graphical objects, including position, orientation, scale, shape, and appearance over time (Foley, van Dam, Feiner, & Hughes, 2014).

Technical and Computer Graphics Definitions

Within computer graphics and CGI literature, animation is framed as a computational process: Animation is the process of creating motion and shape change by the computer-controlled display of graphical objects over time (Parent, 2012).

Pharr et al. emphasize animation's role within rendering and simulation pipelines: Animation in computer graphics involves defining time-varying transformations that describe how virtual objects evolve within a three-dimensional space (Pharr, Jakob, & Humphreys, 2017).

Sito contextualizes animation historically within digital media: Computer animation is the use of digital tools to generate sequences of images that create the illusion of movement, often replacing traditional hand-drawn methods (Sito, 2013).

Industry and Professional Definitions

Professional and educational platforms often provide applied definitions:

According to Pixar Animation Studios: Animation is storytelling through motion, where characters and environments are brought to life by performance, timing, and visual design (Studios, 2023).

The British Film Institute (BFI) defines animation as: Animation is a filmmaking technique in which still images are manipulated to appear as moving images (Institute, 2022).

Similarly, Encyclopedia Britannica states: Animation is the technique of photographing successive drawings or positions of puppets or models to create an illusion of movement when the movie is shown as a sequence (Britannica, 2024).

Stop-Motion and Physical Animation Definitions

Stop-motion scholarship introduces a material dimension to the discourse. (Purves, 2014), defines stop-motion animation as the incremental manipulation and photographic capture of physical objects to simulate motion, while (Yekti, 2017) emphasizes the expressive value of tactility, imperfection, and visible human intervention. This reinforces the view that animation is not confined to digital environments but encompasses a wide range of material and performance practices.

Contemporary scholars increasingly conceptualize animation as a hybrid practice. (Bendazzi, 2016), describes animation as an integration of art, technology, performance, and narrative across media platforms, while (Power, 2009) argues that animation constructs alternative visual logics rather than merely replicating reality. Collectively, these perspectives suggest that animation functions simultaneously as an artistic medium, a technological process, and a system of visual communication.

In synthesis, animation can be understood as a multidisciplinary practice that creates the illusion of life and motion through sequential imagery whether drawn, modeled, photographed, or digitally generated guided by principles of movement, timing, and narrative. This integrated definition provides a conceptual foundation for analyzing animation across 2D, 3D, and stop-motion forms and supports its application in both artistic and technical research contexts

While early definitions of animation emphasize the illusion of life and character performance (Thomas & Johnston, 1981; Williams, 2009), and computational perspectives define animation as time-varying change of form or position (Parent, 2012); (Foley, van Dam, Feiner, & Hughes, 2014), these definitions often fail to adequately account for contemporary CGI workflows involving procedural deformation, particle systems, and physically based simulation. This paper therefore adopts a transformation-centered definition of animation that reflects current digital production practices.

The lack of a technically explicit, transformation-based definition that accounts for modern CGI, procedural animation, and simulation-driven workflows is worth looking into. Existing definitions were developed in contexts dominated by hand-drawn and character-centric animation. Contemporary digital animation, however, increasingly relies on transformation systems, simulation, and procedural motion that extend beyond traditional performance models. A revised definition is therefore necessary to reflect current practice.

This definition responds to the limitations of character-centric and frame-based definitions by accounting for transformation-driven, procedural, and simulation-based animation workflows common in contemporary digital production.

Conceptual Clarification and Contribution

While animation has been variously defined across art, film, and computer graphics literature, existing definitions often privilege either frame-based illusion (Thomas & Johnston, 1981), character performance (Williams, 2009), or algorithmic motion generation (Parent, 2012). Such perspectives, though foundational, do not fully account for contemporary animation practices that extend beyond character animation into areas such as environmental simulation, motion graphics, visual effects, procedural systems, and physically based rendering workflows.

In response to this gap, the study proposes a synthesized definition of animation as: **the art and process of transforming design elements through translation, rotation, scaling, deformation, and particle motion within space and time to produce perceptible change and controlled motion in order to communicate ideas, emotion, or narrative.** This definition integrates classical animation principles emphasizing expressive motion with computational perspectives that conceptualize animation as time-varying transformation of form within a coordinate space (Foley, van Dam, Feiner, & Hughes, 2014); (Parent, 2012).

