ONTOLOGY FOR MEDIA CREATION

PART 2: CONTEXT

VERSION 2.5

1   Introduction

What is "Context?" Dictionaries[1] tend to give two related meanings:

- The parts of a written or spoken discourse that surround a word or passage and clarify its meaning.
- The circumstances or interrelated conditions within which something exists or occurs.

Although the first is primarily linguistic and the second is concerned with being and action, they both point to Context being something that surrounds other things and influences them.[2] Indeed, the first definition is the basis of the "decoding context clues" technique often used with beginning readers.

Context is essential to understanding things. A common complaint is that words are taken "out of context" to imply a different meaning or emphasis from what was initially intended. If a movie critic writes that a film is mediocre but then also adds, "The credit sequence, with its jumpy frames and near-subliminal flashes of psycho-paraphernalia, is a small masterpiece of dementia," the poster for the film might just say "…a small masterpiece" which takes "small masterpiece" out of Context.[3]

Context is a problem in other fields as well. In archaeology, a clay pot on its own is just a clay pot, no matter how valuable or beautiful. If its archaeological Context is recorded (Where was it found – near its place of manufacture or far away? In what environment was it found – In a grave or in a rubbish heap? What other things were found with it?),[4] it becomes a much more intriguing and valuable item.

Finally, there are some things that absolutely require Context to understand them. Some words have meaning only in Context. To understand "tomorrow," you need to know what "today" is, and "Put it here" requires knowing where the speaker is standing or pointing.[5] The Context for these is implicit, not explicitly stated, and software-defined workflows[6] need Context to be explicit or at least easily discoverable.

The second definition has particular applicability to feature and episodic production, with a history that crosses over from the stage. No performance exists on its own – each one is surrounded by creative and technical decisions that, taken together, provide Context for that performance. Productions of Shakespearian plays offer a particularly rich set of examples:

- *Richard III* has underlying themes of power politics and free will vs. fate. When it was initially performed, these tied into contemporary thinking about the legitimacy of the Tudor dynasty and significant aspects of Protestant/Catholic theological disagreements. Neither of these has much relevance to most modern audiences. Still, a modern production can produce the play in

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[1] The definitions that follow owe a great deal to both the Oxford and Cambridge English Dictionary.

[2] Not quite *"It surrounds us and penetrates us; it binds the galaxy together,"* but other than not having a light side and a dark side, context is somewhat like The Force.

[3] https://en.wikipedia.org/wiki/Quoting_out_of_context

[4] Roughly, these equate to the archaeological notions of provenience, matrix, and association.

[5] The formal term for this is *deixis*.

[6] A software-mediated system that supports collaboration and allows a set of tasks to be configured, interconnected, and automated. See *The Evolution of Production Workflows* at https://movielabs.com/production-technology/sdw/

a new context by placing it in a totalitarian or proto-totalitarian setting: same Script, same characters, but a very different result visually and in the audience's mind.

- *Romeo and Juliet* provides a slightly different example. Zeffirelli's 1968 film is traditionally Shakespearian in almost every way – characters, dialogue, Italian Renaissance costumes, and sets. Baz Luhrmann's 1996 *William Shakespeare's Romeo and Juliet* retains most of Shakespeare's dialogue but renames a few characters and, most importantly, places it in contemporary Verona Beach rather than in Verona, Italy in the 16th century. The general themes of the two productions are the same – frustrated young love, family animosity spilling into civil disorder – but the results are very different.

These examples are all at a very high level – the Context of a production, as a whole. As with most components of software-defined workflows, the level of detail or granularity can increase as needed for each step of the production process. For example, in a "swords and sorcery" movie, the hero's sword can glow when there are enemies nearby. The sword is just a magic sword at the highest level, but in the Context of a particular scene, it might produce a monitory radiance – the Scene is part of the Context that a VFX house needs when it processes the sword. On a more mundane level, if a character is out in the rain or has fallen into a pond, the Context will say whether that character's clothes are wet or dry.

Context is essential to understanding both the creative intent of a production and turning that intent into a finished product. This ontology defines and discusses things that are necessary to create those Contexts.

1.1 Notational Conventions

In documents generally:

- The definition of a term included in the Dictionary is in bold, followed by the definition, e.g., **Creative Work:** A uniquely identified production.
- When a defined term is used in the text of a document, it is capitalized, for example in "The Production Scene is usually derived from a numbered scene in the Script," Production Scene and Script are defined in the Ontology. (Note, a word that is part of defined term may sometimes be capitalized by itself as a shorthand, e.g., "Scene" may be used to indicate "Narrative or Production Scene.")
- References to other Ontology Documents are in ***bold italic***, e.g., ***Part 3: Assets*** or ***Part 3A: Camera Metadata***

For Sample Attributes in the concept documents:

- If a data field or attribute is formally defined in this ontology or a connected ontology, it is italicized, e.g., *Setup* as an attribute refers to a defined concept.

- Attribute […] indicates an attribute can appear more than once, e.g., *Identifier* […]

- →Thing means that an attribute is expressed as a relationship to a Thing, e.g., the →*Script* attribute of Creative Work means there is a relationship Creative Work→*Script*

- A combination of the two indicates that the concept can have relationships to a set of things, e.g., →Components […]

- Many elements of the Ontology have a Context element. (See **Part 2: Context**.) Relationships declared in the Context are implied to have the item to which the Context is attached as their starting point, for example, Narrative Location→Context→Narrative Scene.

  Contextual relationships that are especially important to the concept being defined are given in the sample attributes tables as C→Thing or C→Thing […] as appropriate. These relationships can just as well be on the object that has the Context. For example, if Narrative Location has "C→Narrative Scene" as an attribute, it is ok to have the relationship directly on the Narrative Location or in its Context, e.g. Narrative Location→Narrative Scene or Narrative Location→Context→Narrative Scene.

  Some implementations (e.g. RDF) place these relationships directly on the class as well as allowing them in Context, and others (e.g. JSON) place all relationship in a Context.

1.2   Globalization Considerations

Practices in the production process vary from territory to territory, and often within a territory for different types of production, e.g., features vs. episodic content. The examples and conventions in this document are currently biased towards the US film industry and will be expanded in future versions.

The terms themselves are given in English. Over time, the Dictionary will provide them in other languages, along with common exact synonyms.

2   Context

2.1   Background

As we have seen, Context is a very broad term. It runs the risk of meaning "anything you might need to do something." Informally, we think of Context as anything that is not directly included in the set of Assets, Tasks, Participants, and Relationships needed to do a job. In many circumstances, a large amount of Context can be derived from the Assets, Tasks, and Participants, but this is often a manual process (such as finding a Slate ID in video and deriving a Scene Number from it). We will use Context to reduce the need for manual intervention, and to aid efficient communication of important contextual information. A Context can have all sorts of other things in it, of course – notes about the reasons for performing a particular Task, for example – but there are some concepts that are globally important to the production process, which are the ones included here.

We define a general Media Creation Context and two more specific Contexts. Loosely, Narrative Context covers the abstract concept of the who/what/where/when that together make up the narrative being created by the production. Production Context deals with the details of turning the narrative into a Creative Work. Most things in the Narrative world will have counterparts in the Production world, and many of these connections fall out of the script breakdown process.

The concepts and terms defined fall into several categories:

- Things defined by the narrative.
- Things that represent something in the narrative in the finished production.
- Connections between the narrative and its depiction in the production.
- Connections between that depiction and the next-level-down-mechanics of creating a finished production.

Some of the items in this document can be thought of as particular kinds of Assets or Participants, which will be important when implementing it but are less critical when defining things. For example, a Script or a Prop can be thought of as Assets (and probably are), but that is not essential for discussing the concepts.

When a particular concept exists in both the narrative space and the production space, it is defined separately. This often means adding Narrative or Production before more general terms. This level of precision is often required when people discuss something that exists in both the narrative and production environments and always required when implementing the machine-actionable definitions needed for software-defined workflows.

The journey from Narrative to Production is another important example of this. That process, starting with Script breakdown, is essentially a transition from a small group of Participants (Director, Screenwriter, Producer, etc.) to a large number of Participants (art designers, wardrobe department, stunt coordinators, gaffers, etc.) many of whom don't know much about the production as a whole, but all of whom have to know enough – have enough Context – to do their part to allow a Production Scene to be shot. The same dividing up of responsibilities happens at each stage of the production process

(VFX, Editorial, Sound, etc.) and each of those transitions requires communicating Context for individual Tasks.

2.2 Media Creation Context

Media Creation Context: Informs scope within the construction process of a Creative Work.
Notes:

> Scope is the extent of the area or subject matter that something deals with or to which it is relevant.

Sample Attributes for Media Creation Context

Attribute	Description
Name	A human-readable name for this Context
Identifier […]	One or more identifiers for the Context. At least one of these should be resolvable within the production environment.
Description	A description of the purpose, scope, etc. of this Context.
→ Context Components […]	A list of relationships to standard Context components (many of which are defined in this document). For example, the Context for Narrative Scene can provide Characters and Narrative Location used in the scene.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context* […]	Contexts can refer to other Contexts. For example, a common Context for a particular Creative Work or Scene can be included in other Contexts that are used for particular portions of the production process.

Notes:

> Contexts are connected to the item for which they are describing context. The relationships to Context Components are really *from* the item to which the Context is attached *to* the item in the component, rather than from the Context itself.

> A Context is a mechanism for aggregating a set of relationships to other items, in theory almost anything could be related to anything else, but the ontology defines a set of relationships between items that we consider to be most useful and common, applications can infer new relationships if they choose.

Media Creation Context is the most general form of Context. It can be used on its own, but it is highly recommended that the more narrowly defined forms be used since a particular task or Asset may have different Narrative and Production context information. These two Contexts have the same general structure as a Media Creation Context but are treated as separate concepts because their use and actual contents will differ. There are also other specialized Contexts, such as Shoot Day Context and Editorial Sequence Context (see below.)

2.2.1 Narrative Context and Production Context

Narrative Context: Informs scope for realizing the creative intent and aligns individual creative decisions within a Creative Work.

Production Context: Informs scope for managing and constructing the realization of the Creative Work.

2.2.2 Shoot Day Context

Shoot Day is a fundamental concept in scheduling the production process. It ties together all of the activities and logistics needed to actually capture a Production Scene in a particular day – where it happens, who has to be there, what has to be there. It is used for planning, budgeting, and logistics, and is often referenced in supporting materials such as on set notes and the Slate (see below.)

Shoot days can be reordered and rescheduled, and even when they are only a best guess, they drive much of the production. Given this centrality and uncertainty, OMC treats shoot days as a kind of Context. From a shoot day, an OMC application can traverse the web of relationships and requirements for that day. As an important example, a Production Scene can be treated as a single organization unit and moved from Shoot Day to Shoot Day as needed without disrupting its internal specifics. Making Shoot Day a Context also means that changes in a Shoot Day, e.g. the shoot date, only need to happen in one place, rather than in individual production scenes and Slates.

Shoot Day Context: Informs scope for days in the filming schedule.

Shoot Day: The number of the day on the filming schedule.

A Shoot Day Context is often specific to a particular production unit or particular location.

Production Unit: A group of Participants associated with or required for a Shoot Day.

A Production Unit is usually composed of multiple people. It is an example of Participant Functional Class (q.v.).

Sample Attributes for Shoot Day Context

Attribute	Description
Identifier […]	One or more identifiers for the Shoot Day. At least one of these should be resolvable within the production environment.
Description	A description of the Shoot Day
Shoot Day	Shoot Day for this Shoot Day Context.
Shoot Date	The date of the Shoot Day

Attribute	Description
→ Supporting Material *[…]*	Anything used on or required for this Shoot Day that are not handled elsewhere and that the production crew find relevant for the day. These are generally Assets.
C->*Production Unit*	See above.
C→ *Production Scene[…]*	The Production Scenes for this Shoot Day Context
C→ *Production Location[…]*	The Production Location(s) needed for this Shoot Day Context
C→ *Creative Work*	An Identifier for the Creative Work to which this Shoot Day Context applies.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ Context […]	Contexts can refer to other Contexts.

Notes:

Shoot Day Context is a subclass of Media Creation Context.

Although almost anything can be put in Shoot Day Context Elements, it is best not to include things that can be discovered by following relationships from the Production Scenes and Production Locations.

There may be multiple Shoot Day Contexts with the same Shoot Day value and the same date, for example when two different crews are shooting in two places on the same day. They can be differentiated using the Production Unit attribute.

The Shoot Day Context itself should be updated when the production schedule changes, and may become incorrect if that is not done. It is often used retrospectively when analyzing the production process.

2.2.3   Other Contexts

Some parts of the workflow may want to define specific kinds of Context that relate to the processes involved, e.g., a hair/makeup context or a stunts context. A workflow that needs this level of detail can define these as subclasses of Context, or use distinguishing names in a Context.

2.2.3.1 Narrative Scene Context

An individual Narrative Scene can contain a great deal of context. Having a type for that context makes it easier to find in the great sea of contexts associated with a production.

Narrative Scene Context: A Narrative Context that contains contextual information about a single Narrative Scene.

Sample Attributes for Narrative Scene Context

Attribute	Description
Name	A human-readable name for this Context
Identifier […]	One or more identifiers for the Context. At least one of these should be resolvable within the production environment.
Description	A description of the purpose, scope, etc. of this Context.
→ *Narrative Scene*	The Narrative Scene to which this context applies
→ Context Components […]	Relationships to elements of the Narrative Scene.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context* […]	Contexts can refer to other Contexts.

Notes:

A Narrative Scene Context is a subclass of a Narrative Context.

2.2.3.2 Production Scene Context

Production Scene Context: A Production Context that contains contextual information about a single Production Scene.

Sample Attributes for Production Scene Context

Attribute	Description
Name	A human-readable name for this Context
Identifier […]	One or more identifiers for the Context. At least one of these should be resolvable within the production environment.
Description	A description of the purpose, scope, etc. of this Context.
→ *Production Scene*	The Production Scene to which this context applies
→ Context Components […]	Relationships to elements of the Production Scene.

Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context* […]	Contexts can refer to other Contexts.

Notes:

A Production Scene Context is a subclass of a Production Context.

2.2.3.3 Editorial Sequence Context

Editorial Sequences are a central part of the production process, and each one can have context that is very tightly coupled with it. As with other subclasses of Context, having a subclass makes it easier to find what you're looking for – the application knows it wants something for the Editorial Sequence, and doesn't have to pick through Contexts that are not for Editorial Sequences.

Editorial Sequence Context: A Production Context that contains contextual information about a single Editorial Sequence.

Sample Attributes for Editorial Sequence Context

Attribute	Description
Name	A human-readable name for this Context
Identifier […]	One or more identifiers for the Context. At least one of these should be resolvable within the production environment.
Description	A description of the purpose, scope, etc. of this Context.
→ *Editorial Sequence*	The Editorial Sequence to which this context applies
→ Context Components […]	
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context* […]	Contexts can refer to other Contexts.

Notes:

An Editorial Sequence Context is a subclass of Production Context.

2.3 Creative Work

Creative Work: A uniquely identified production.

The production process may generate more than one creative work (the main film, some trailers, a director's cut), but generally, there is one "main" Creative Work that others are related to in some way.

Common synonyms include terms like "Title," "Production," "Program," and "Show."

See *Part 6: Creative Works* for a full discussion and details.

2.4 Script

Script: A Structured Document written as a blueprint to convey the creative intent for the Creative Work. Parsing the Script generates a guide to those things that are to be depicted in production.

Sometimes this is called an Outline for unscripted content. A script may depend on Style Guides or Bibles (e.g., for defining the general feel of a set of movies or managing story arcs in a TV series), but these are not themselves scripts, and can be connected to the Script with Relationships.[7]

Sample Attributes for Script

Attribute	Description
Title	The name of the work as given in the Script itself.
Identifier […]	One or more identifiers for the Script. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Version	See **Part 3B: Versions** for the structure of this element. In many production environments this is indicated by a color, e.g., white, blue, pink, yellow, but this is not universal practice nor is the order of colors fully standardized. OMC Version information can accommodate version colors as well as version numbers.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context* […]	
C→Author […]	Participant information for the author(s)/screenwriter(s). **See Part 4: Participants**.
C→*Creative Work* […]	The Creative Work associated with this Script. See ***Part 6: Creative Works***

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[7] Treatments – short-form precursors to Scripts – are not Scripts. Books, plays, etc. that are sources for the Script have relationships to the Creative Work itself.

Notes:

> Parsing the Script either explicitly or implicitly describes those things that are depicted in the production. For example, if the Script takes place in the 18th century, various departments can infer some requirements from that.

> Script breakdown is one of the transition points between the Narrative Context and the Production Context.

> A script may be revised or deviated from during the production.

2.5   Concept and Depiction

The transition from Narrative to Production is iterative, and the boundary between pre-production and production can be more departmental and organizational than temporal – designs for Production Props and decisions about Production Locations may still be in progress for some Narrative Scenes while some Production Scenes are already being filmed or rendered. The ideas, sketches, and concepts are used as input when deciding how to represent the Narrative element in the finished Creative Work.

The Ontology has mechanisms for both the idea phase of the process – Concept – and the final result of the process – Depiction. Both of these use the technique of *reification*: the relationship between two objects is bundled up into another object, which can then be referred to by others. This allows the reified relationship to be passed around as a unit, rather than as two individual things that may get separated or mislaid.

Concept: An exploratory representation of something from the narrative.

Concept covers anything that is used or created as input to the final depiction of a narrative element in the Creative Work, including storyboards, concept art, costume ideas, possible filming locations, and so on.

Sample Attributes for Concept

Attribute	Description
Identifier […]	One or more identifiers for the Concept. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	A description of the Concept, e.g. "dark-mood view of castle."
→ Idea	The concept itself, e.g., a photograph of a car, a sketch of an evening gown, or an inspirational location. This can include Storyboards, Concept Art, and Reference Art (see below), as well as other Assets and Compositions.
→ Subject	The thing to which this Concept pertains, e.g., a Character or a Production Location or the production as a whole.

Attribute	Description
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Concept, e.g. any Narrative element to which this concept applies.

Notes:

Concepts can relate to Narrative Scenes (e.g., a Storyboard), Props, Characters, or Locations. Some Concepts may relate to an entire Creative Work.

Many elements of the narrative will be explored with multiple Concepts.

Some Concepts apply to an entire production. For example, *Nighthawks* (Edward Hopper, 1942) was conceptually important for *Blade Runner* (1982), *Pennies From Heaven* (1981), and *The End of Violence* (1997).[8]

Eventually, the Concepts result in a final Depiction for individual narrative elements.

Depiction: The representation of something from a narrative entity by a production entity in the Creative Work, specified or implied by the Script.

Portrayal: The depiction of a character.

Depiction covers things that are in the Creative Work or in intermediate versions of it. (Some Portrayals may end up on the cutting room floor, for example.) It does not include material used to inform or inspire the final product, such as storyboards and concept art, which are covered by Concept.

Although a simple Depiction can be represented by a bidirectional relationship, Depictions often have some Context around them. For example, a Character may be depicted differently in different scenes. For this reason, it is given here as a data structure, where additional information can be carried in a Context. Some workflows may prefer the simple relationship, and others may need the relationship with Context; this is an implementation issue for individual tools and workflows. If a full Context is not needed, an instance of a Depiction can just use the extra data fields from the Context.