The contribution of this definition lies in its capacity to unify artistic, technical, and communicative dimensions of animation within a single conceptual framework. By foregrounding transformation operations rather than medium-specific techniques, the definition accommodates diverse animation forms including two-dimensional animation, three-dimensional computer graphics, stop-motion, motion capture, procedural animation, and simulation-driven visual effects. Furthermore, the explicit inclusion of communicative intent ideas, emotion, and narrative positions animation not merely as a technical process, but as a design-driven expressive practice aligned with visual communication theory.

This conceptualization is particularly relevant for contemporary animation scholarship and education, where animation is increasingly understood as a multidisciplinary field operating across design, storytelling, computation, and perception. By articulating animation as both a structured transformation process and a communicative act, the proposed definition offers a flexible yet rigorous foundation for analytical, pedagogical, and practice-based research.

CONCLUSION

This paper set out to critically examine existing definitions of animation across artistic, cinematic, technical, and computational traditions and to evaluate whether these definitions sufficiently capture the realities of contemporary animation practice. Through historical tracing, theoretical review, and conceptual analysis, the study demonstrates that animation has never been a singularly defined phenomenon. Rather, it has evolved across epochs from prehistoric representational imagery, through mechanical optical devices, cel animation, and Computer-Generated Image to become a multidisciplinary field that intersects art, technology, narrative, cognition, and simulation.

The review reveals that early foundational definitions particularly those articulated by Thomas and Johnston (1981) and reinforced by Williams (2009) center animation on the “illusion of life” and expressive performance. These definitions remain conceptually powerful, especially within character-driven animation traditions. However, as digital production pipelines expanded to include procedural systems, physics-based simulations, particle dynamics, and transformation-driven workflows, animation practice began to exceed the explanatory boundaries of character-centric and frame-based definitions.

Technical and computer graphics scholarship (Foley, van Dam, Feiner, & Hughes, 2014); (Parent, 2012); (Pharr, Jakob, & Humphreys, 2017) broadened the discourse by defining animation as time-varying transformation of graphical objects within coordinate space. While this computational framing captures the structural mechanics of digital animation, it often underemphasizes animation’s communicative and expressive purpose. Similarly, film and media theorists situate animation as a narrative and representational system, yet frequently detach it from the technical transformation processes that now define much of contemporary CGI production.

The core contribution of this paper, therefore, lies in identifying a conceptual gap: existing definitions tend to privilege either illusion, performance, or computation, but rarely integrate all three dimensions within a unified framework as shown in Figure 1.0 below. Contemporary animation particularly within CGI, visual effects, simulation systems, and motion graphics operates fundamentally through transformation operations: translation, rotation, scaling, deformation, and particle-based dynamics across space and time. These transformation systems underpin not only character animation but also environmental effects, fluid simulations, cloth dynamics, destruction systems, and procedural world-building.

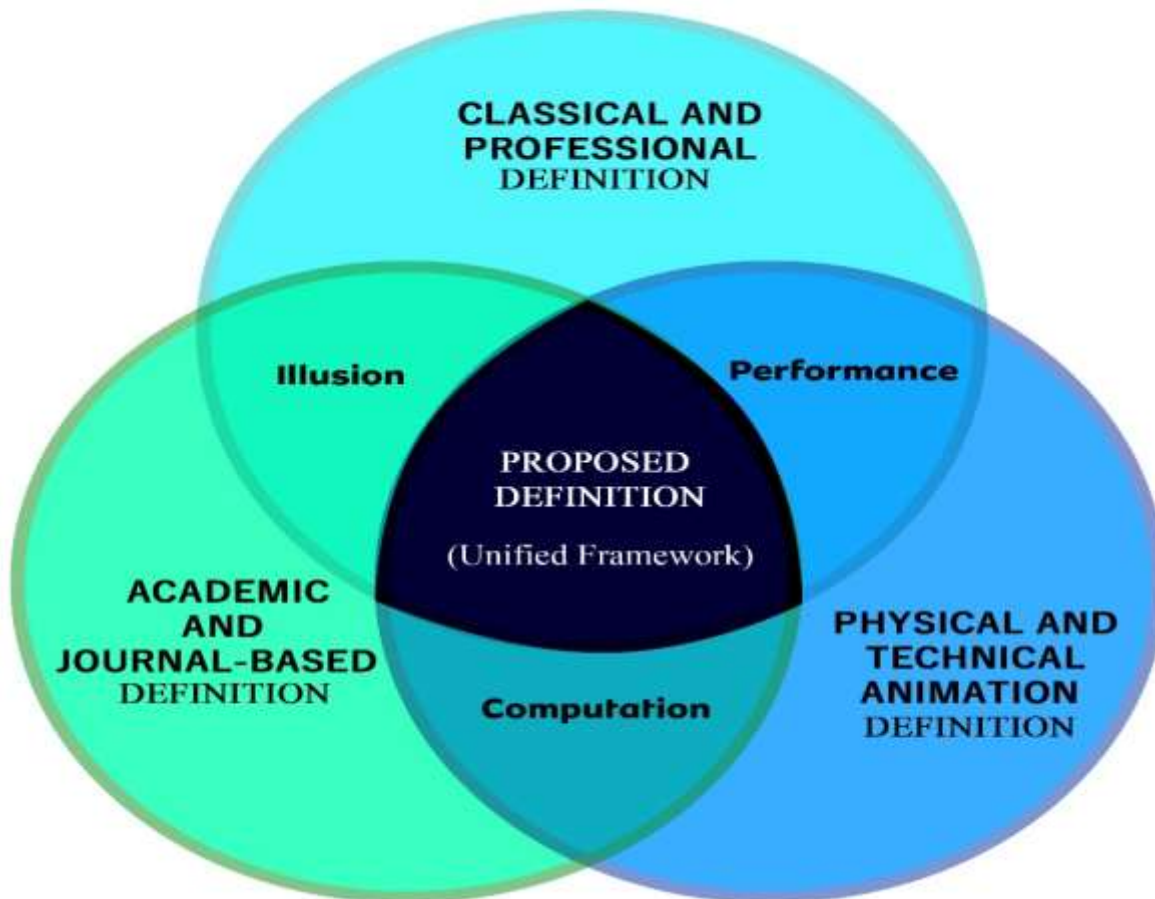


Figure 1.0: A conceptual framework of a proposed Animation Definition

In response to this theoretical limitation, the study proposes a refined, transformation-centered definition:

Animation is the art and process of transforming design elements through translation, rotation, scaling, deformation, and particle motion within space and time to produce perceptible change and controlled motion in order to communicate ideas, emotion, or narrative.

This definition advances the discourse in three significant ways:

Integration of Artistic and Technical Dimensions

It unifies classical performance-based principles with computational transformation logic, acknowledging that contemporary animation is both expressive art and algorithmic process.

Accommodation of Modern Production Practices

By foregrounding transformation systems rather than medium-specific techniques, the definition accounts for 2D, 3D, stop-motion, motion capture, procedural animation, simulation-driven VFX, and hybrid workflows.

Reaffirmation of Communicative Intent

By explicitly including the communicative function, ideas, emotion, narrative the definition prevents animation from being reduced to mere mechanical motion or software manipulation. Animation remains fundamentally a design-driven act of visual communication.

The study also reinforces the interdisciplinary nature of animation. It intersects visual communication theory, cognitive perception (illusion of motion), computational mathematics (coordinate transformation), aesthetics (beauty and believability), and narrative design. The proposed definition captures the interdisciplinary aspect of animation, rather than confining it to a single discipline. Importantly, the paper does not reject foundational definitions but extends them. Thomas and Johnston's "illusion of life" remains valid, yet the mechanism of that illusion in contemporary practice is increasingly transformation-based and simulation-driven. Thus, the proposed definition functions as a synthesis rather than a replacement.

From an academic standpoint, this work contributes to animation studies by:

- Providing a consolidated literature-based comparison of animation definitions.
- Identifying conceptual blind spots in existing scholarship.
- Proposing a theoretically grounded, practice-informed alternative definition.
- Offering a framework applicable to both scholarly analysis and studio-based production pedagogy.

For practitioners and educators, the transformation-centered definition clarifies animation not simply as drawing or performance, but as structured spatial-temporal change guided by communicative intent. This provides pedagogical clarity in environments where animation education must address both artistic principles and digital production workflows.

In conclusion, animation cannot be adequately defined solely as illusion, motion, or computational change. It is a structured transformation of form within space and time, deliberately orchestrated to convey meaning. By articulating animation in this integrated manner, this study provides a conceptual foundation that reflects the realities of contemporary digital practice while remaining anchored in its artistic heritage.

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