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[8] These examples are explicit, based on comments by the director in the first case and the construction of sets in the others. Hopper's influence has been generally pervasive, especially in film noir, but it is often not really known how explicit filmmakers were about the inspiration. However, The Bates Motel (*Psycho*, 1960) has more than a passing resemblance to *The House by the Railroad* (1925).

Sample Attributes for Depiction

Attribute	Description
Identifier […]	One or more identifiers for the Depiction. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	A description of the Depiction, e.g. "Shards of Narsil" or "Narsil re-forged into Anduril."
→ Depicts	The thing being depicted, e.g., Character, Narrative Prop, or Wardrobe.
→ DepictedBy	The thing that is doing the depiction, e.g., an actor or a CG model, a Production Prop, or a Costume. This can be a Asset or a Composition.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Depiction, e.g.
C→ *Production Scene* […]	The Production Scenes in which the Depiction is used.

Notes:

187 North Gower Street (a real place) depicted 221B Baker Street (a different real place[9]) in *Sherlock*. Harold Hill has been depicted by Robert Preston and Matthew Broderick in *The Music Man*, and Darth Vader was portrayed by David Prowse (body) and James Earl Jones (voice) in the original *Star Wars* trilogy. A CG model can depict pretty much anything.

A Depiction can have any other details required in its Context.

A Depiction can occur in multiple Production Scenes, which can be included in its context.

A Portrayal can use the same data structure as a Depiction, but some systems may want to treat Portrayals with portrayal-specific terms, as follows.

Sample Attributes for Portrayal

Attribute	Description
Identifier […]	One or more identifiers for the Portrayal. At least one of these should be resolvable within the production environment; others might point to sources with more information.

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[9] The address itself (as opposed to any buildings the use the address) has a long and complex history. See
https://en.wikipedia.org/wiki/221B_Baker_Street

Attribute	Description
Description	A description of the Portrayal, e.g. "Youngest Reginald Dwight" and "Adult Elton John."
→ Portrays	The Character being portrayed
→ PortrayedBy	The thing that is doing the portrayal, e.g. an actor. This can be a Participant (an Actor), an Asset (a simple CG model), or a Composition (a more complex CG Model.)
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Portrayal. This Context can include the Production Scenes in which the Portrayal occurs.
C→ *Production Scene* […]	The Production Scenes in which the Portrayal occurs.

Notes:

A Portrayal can have any other details required in its Context – connections to a Production Costume, for example.

A Portrayal can occur in multiple Production Scenes, which can be included in its context.

Portrayal can be refined, for example with subclasses that defined a Character being portrayed with a stunt double or a voice actor.

2.6   Location

Location: A particular place or position either in either the real world or the narrative world.

The level of granularity is variable in both the narrative and the production, as is the level of detail needed to describe the location.

The data structure for Location is defined in ***Part 9: Utilities***.

This abstract notion of location can be usefully divided into two types:

2.6.1   Narrative Location

Narrative Location: A location specified or implied by the narrative.

These can be real (e.g., for a documentary comparing Soho in London to Soho in New York), fictionalized real (e.g., The White House, as it exists in *The West Wing*), or completely imaginary (e.g., Tatooine).

Sample Attributes for Narrative Location

Attribute	Description
Name	The name of the Narrative Location as given in the Script.
Identifier […]	One or more identifiers for the Narrative Location. At least one of these should be resolvable within the production environment; others might point to sources with more information. This may be different from the Identifier of the referenced Utility Location.
Description	Any important details about the Narrative Location that might be useful when using it in a Context.
→ *Location*	See the detailed definition of Location in **Part 9: Utilities**
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
C→ *Context*	Context around the Narrative Location, e.g.
→ *Narrative Scene* […]	The Narrative Scenes in which this Narrative Location is used.

2.6.2   Production Location and Shooting Location

Production Location: A real place that is used to depict the *Narrative Location* or used for creating the production.

The offices of a studio's animation department can be thought of as a Production Location, as can the places where a live-action production is shot.

Shooting Location: A fixed, specified physical location for shooting/filming.

This is a special case of Production Location, covering only Locations where something is shot or recorded, and is included to provide an extra level of detail if the production process needs it. Sound Stage 3 can be used to create the Depiction of "MegaCorp boardroom," and the estate at West Wycombe Park is used to depict some locations *in Pride and Prejudice and Zombies*.[10]

Sample Attributes for Production Location and Shooting Location

Attribute	Description
Name	The name of the *Production Location*.
Identifier […]	One or more identifiers for the Production Location. At least one of these should be resolvable within the production environment; others might

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[10] As an example of location granularity, the Dashwood Mausoleum (up the hill from West Wycombe Park, and not actually *in* it) was used for a couple of scenes in *A Clockwork Orange*; some sources erroneously say these scenes were shot at West Wycombe Park.

Attribute	Description
	point to sources with more information. This may be different from the Identifier of the referenced Utility Location.
Description	Any details that might be useful in the course of production.
→ *Location*	See the detailed definition of Location in ***Part 9: Utilities***
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context around the Production Location, e.g.
C→ *Production Scene* […]	The Production Scene in which this Production Location is used.

Notes:

A Narrative Location is parsed from the Script, and Production Locations are tied to the production process through a Depiction.

Narrative and Production Locations can be implemented by subclassing a generic Location class or by using a common class with attributes. This is an implementation decision and outside of the scope of this document. In any event, they should be separate classes (not a single class with a differentiating field) to allow type-checking of Relationships.

Narrative Locations and Production Locations are not directly tied to each other. That information is carried in a Depiction, since a Narrative Location may be represented by multiple Production Locations, and multiple Production Locations can be used to depict the same Narrative Location.

"On location" means something very specific. Simplistically, it is a production location where someone or something needs to be at a particular day and time; more specifically it can also mean "not on a sound stage."

2.7   Character

Character: A sentient entity (usually a person, but not always) in the Script whose specific identity is consequential to the narrative. A Character is generally identified by a specific name.

Sample Attributes for Character

Attribute	Description
Name	The name of the Character as given in the Script.
Identifier […]	One or more identifiers for the character. At least one of these should be resolvable within the production environment; others might point to sources with more information either for the Script itself or related information such as a style bible.

Species	The character's species.
Description	Useful background information about the character.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any Context around the Character, e.g.
C→ *Narrative Scene* […]	Narrative Scenes in which this Character appears.

Notes:

A sentient entity includes, for example, Luxo Jr and HAL 9000, but not Wilson the volleyball.

The list of Character attributes is deliberately short. Applications and processes all have different views of what information is required, and rather than having a laundry list in the basic data in the Ontology, individual applications and workflows can use the standard Custom Data field when needed.

2.7.1 Extras

There are different types of characters – characters consequential to the narrative, background characters (who may have speaking roles but not be of great importance[11]), extra or crowd characters.[12]

Background characters and extras still need to be portrayed in the production, and OMC provides for them generically with Extra, a subclass of Character.

Extra: A sentient entity (usually a person, but not always) in the Script whose specific identity is minimally consequential to the narrative.

Extra has one additional property, to indicate the quantity of Extra characters needed for a particular Narrative Scene

Sample Extra Attributes for Extra

Attribute	Description
Quantity	The number of Extras in a particular Narrative Scene.

Notes:

Each actor hired to be an extra will portray a common Extra Character narrative element.

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[11] E.g., the character who says, "Who was that masked man?" (or something like it) at the end of most episodes of *The Lone Ranger* if not otherwise significant to the story.
[12] Someone "who will do/ To swell a crowd, observe a scene or two "

If there are multiple kinds of extras, e.g. 10 elves and 50 orcs, each of those kinds is a separate Extra Character.

Costume for each Extra should be connected to a specific Portrayal of the Extra.

The intent of an Extra, such as "crowd at concert" or "zombie horde" can be put in the Description field.

3   Narrative and Production Objects

Characters and Locations are two examples of elements of the narrative that have to be depicted or portrayed. Parsing the script generates another set of things to be depicted, loosely covered by the idea of "thing" or "object". These are structurally similar to characters and locations: they are depicted in the production and the narrative concept is mirrored by a production equivalent.

All of the following Narrative objects except (sometimes) Narrative Styling are subclasses of a generic Narrative Object class.

Narrative Object: A significant tangible thing in the narrative

This excludes music, characters, locations, and actions – a Narrative Object has a physical presence in the narrative. At script breakdown, sometimes there is a decision to be made about calling something a prop, greenery, vehicle or set dressing, the bare Narrative Object class can be used to represent those things at a coarser level of granularity. Since Narrative Object is a superclass, the type of object and its Context can be updated as more details are known by just changing the type and adding relevant Context information.

Sample Attributes for Narrative Object

Attribute	Description
Name	The name of the Narrative Object.
Identifier […]	One or more identifiers for the Narrative Object. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Narrative Object.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Narrative Prop, e.g.
C→ *Character* […]	Character[s] that directly interact with the Narrative Object.
C→ *Narrative Scene* […]	It is often useful for a Narrative Object to be thought of as related to a scene, rather than just to a particular Character.

Notes:

> Even at early stages of the production, Narrative Objects can have relationships to Creative Reference Material and Concept Art (qq.v.)

As is always the case, CustomData can be used for notes, which may be especially important here for pointing out important aspects of the Narrative Object, e.g. "Must be shiny and not a boring color" or "This is very heavy and hard to move."

Production Object: An Asset that Depicts or Portrays a Narrative Object.

Sample Attributes for Production Object

Attribute	Description
Name	The name of the Production Object.
Identifier […]	One or more identifiers for the Production Object. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Production Object.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Production Prop

Notes:

All Production Objects are Assets.

This is intended to be used as a placeholder when not enough detail is known to decide if something is a Prop, a Vehicle, Greenery, etc. When decision are made, the class of the Production Object can be updated to something more precise and the object can be given Structural Characteristics.

3.1 Prop

Prop: A named object related to or interacting with characters that is implied or understood to be necessary for the narrative.

Prop has the same division as Location – a Narrative Prop is specified or implied by the narrative and is depicted by a Production Prop, which can be a tangible object or produced by computer graphics or other artistic tools.

Narrative Prop: A Prop as specified or implied by the narrative

Sample Attributes for Narrative Prop

Attribute	Description

Name	The name of the Narrative Prop.
Identifier [...]	One or more identifiers for the Prop. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Narrative Prop.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Narrative Prop, e.g.
C→ *Character* [...]	Character[s] that directly interact with the Narrative Prop.
C→ *Narrative Scene* [...]	It is often useful for a Prop to be thought of as related to a scene, rather than just to a particular Character

Notes:

> Narrative Prop is a subclass of Narrative Object

Production Prop: An Asset used in the Depiction of a Narrative Prop

Sample Attributes for Production Prop

Attribute	Description
Name	The name of the Production Prop.
Identifier [...]	One or more identifiers for the Prop. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	A description of the Production Prop
Version	There may be several instances of a Production Prop, and all used to depict the same Narrative Prop. See **Part 3B: Versions**
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Production Prop, e.g.
C→ *Portrayal* [...]	The Portrayal has a relationship to the actor that directly interact with the Prop.
C→ *Production Scene* [...]	This is a bit of belt and suspenders: the Portrayal can also connect to a Production Scene, as can the Depiction that references this Production Prop.

Notes:

> Production Prop is a subclass of Production Object

General Prop Notes:

> Narrative Props vs. Production Props have the same implementation choices as Location.

> As with Characters, Props can be consequential to the narrative, non-consequential, or extra/background.

> Narrative Props and Production Props are tied to each other using a Depiction, since a Narrative Prop may be represented by multiple Production Props.

3.2 Set Dressing

Traditionally, background objects are referred to as Set Dressing.

Set Dressing: Objects or collections of objects that are implied or understood to be necessary to create and enhance the environment.

Set dressing differs from a prop because the characters' interaction with it may not be explicitly mentioned in, or required by, the narrative. Set Dressing has the same division as Prop – Narrative Set Dressing is specified or implied by the narrative and is depicted by Production Set Dressing, which can be tangible objects or produced by computer graphics or other artistic tools.

Narrative Set Dressing: Set Dressing as implied or specified by the narrative.

Sample Attributes for Narrative Set Dressing

Attribute	Description
Name	The name of the Set Dressing, for people to use, or a collective name, e.g. "Desktop clutter."
Identifier […]	One or more identifiers for the Set Dressing. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Narrative Set Dressing.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Narrative Set Dressing, e.g.
C→ *Narrative Scene* […]	The Narrative Scenes in which this Narrative Set Dressing appears.

Notes:

> Narrative Set Dressing is a subclass of Narrative Object

Production Set Dressing: Assets used in the depiction of Narrative Set Dressing.

Sample Attributes for Production Set Dressing

Attribute	Description
Name	The name of the Production Set Dressing, or a collective name, e.g. "Tchotchkes on dresser."
Identifier [...]	One or more identifiers for the Set Dressing. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	A description of the Production Set Dressing
Version	There may be several instances of Production Set Dresing, and used to depict the same Narrative Set Dressing. See **Part 3B: Versions**
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	This can be used for any extra information important to understanding the use of the Set Dressing.
C→ *Production Scene* [...] C→ *Production Set* [...]	The Production Scenes (see below) and/or Production Sets in which this Set Dressing is used.

Notes:

> Production Set Dressing is a subclass of Production Object

General Set Dressing Notes:

> Individual pieces of set dressing can be represented by subclassing a Prop data structure.

> Production Set Dressing will often be a Asset Group containing all the Assets used as elements of the Set Dressing. The group might contain items that are not themselves Set Dressing, for example by including a Prop from some other part of the Creative Work, or even from a different Creative Work.

3.3   Greenery

Some Props and Set Dressing are very specifically plants, trees, flowers, and other kinds of greenery. It can also include sand, rocks, dirt, and other means of building up physical environments. This is called out explicitly in the script breakdown because these items often come from a set of specialized providers. Greenery can be expansive, as when furnishing a greenhouse as in *The Big Sleep* (1946), *Minority Report* (2002), or *Harry Potter and the Chamber of Secrets* (2002.) Greenery can also be a single item: *Vertigo* (1958) has both a scene in a flower shop and a very important bouquet. The flowers in the

shop could also be thought of as Set Dressing, and the bouquet could be thought of as a Prop, but for managing the production, it's important to know that there are significant greenery requirements.[13]

Narrative Greenery: Plant material and terrain-building material described or implied in the narrative; this covers living plants (potted ferns, planted trees, fields of daffodils, etc.) and cut plants (e.g. single flowers, daisy chains, and sprigs of mistletoe) as well as rocks, sand, etc. (e.g. a rocky path or a sandy beach.)

Of course, sometimes greenery is synthetic, but it may still be called out as greenery in the breakdown, with a final decision on how to depict it coming later.[14]

Sample Attributes for Narrative Greenery

Attribute	Description
Name	A name for the item (e.g. Belle's Rose), or a collective name (e.g. Funeral Flowers)[15]
Identifier […]	One or more identifiers for the Greenery, if it refers to specific items. At least one of these should be resolvable within the production environment; others might point to sources with more information. For practical reasons, an Identifier is optional here.
Description	Useful background information about the Greenery.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	This can be used for any extra information important to understanding the use of the Greenery, e.g.
C→ *Narrative Scene* […]	The Narrative Scenes (see below) in which this Greenery appears, if it is treated as Set Dressing, or the Narrative Scenes in which it appears, if it is treated as a Narrative Prop.
C→ *Character* […]	Character[s] that directly interact with the Narrative Greenery if it is treated as a Prop.

Notes:

> Narrative Greenery is a subclass of Narrative Object

Production Greenery: An Asset or Assets used to depict Narrative greenery in a Production Scene,

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[13] The list of examples is endless - orchids liberally scattered through *The Great Gatsby* (2013), poppies in The Wizard of Oz (1939), and daffodils in *Big Fish* (2003), and the shrubbery presented to The Knights Who Say Ni in *Monty Python and the Holy Grail* (1975) come to mind.

[14] Audrey 2 in *Little Shop of Horrors* (1986), despite being a plant, is a Character, not greenery.

[15] Beauty and the Beast (2017); Last Tango in Paris (1972)

Narrative Greenery can be used as Production Set Dressing or as Production Props. Its depiction can be either Production Greenery or Production Prop and Production Set Dressing, based on the organization and preferences of the production process. If the depiction is done by Props and Set Dressing, they are still connected to the Narrative Greenery through the Depiction itself. This potentially makes it simpler to find all the Production Props used in a Production Scene, while requiring more traversals of relationships to find all the Greenery. Conversely, if the depiction uses Production Greenery, it requires less traversal to find all the Greenery used in a Production Scene, although finding all the Props requires some inspection of the Production Greenery items themselves.

Greenery can be depicted by Set Dressing (e.g., for the contents of the florist shop in *Vertigo*) or by a Production Prop (e.g., the bouquet Madeline (portrayed by Kim Novak) carries in the same movie.) The Narrative Scene can also just have Greenery in its Context to indicate that a particular department or vendor needs to be involved, in which case it may not be explicitly associated with particular Production Elements.

Sample Attributes for Production Greenery

Attribute	Description
Name	A name for the item (e.g. "Corsage"), or a collective name (e.g. "Flowers in hotel lobby.")
Identifier […]	One or more identifiers for the Greenery, if it refers to specific items. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Greenery.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	This can be used for any extra information important to understanding the use of the Production Greenery.
C→ *Production Scene* […] C→ *Production Set* […]	The Production Scenes and/or Production Sets in which this Greenery appears, if it is treated as Set Dressing.
C→ *Portrayal* […]	The Portrayal that uses the Production greenery, of the Greenery is treated as a Production Prop.

Notes:

Production Greenery is a subclass of Production Object

3.4   Vehicle

Planes, trains, automobiles, bicycles, chariots, spaceships, and flying carpets are all examples of Vehicles. The Ontology distinguishes vehicles that are used solely as locations, such as a carriage on the Orient Express, and Vehicles that have to be depicted and used as production elements, such as cars needed for a chase scene or a bicycle a Character rides down the village street.

In the most general sense, a Vehicle could just be considered as a very large Prop or a part of the set dressing, but they are defined separately because of the often complex sourcing, logistics, and operational requirements during production. These requirements often result in multiple Tasks being defined and executed.

Narrative Vehicle: Any mode of transport specified or implied by the narrative.

Sample Attributes for Narrative Vehicle

Attribute	Description
Name	The name of the Narrative Vehicle.
Identifier […]	One or more identifiers for the Vehicle. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Narrative Vehicle.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Narrative Vehicle, such as the scenes in which it appears
C→ *Character* […]	Character[s] that directly interact with the Narrative Vehicle.
C→ *Narrative Scene* […]	It is often useful for a Vehicle to be thought of as related to a scene, rather than just to a particular Character, as when a Vehicle is essentially a form of set dressing.

Notes:

A Narrative Vehicle in the Script may also produce various Special Actions (see below.)

Narrative Vehicle is a subclass of Narrative Object

Production Vehicle: An Asset used in the Depiction of a Narrative Vehicle

Sample Attributes for Production Vehicle

Attribute	Description
Name	The name of the Production Vehicle.

Identifier […]	One or more identifiers for the Vehicle. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	A description of the Production Vehicle
Version	There may be several instances of a Production Vehicle, and all used to depict the same Narrative Vehicle. See **Part 3B: Versions**
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Production Prop, such as the Production Scenes in which it is used
C→ *Portrayal* […]	The Portrayal has a relationship to the actor that directly interacts with the Vehicle.
C→ *Production Scene* […]	The Production Scenes in which this Production Vehicle appears.

*Notes***:**

Production Vehicle is a subclass of Production Object

If the Depiction in the Context is connected to a Production Scene, then a Production Scene is not strictly necessary in the Context, though having it removes one hop of graph traversal.

3.5   Wardrobe and Costume

What a Character wears is as important to the creative intent for the narrative as anything that gets said or done.[16] Charlie Chaplin would not be the Little Tramp without his hat and oversized suit, Dracula is jarring without his cape, Jim Stark's jeans and leather jacket in *Rebel Without a Cause* (1955) are an essential part of James Dean's portrayal of him, and Cher in *Clueless* (1995) is defined by both Alicia Silverstone's portrayal and a yellow plaid suit.

"Wardrobe" and "costume" are often used interchangeably. This Ontology explicitly uses Narrative Wardrobe for the narrative concept – what the character wears – and Costume for the production concept – what the actor portraying the character wears.[17]

3.5.1   Narrative Wardrobe

Narrative Wardrobe: The clothing for a Character in the narrative.

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[16] "For the apparel oft proclaims the man" – *Hamlet*, Act I, Scene 3.

[17] The department that manages Costumes is sometimes called the wardrobe department, and sometimes the costume department.

In the narrative, wardrobe exists over a period of time, and various states of it have a temporal dimension in the narrative, which is distinct from any schedule for filming or rendering: new in one scene, full of holes in another, and singed in another. In the narrative world it is the same jacket. In the production, each of those states is represented by a different costume – the burned jacket is a different costume from the new jacket.

Sample Attributes for Narrative Wardrobe

Attribute	Description
Identifier […]	One or more identifiers for the Wardrobe item. At least one of these should be resolvable within the production environment.
Name	The name of this piece of Wardrobe
Description	A description of this item, e.g., "full white tie and cape (clean)."
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Wardrobe item.
C→ *Character […]*	The Character(s) that wears the clothing
C→ *Narrative Scene […]*	The Narrative Scene in which the Narrative wardrobe appears.

Notes:

An item of Narrative Wardrobe may be worn by more than one Character.[18]

Narrative Wardrobe is a subclass of Narrative Object

3.5.2 Costume

Costume: The clothing used in a Portrayal of a Character in the production.

Sample Attributes for Costume

Attribute	Description
Identifier […]	One or more identifiers for the Costume. At least one of these should be resolvable within the production environment.
Name	The name of this Costume
Description	A description of this Costume, "full white tie and cape (bloodstained, torn)."

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[18] In *Doctor Who*, the Doctor's companions sometimes wear one of his signature wardrobe items, and different regenerations of the Doctor will wear a previous one's clothing for a while.

Attribute	Description
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Costume item, such as the Production Scenes in which it is used..
C→ *Portrayal[…]*	The Portrayal(s) in which this Costume is used.
C→ *Production Scene* [...]	The Production Scenes in which this Costume appears.

Notes:

    Costume is a subclass of Production Object

    The connection between Narrative Wardrobe and Costume is carried in a Depiction - a Wardrobe item may be represented by multiple Costumes.

    The Costume is connected to a Portrayal, not a Character since different actors portraying the same Character may need different Costumes.

    If the Portrayal in the Context is connected to a Production Scene, then a Production Scene is not strictly necessary in the Context, though having it removes one hop of graph traversal.

3.6   Styling

Hair, make-up, and prosthetics are often essential to the portrayal of a character. Often all three are involved, as in *Phantom of the Opera* (1925) and *Edward Scissorhands* (1990). All genres of film and television need these, not just fantasy, horror, and historical[19] pieces – see, for example *The Color Purple* (1985) and *Hillbilly Elegy* (2020), both of which were nominated for Academy Awards for Best Makeup and Hairstyling.

This section covers activities that deal with the appearance of an Actor in a Portrayal. At the Narrative level, these indicate that a particular department needs to be consulted during or after script breakdown for a particular Narrative Scene, and then be involved in the Production Scenes that come from it.

3.6.1   Hair and Makeup

The members of the hair and makeup department have specialized and sometimes highly differentiated skills. The Context Ontology does not go further than dividing "hair" and "makeup" in the narrative and

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[19] E.g. *The Young Victoria* (2009) or *Mank* (2020).

production Contexts, but the tasks that result from these narrative items can be refined as far as the production finds necessary.

3.6.1.1 Narrative Hair and Makeup

Narrative Hair: Hair requirements, procuring and maintaining wigs, and styling and cutting the hair of Participants in Portrayals.

Sample Attributes for Narrative Hair

Attribute	Description
Name	A name for this Hair
Identifier […]	One or more identifiers for the Hair element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the Hair
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Hair. Character and Narrative Scene are the most obvious, and are included separately for convenience.
C→ *Character* […]	Character for which the Hair/Makeup is needed.
C→ *Narrative Scene* […]	Hair for a Character may differ from scene to scene.

Notes:

> Narrative Hair is a subclass of Narrative Object

Narrative Makeup: Application and Maintenance of make-up for anyone appearing on-screen.

Sample Attributes for Narrative Makeup

Attribute	Description
Name	A name for this Makeup element
Identifier […]	One or more identifiers for the Makeup element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the Makeup element
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Makeup. Character and Narrative Scene are the most obvious, and are included separately for convenience.

C→ *Character* […]	Character for which the Makeup is needed.
C→ *Narrative Scene* […]	Makeup for a Character may differ from scene to scene.

3.6.1.2 Production Hair and Makeup

The relationship between Narrative and Production for Hair and Makeup is a little different from the other things in "Narrative and Production Objects", all of which are depicted or portrayed by a production equivalent. Some Narrative Hair and Narrative Makeup is depicted; for example, a wig can be used to depict Narrative Hair.

However, some Narrative Hair or Makeup results only in an activity – apply makeup, style hair – and not an Asset, and most styling elements generate on-set Tasks as well.

Note:

These Tasks will be covered in a future update of **Part 5: Tasks**.

Production Hair: An Asset or Assets used to depict a Narrative Hair element.

Sample Attributes for Production Hair

Attribute	Description
Identifier […]	One or more identifiers for the Production Hair. At least one of these should be resolvable within the production environment.
Name	A name for this item of Production Hair, e.g. "Mr. Connery's toupee"
Description	A description of this Production Styling.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Production Hair item, such as the Production Scenes in which it is used.
C→ *Portrayal*	The Portrayal in which this Production Hair is used.
C→ *Production Scene* […]	The Production Scenes in which this Production Hair is used.

Notes:

If the Portrayal in the Context is connected to a Production Scene, then a Production Scene is not strictly necessary in the Context, though having it removes one hop of graph traversal.

This may result in a Task being performed, rather than or as well as an Asset being created for a Depiction.

Production Makeup: Makeup used to implement a Narrative Makeup element.

Production Makeup is often a consumable or Infrastructure, rather than an Asset.

Sample Attributes for Production Makeup

Attribute	Description
Identifier […]	One or more identifiers for the Production Makeup. At least one of these should be resolvable within the production environment.
Name	A name for this item of Production Makeup
Description	A description of this Production Makeup.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Production Makeup item, such as the Production Scenes in which it is used.
C→ *Portrayal*	The Portrayal in which this Production Makeup is used.
C→ *Production Scene* […]	The Production Scenes in which this Production Makeup is used.

Notes:

If the Portrayal in the Context is connected to a Production Scene, then a Production Scene is not strictly necessary in the Context, though having it removes one hop of graph traversal.

This may result in a Task being performed, rather than or as well as an Asset being created for a Depiction.

3.7 Prosthetics

Prosthetics can be thought of as anything that changes the shape or contour of an Acor in a Portrayal. It ranges from relatively simple things to change appearance subtly or dramatically (cheek pads and false teeth for the portrayal of Neville Longbottom in the later Harry Potter films), through to more complex attached devices (Captain Hook's hook in *Hook* (1991), the wrist-chainsaw in *Evil Dead 2* (1987)).

3.7.1 Narrative Prosthetics

Narrative Prosthetics: The use of molding, casting, and sculpting techniques to create the required look for a Character.

Sample Attributes for Narrative Prosthetics

Attribute	Description
Name	A name for this Prosthetics element

Identifier [...]	One or more identifiers for the Prosthetics element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the prosthetic
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ Context	Context related to the Prosthetic. Character and Narrative Scene are the most obvious, and are included separately for convenience.
C→ Character [...]	Character for which the prosthetic is needed.
C→ Narrative Scene [...]	Prosthetics for a Character may differ from scene to scene.

Notes:

Narrative Prosthetics is a subclass of Narrative Object

3.7.2   Production Prosthetics

Production Prosthetics: An Asset or Assets used to depict a Narrative Prosthetic.

Sample Attributes for Production Prosthetics

Attribute	Description
Identifier [...]	One or more identifiers for the Production Prosthetics. At least one of these should be resolvable within the production environment.
Name	A name for this item of Production Prosthetic
Description	A description of this Production Prosthetic.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ Context	Any other context around this Production Prosthetic item
C→ Portrayal	The Portrayal in which this Production Prosthetic is used.
C→ Production Scene [...]	The Production Scenes in which this Production Proshtetic is used.

Notes:

If the Portrayal in the Context is connected to a Production Scene, then a Production Scene is not strictly necessary in the Context, though having it removes one hop of graph traversal.

This will usually result in a Task being performed, rather than or as well as an Asset being created for a Depiction.

3.8 Audio

Audio is essential to modern film and television – silent movies are pretty scarce these days. Audio is covered more fully in **Part 3C: Audio**, which contains formal definitions of many kinds of sound. This part of the ontology deals only with sounds that are explicitly mentioned in the narrative, which are eventually depicted in the production by Audio Assets, which are covered in a future release of the Ontology.

Narrative Audio: A significant sound in the narrative

Narrative Audio does not include dialog or voiceovers.

Sample Attributes for Narrative Audio

Attribute	Description
Name	The name of the Narrative Audio.
Identifier […]	One or more identifiers for the Narrative Audio. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	Useful background information about the Narrative Audio.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Narrative Audio
C→ *Character* […]	Character[s] related to the Narrative Audio.
C→ *Narrative Scene* […]	Narrative Scenes in which this Narrative Audio is used.

Notes:

> Narrative Audio can be connected to other Narrative Objects, such as Narrative Props or Narrative Vehicles, through the Context.

3.8.1 Narrative Sound Effect

Sound effects are used to draw attention to aspects of the narrative, such as the crunch of a car on a gravel road, or to create an actual sound for something that is real (so far) only in the narrative, such as the sound of an alien spaceship hovering over the horizon.

Narrative Sound Effect: A sound that explicitly or implicitly advances or supports the narrative.

The same Narrative Sound Effect can be used in multiple places.

Sample Attributes for Narrative Sound Effect

Attribute	Description
Identifier […]	One or more identifiers for the Sound Effect. At least one of these should be resolvable within the production environment.
Name	The name of this Narrative Sound Effect
Description	A description of this Narrative Sound Effect, "whine of lightspeed engines at full throttle."
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this item.
C→ *Narrative Scene* []	The Narrative Scene(s) in which this Narrative Sound Effect is used.

Notes:

Narrative Sound effect is a subclass of Narrative Audio.

If a sound effect has different variants (see **Part 3B: Versions**) they can be represented by different Narrative Sound Effect elements or by different Depictions, depending on the practices used by the production.

3.8.2 Narrative Music

Music is sometimes associated with a particular character, but it also underscores aspects of the narrative and indicates moods. Examples of the former might be "Hero's theme, quietly, as he skulks through the maze"; the latter include, for instance, "*As Time Goes By* is heard in the background" and "*Get Up, Stand Up* plays as the demonstration starts."

Narrative Music: Music that is implicitly or explicitly used to advance or support the narrative.

Sample Attributes for Narrative Music

Attribute	Description
Identifier […]	One or more identifiers for the Narrative Music. At least one of these should be resolvable within the production environment.
Name	The name of this Narrative Music
Description	A description of this Narrative Music
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this item, e.g. a Character or Narrative Location with which it is particularly associated.
C→ *Narrative Scene* []	The Narrative Scene(s) in which this Narrative Music is used

Notes:

Narrative Music is a subclass of Narrative Audio.

If a narrative music has different variants (see **Part 3B: Versions**) they can be represented by different Narrative Music elements or by different Depictions, depending on the practices used by the production.
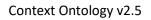
4 Supporting Activities

Besides providing fundamental narrative information about things that have to be depicted to realize the Creative Work (characters, locations, props, costumes, and so on), the script can also provide information about activities that have to happen before, during, and after filming. Sometimes this information is added to the Script before breakdown, resulting in a shooting script.

This information may be explicitly in the Script, but it can also be produced during script breakdown. It indicates that a department has to be involved for budget, planning, scheduling, insurance, and so on for a particular Narrative Scene. As the production advances, these supporting activities generate their own workflow, processes, tasks and Production Scenes which can all connect to the things described in this section, and through them back to a particular place in the Script. These production-time activities cover things like ensuring that people and physical resources are available for a Production Scene, booking production locations, getting sets built, defining the scope of effects work and where it is going to be done, physically or digitally creating Props, and much more.

4.1 Effects

"Effects" covers many different things, and has a long history. The oldest known use of special effects was in *The Execution of Mary, Queen of Scots* (1895) where the actor is replaced by a mannequin which is then beheaded. This early example also shows how editing techniques were used to integrate the effects into the finished film.[20]

Effect: A technique that creates or enhances visual elements in the finished work

Sample Attributes for Effect

Attribute	Description
Name	A name for this Effect
Identifier […]	One or more identifiers for the Effect element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the Effect
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Effect. Character and Narrative Scene are the most obvious, and are included separately for convenience.
C→ *Character* […]	Characters involved with the Effect.
C→ *Narrative Prop* […]	Narrative Props involved with the Effect.
C→ *Narrative Vehicle* […]	Narrative Vehicles involved with the Effect
C→ *Narrative Scene*	The Narrative Scene to which this Effect applies.

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[20] See https://en.wikipedia.org/wiki/The_Execution_of_Mary_Stuart

In current film and television production, effects are roughly divided into Special Effects (SFX), which cover real things (mannequins, explosions, etc.) and Visual Effects (VFX) which cover the use of external processes, such as computer animation. *Tron* (1982) is often regarded as the first film to make extensive use of computer-based VFX.[21]

Blade Runner (1982) made heavy use of practical effects, and *Blade Runner 2049* (2017) made heavy use of computer effects to recreate the atmosphere of the original film.

In OMC VFX and SFX are both subclasses of Effect, and can be subclassed based on their numerous have subcategories and subspecialties.

4.1.1   Special Effect

Special effects deal with the physical implementation of anything that is directly captured on-camera, at any scale. At the smaller end, it covers models and miniatures; at the larger end, it can cover the flooding of an entire room and the violent destruction of vehicles, which have their own technical, financial, and legal complexities.

Special Effect: Physically based effects, such as explosions, the use of mannequins, and the use of models, the results of which are captured on-camera.

"Special Effect" is often abbreviated "SFX".

Sample Attributes for Special Effect

Attribute	Description
Name	A name for this piece of special effects
Identifier […]	One or more identifiers for the Special Effect element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the Special Effect, e.g. "Flood the Bradbury Building."
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the SFX. Character and Narrative Scene are the most obvious, and are included separately for convenience.
C→ *Character* […]	Characters involved with the SFX.
C→ *Narrative Prop* […]	Narrative Props involved with the SFX.
C→ *Narrative Vehicle* […]	Narrative Vehicles involved with the SFX

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[21] See **Part 2:Assets** for some examples of the transition and co-existence of SFX and VFX relating to Props.

C→ *Narrative Scene*	The Narrative Scene to which these SFX apply.

*Note*s:

> This also covers the old concept of "practical effects" and modern in-camera effects – the effect appears in the raw footage.

4.1.2   Visual Effect

Visual Effects (VFX) cover a wide variety of techniques – computer graphics based changes to captured video, old-fashioned painting of plates, etc. – all of which involve doing something to the captured footage. Many visual effects involve augmentation of the footage in some way.

Visual Effects: Effects created on or in the footage after it is captured.

Sample Attributes for Visual Effect

Attribute	Description
Name	A name for this piece of VFX
Identifier […]	One or more identifiers for the VFX element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the VFX.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the VFX. Character and Narrative Scene are the most obvious, and are included separately for convenience.
C→ *Character* […]	Characters involved with the VFX.
C→ *Narrative Prop* […]	Narrative Props involved with the VFX.
C→ *Narrative Vehicle* […]	Narrative Vehicles involved with the VFX
C→ *Narrative Scene*	The Narrative Scene to which these VFX apply.

Notes:

> OMC does not currently have a separate class for optical effects. Use Visual Effect with a note in the Context if it is needed.

> LED volumes and LED walls will be covered in a future version of the ontology.

> Some VFX work depends on separate CGI Tasks and Assets; Visual Effect cvers the requirement for their use, but not the internals of their generation.

4.2   Special Actions

Many elements of the narrative need specialist input when being filmed. Most directors aren't qualified to say how to produce a car chase safely, motion capture is a very specialized field, and fights and other action scenes must be done safely. During script breakdown, these are all called out for planning purposes.

All of the items in this section are subclasses of Special Action, and differ only in their class names. During production, they all eventually generate specialized Tasks for planning, setup, management, and so on.

Special Action: A performed action or set of actions that requires additional supervision, expertise, or equipment.

Sample Attributes for Special Action

Attribute	Description
Name	A name for this special action
Identifier […]	One or more identifiers for the special action element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the special action.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Special Action. Character and Narrative Scene are the most obvious, and are included separately for convenience. Other might include props and set dressing.
C→ *Character* […]	Characters involved with the Special Action.
C→ *Narrative Prop* […]	Narrative Props involved with the Special Action.
C→ *Narrative Vehicle* […]	Narrative Vehicles involved with the Special Action
C→ *Narrative Scene*	C→ *Narrative Vehicle* […]

4.2.1   Stunt

A stunt is anything that is tricky beyond "normal" acting. Examples include falling from a balcony, leaping through a window, and tumbling down a flight of stairs.

Stunt: Physical action described or implied in the narrative that would put an actor in some kind of danger and so requires a specialist to manage and coordinate.

4.2.2   Fight

A fight is physical conflict between characters, in whatever number. Fights often have a Stunt component.

Fight: Action in a Narrative Scene that will require involving a specialist such as a Fight Coordinator in the production process.

4.2.3   Choreography

Choreography is needed any time dance appears in a production. It can be a big number, ranging from "By a Waterfall" in *Footlight Parade* (1932) to "Jai Ho" in *Slumdog Millionaire* (2008); a number with only a few people, e.g. "Jolly Holiday With Mary" in *Mary Poppins* (1964) or "Good Mornin'" in *Singing In the Rain* (1952); pairs of dancers (Fred Astaire and Ginger Rogers in, e.g., "Cheek to Cheek" in *Top Hat* (1935) or the first "Tale as Old as Time" number in *Beauty And The Beast* (2017); and a person dancing alone, as Gene Kelley does in in the rain in *Singin' in the Rain* (1952) or Tom Cruise does in his socks in *Risky Business* (1983).

Choreography: The creation, arrangement, and management of dance.

4.2.4   Marine

Many productions have real boats in them, and managing watercraft is a specialized skill. There were two boats depicting the titular vessel in *The African Queen* (1951), one for each river where filming occurred. Similarly, there were two boats used to in *Jaws* (1975) to depict the ill-fated Orca. Similarly, filming can occur on or from a boat.

Marine: Anything involving work on water or in water-borne craft.

4.2.5   Aerial

Managing things that fly is as complicated as managing things that float. A section of the script can be marked Aerial if it features an airplane (e.g., the scene in *North by Northwest* (1959) in which Roger Thornhill, portrayed by Cary Grant, is chased by a crop-duster) or requires one for some other reason, such as filming (e.g., the view from a plane in *Wilbur Wright und seine Flugmaschine* (1909) – the earliest known footage shot from a plane.)

Aerial: Anything involving work with equipment that flies.

Notes:

   Drones are covered under Aerial in this version of the ontology.

4.2.6   Motion Capture

 Motion Capture, or mocap, is a relative newcomer, and is the recording of the movements of objects or people. In some cases, it may be called performance capture, especially when facial expression and other fine motions are captured. Other industries have other uses for it, but in film and television it is used as part of CGI and VFX processes, for example to animate a computer-generated model in a realistic way. Jar Jar Binks (motion and voice by Ahmed Best) in *The Phantom Menace* (1999) is the earliest example of its use in a feature-length film. The character for which the motion capture is used does not have to be human, or even humanoid, as when Benedict Cumberbatch – bipedal, tailless, wingless - played the dragon Smaug – quadruped, caudate, winged - in *The Hobbit: The Desolation of Smaug* (2013).

Motion Capture: The recording of motion as a stream of digital data.

5   Partitions

Even short Creative Works can be – and are – divided into smaller pieces in the production process. The editorial and sound departments work on smaller chunks of the production, allowing both parallelism and faster turnaround. OMC calls these Partitions. Partitions have a long history, which is reflected in some of the names for them that people still use.

Partition: A division of narrative or production content into multiple pieces.

Sample Attributes for Partition

Attribute	Description
Name	A name for this Partition
Identifier […]	One or more identifiers for the special action element. At least one of these should be resolvable within the production environment.
Description	Useful background information about the Partition
Partition Number	The number of the Partition. Although this is usually strictly a number, implementations should allow for non-numeric 'numbers', for example when adding Partition 11A between Partitions 11 and 12.
Approximate Length	The duration of the Reel. This is optional, and it is better for it to be absent than for it to be very wrong. The length can be derived from the things to which the reel is attached.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context related to the Special Action. Character and Narrative Scene are the most obvious, and are included separately for convenience. Other might include props and set dressing.

There are three commonly used subclasses of Partition. These correspond to the values of SMPTE MCA Partition Kind in https://pub.smpte.org/doc/st377-41/20230413-pub/

Reel: A defined partition of the content.

Reels are generally used in film production to connect picture editorial and sound editorial. Historically, it really was a reel of film[22], and the name has persisted. Reels are often defined in a way that supports the workflow, e.g. parallelizing dubbing or encoding, rather than for creative or technical reasons.

Reels are related to production-level entities, such as Sequences and STEMs.

Part: A narratively consistent partition of production content.

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[22] Reels were traditionally around 20 minutes long, but nowadays they can be any length.

Part is used for a less arbitrary division of production content and is based on how the content is presented. Examples include episodes of a TV series or a presentation segment of the content such as a section of a miniseries or, for older content, a film before and after the intermission.

Act: A defined partition of the narrative into contiguous parts.

Act is even older than reel, and comes from stage plays. It is usually applied to a group of Narrative Scenes, and so has an extra attribute:

Additional Attributes for Act

Attribute	Description
->*Narrative Scene* […]	The Narrative Scenes included in this Act.

6 Set

"Set" is used regularly during production but its meaning varies. Rather than defining the general concept, the Ontology defines a specific kind of set. Others will be added as necessary.

Production Set: An environment built for use at a Production Location.

A Production Set usually represents some Narrative Location(s). If necessary, it can be moved (more common for episodic TV than for movies).

Sample Attributes for Production Set

Attribute	Description
Identifier […]	One or more identifiers for the Production Set. At least one of these should be resolvable within the production environment.
Name	The name of this Production Set, e.g., "Archie and Edith's Living Room"
Description	A description of this Production Set
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context around this Production Set.
C→ *Production Location*	The Production Locations(s) where this Production Set is used.
C→ *Production Scene*	The Production Scene(s)for which this Production Set is used.
C->*Shoot Day Context*[…]	There should be one of these for each shoot day on which the Production Set is used.

Notes:

A Production Set is connected to a Narrative Location through a Depiction.

A Production Set is used at a Shooting Location.

A Production Set is an Asset.

"On Set" generally means "at a Shooting Location."

7   Scene

"Scene" is used to mean a few different things, so we avoid using the word on its own. In day-to-day conversations, "scene" may be enough – made clear by the situation in which it is being used – but for an ontology, there must be clear definitions.

7.1   Narrative Scene and Production Scene

Narrative Scene: Taken from the narrative itself and traditionally defined by creative intent and various kinds of unity (e.g., time, place, action, or theme).

Sample Attributes for Narrative Scene

Attribute	Description
Scene Name	A phrase used when referring to the Narrative Scene.
Identifier […]	One or more identifiers for the Narrative Scene. At least one of these should be resolvable within the production environment; others might point to sources with more information. For practical reasons, an Identifier is optional here.
Slugline […]	Sluglines for this Narrative Scene (see elsewhere in this document.)
Description	Additional descriptive information about the scene
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context for this Narrative Scene
C→ *Creative Work*	Creative Work of which this scene is a part.
C→ *Script*	Script of which this Narrative Scene is a part.

Notes:

> A Narrative Scene does not necessarily have a one-to-one correlation with a Production Scene or Scene Number and is often less structured (in the technical sense) than a Production Scene.

Production Scene: Defined either by explicit divisions in the structure of the Script, e.g., by a *Slugline*, or by additional capture for use in the Creative Work that is not tied to any particular Narrative Scene in the Script.

The Production Scene is usually derived from a numbered scene in the Script. It may have both a Scene Number and a Scene Descriptor (see below).

Sample Attributes for Production Scene

Attribute	Description
Name	A human-readable name for this production scene
Scene Header	Used when referring to the Production Scene. It is generally synonymous with Slugline and is used to divide a Script into scenes.
Identifier […]	One or more identifiers for the Production Scene. At least one of these should be resolvable within the production environment; others might point to sources with more information. For practical reasons, an Identifier is optional here.
Description	A description of the production scene.
Scene Descriptor	See below.
Scene Number	See below.
Shoot Day […]	The Shoot Day(s) for this Production Scene. See Notes.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any context needed for this Production Scene
C→ *Narrative Scene*	The Narrative Scene to which the Production Scene is related. There may be multiple Production Scenes for a Narrative Scene.
C→ *Production Scene* […]	A Production Scene can be related to other Production Scenes, and that is recorded here.
C->*Shoot Day Context*[…]	The Shoot Day Context(s) for this Production Scene. See Notes.
C→ *Script*	Script of which this Production Scene is a part.

Notes:

It is preferable to use a Shoot Day Context rather than a single Shoot Day number. These are both arrays in case the Production Scene takes more than a single shoot day.

A shoot day is often entered early in the production process as a planning and organizational tool, and can change. If the Production Scene moves to a different shoot day, its Shoot Day

attribute or attributes should change accordingly if it is used directly, and may become incorrect if that is not done. It is often used retrospectively when analyzing the production process.

A Shoot Day Context used by the Production Scene should be updated when the production schedule changes

The Script and Narrative Scene can be found from the Production Scene, but it is often convenient to have them closer to hand.

7.2   Slugline

Slugline: A line within a screenplay written in all uppercase letters to draw attention to specific script information.

Sluglines provide quick context for the reader, e.g., inside/outside, time of day, and a specific location. Slugline is also used as a reference for the standard opening line of a scene. It can be used to indicate a mid-scene change, such as a change of location, a visual direction, dramatic insert, or change of pacing.

In Latin alphabet scripts, the Slugline is ALL CAPS by convention; this and other conventions are often enforced by script tools.

7.3   Scene Number

Scene Number: A number tied to a Slugline when a Script is locked.

In many cases, this will be the same as the Scene Descriptor. Not all Production Scenes will have a Scene Number (see Scene Descriptor, below).

7.4   Scene Descriptor

Scene Descriptor: An alphanumeric reference to a Production Scene.

In the simplest case, this is just the Scene Number from the Script.

However, a Script is often revised during production. For example, when an extra scene is inserted or a scene is so heavily revised as to be fundamentally different, the Scene Descriptor may be distinguished by a prefix or a suffix on the original scene number.

When additional scenes are added to the Script during production, a prefix letter is added to the scene number. This avoids having to re-number scenes in the original Script, some of which may already have been shot. For example, if an additional scene is inserted between scenes 2 and 3, the script supervisor and others may refer to this additional *Production Scene* as 2A. However, it is usually encoded as A2 to avoid confusion with the Setup letter when it is used in a Slate (see below).

There are situations where there is no direct correlation between "scenes in the Script" and "scenes being shot." For scenes shot by 2nd camera units, for B-roll, or for footage that might be used across

several Production Scenes (e.g., background shots of sand dunes[23]), other means of labeling the footage are used. These labels are understood by the production team and usually specific to a particular production, e.g., Daytime Desert. These are sometimes called "artificial scenes," but from the point of view of the Ontology, they are Production Scenes with a non-conventional Scene Descriptor.

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[23] It is left to the reader to decide whether to imagine *Lawrence of Arabia* or *Star Wars Episode IV*.

8 Slate

Slate: Used to capture key identifying information about what is being recorded on any given setup and take.

Slate provides the connection between the narrative and production process and is a virtualized version of the physical slate. The Slate is usually recorded at the start of a take. In the event it is not possible to use a slate at the start, then the slate can be shown at the end but positioned upside down.

The result of the recording is a Capture (see below).

Common synonyms include Clapboard, Clapperboard, File Clapper, Movie Slate.

Sample Attributes for Slate

Attribute	Description
Slate UID	A unique way of specifying important details about each camera setup when the camera rolls (see below).
Camera Label	Label for the Camera responsible for the Capture, usually related to the role and responsibility of the group operating it and usually a single upper-case letter starting with A. See **Part 3A: Camera Metadata**
→ *Camera Unit*	See below.
Camera Roll	Identifier for a group of events captured together on the same camera on the same media.
Sound Roll	Identifier for a group of audio events captured together on the same recording device and same media.
Shoot Date	Optional. The date of capture. This is usually the same as the Shoot Date in the Shoot Day Context, but since data isn't always updated in time or at all, it is kept here too. If this exists, it should be viewed as "actual", and if it doesn't, the one from the Shoot Day Context should be used.
Shoot Day	Optional. The Shoot Day for this Slate. This is usually the same as the Shoot Day in the Shoot Day Context, but since data isn't always updated in time or at all, it is kept here too. If this exists, it should be viewed as "actual", and if it doesn't, the one from the Shoot Day Context should be used
->*Shoot Day Context*	The Shoot Day Context for this Slate.
Recording FPS	Frames per second recorded by the camera.

Attribute	Description
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
C→ *Context*	Any Context for this Slate
C→ *Production Scene*	Although this can be derived from the Slate UID, it may be convenient to have it explicitly.
C→ *Camera Metadata*	Camera Metadata for this Capture. See **Part 3A: Camera Metadata**
C→ *Camera*	The Camera used for this Capture. **See Part 8: Infrastructure**.
C→ *Creative Work*	An Identifier for the Creative Work to which this Slate applies.
C→ Director	The Participant who is the director for the captured Production Scene.

8.1 Capture

Capture: The result of recording any event by any means

Capture covers all methods used for recording, independent of the aspects recorded (video, audio, motion) and of the technical means of recording (film, tape, digital devices, etc.)

Not all Captures are used in a finished Creative Work – takes are discarded, scenes are cut, audio is re-recorded – but the Capture is when words and actions are turned into something that can be used (after a possibly lengthy process) in the finished Creative Work.

The Ontology uses "event" or "performance" informal terms for the activity being captured.

Sample Attributes for Capture

Attribute	Description
Identifier […]	One or more identifiers for the Capture. At least one of these should be resolvable within the production environment; others might point to sources with more information.
Description	A description of the Capture
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Context around the Capture.
C→ *Slate*	The Slate with information about the Capture.

Attribute	Description
C→ *Production Scene*	Although this can be derived from the Slate, it may be convenient to have it explicitly.

Notes:

A video Capture (or a processed version of it) is often used as the source for a Shot (see below.)

A Capture is an Asset Functional Class, and the kind of Capture will dictate the Asset's Structural Characteristics. See **Part 3: Assets** for details.

Capture can be explicitly subclassed for things like audio recording, motion capture, and so on.

In some circumstances, what the Ontology calls Capture is referred to as a shot. In the Ontology, shot is defined more precisely below – a shot in this sense is a section of a Capture.

8.2   Camera Unit

Camera Unit: A group of Participants responsible for shooting some element of a Production Scene, e.g., a Main Unit or Second Unit.

A Camera Unit is usually composed of multiple people but can be a single person in some circumstances. It is an example of Participant Functional Class (q.v.).

8.3   Slate UID

This is not the slate itself, which is a virtualized version of the physical slate and contains other, less standardized information. This is how everything gets tied together after shooting is done. Its use as connective tissue generally requires human intervention right now. This is one of the pieces of information contained on a physical Slate, which may also include other data.

Slate UID: A unique way of specifying important details about each camera setup when the camera rolls. It combines the Production Scene Number, Setup, and Take into an alphanumeric string.

There are conventions for this, but no standards. A Slate UID can be parsed into its components if the conventions being followed are known.

The Slate UID is unique in the context of a particular Creative Work.

For the purposes of software-defined workflows, it is convenient to have a structure that includes the Slate UID itself and its separate components, e.g., a Slate UID data structure with some attributes.

Slate UID Data Encoding

Field Name	Description
Slate UID	The constructed Slate UID.
Scene Descriptor	The *Scene Descriptor* of the Production Scene being shot (see above).

Setup	The unique camera configuration that encompasses a camera's geo-location, positioning, lens, or other camera settings.
Take	See below. A director may require multiple takes of a Production Scene with a particular setup.

8.3.1   Slate Name

On set and in the editorial process, it is common to refer to the combination of Scene Descriptor and Setup as "the slate." This concept is used in a variety of ways, and so it is defined here, although as Slate Name, since Slate is used to describe a fuller set of information. Loosely, it covers all the Takes of a particular Production Scene using a particular Setup.

Slate Name: The combination of Scene Descriptor and Setup; it is the same as Slate UID without the Take information.

Sample Attributes for Slate Name

Attribute	Description
Slate Name	The constructed Slate Name.
Scene Descriptor	The Scene Descriptor of the Production Scene being shot (see above).
Setup	A setup is the unique camera configuration that encompasses a camera's geo-location, positioning, lens, or other camera settings.

8.3.2   Setup

Setup: The unique camera configuration that encompasses a camera's geo-location, positioning, lens, or other camera settings.

The first camera setup (the master setup) is not explicitly marked on the slate. For each change, a suffix of a letter is added to the Scene Descriptor, and for successive setups, the letter is incremented: A, B, C, etc. (Note: I O & S are often skipped as they can be misinterpreted as a number when handwritten).

A setup is specific to a Scene Descriptor but not necessarily to a Take. If a new scene is being shot, the setup reverts to the master setup for that shot, even if nothing was changed on the camera. If the camera setup is changed between takes, then the setup is advanced to the following letter.

8.3.3   Take

Take: A discrete capture event with a specified beginning and end.

A Take can include audio, video, or motion capture. A director may require multiple takes of a shot or scene with a particular setup. It is often specified by the director calling a start and end, but a Take of an artificial scene[24] might have its beginning and end specified differently.

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[24] See above under Production Scene

The *Take* number starts at "1" and is incremented after each take: 2, 3, 4, …

Takes are tied to the combination of *Scene Descriptor and Setup.* If either of these changes, the Setup is changed and numbering for the Take restarts at 1.

On occasion, the director will elect to continue to roll the camera across a series of takes. In this case, the suffix "SER" is appended to the Take.

A pickup is when only a specific part of a scene is shot; the suffix "PU" is appended to the Take.

8.3.4   Encoding and examples
Best practice is to encode the Slate UID as:

    <scene descriptor><setup>-<take number>

Example Slate UID's:

Slate UID	Scene Descriptor	Setup	Take Number	Notes
15-1	15	Master setup	1	*The first recording of this Production Scene*
15-2	15	Master setup	2	*Camera setup remains the same, second take*
15A-1	15	A	1	*The camera setup has now been changed, and this is the first take using the new setup*
2B-3	2	B	3	*Scene 2, setup B, take 3*
2B-4SER	2	B	4	*A series of takes were recorded without the camera being stopped.*
2-3PU	2	Master setup	3	*A pickup shot*
A2-1	2A	Master setup	1	*A scene was added on-set after scene 2 in the Script*

9   Shot and Sequence

A shot is one of the most fundamental concepts in filmmaking. The term means different things in different circumstances,[25] and occurs from script all the way through to finishing. As an incomplete set of examples, consider the following: standard scripts indicate things like Interior and Exterior for shots, which in this case roughly correspond to scenes in the script; the shot list serves as a checklist, giving everything needed for a particular Shoot Day; captured material that requires VFX work is called a VFX shot (or sometimes just a shot, inside the VFX workflow); eventually shots are edited together, then color graded into a finished Creative Work. This is a vast simplification, even at the high level, but it does illustrate how central the notion of Shot is to the process, and how slippery an actual definition can be.

The idea of a "sequence" is similarly pervasive. In normal life, a sequence is a series of things, one after the other, in some order. Different arts and sciences have their own specific meanings for sequence, sometimes (but not always) adding a clarifying word. A sequence in mathematics is just an ordered list of elements; in music it can mean a motif or theme restated at different pitches[26] or a particular form of liturgical poetry and Gregorian chant; in biology, a sequence is an ordered set of monomers linked together into a biopolymer, such as DNA or a protein; an archaeological sequence refers to the stratigraphy (or layers) of a site and can sometimes be thought of as a succession of archaeological contexts.

In the production of a Creative Work, a sequence can be thought of roughly as an ordered set of media elements. Some sequences are tied to the narrative, and some exist purely for organizational purposes. Many of the differentiations of Shot are mirrored in Sequence, and as with Shot, they are often undifferentiated, except by the context in which they are used.

Shot: A discrete unit of visual narrative with a specified beginning and end.

This is the most generic definition. In some cases, a Shot will cover an entire capture (as specified by the Slate UID), and in some cases it only contains a portion of it.

A Shot is an Asset Functional Class; the Asset's Structural Characteristics should reference the portion of the material actually in the Shot. See **Part 3: Assets** for details. The source material can be one of a number of things:

- It might be a capture or part of a capture associated with a Slate UID (in which case it is often thought of as a Take)
- It might be a processed version of a capture or part of a capture (e.g. camera RAW files turned into some other format such as a proxy)
- It might be computer-generated video
- It might be an animated storyboard being used temporarily
- It might be a piece of video that renders another Sequence

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[25] As readers of previous footnotes will know, this is an example of deixis.

[26] As used by Rogers and Hammerstein in *Do-Re-Mi* and Handel more than once in *Messiah*.

The Structural Characteristics might be used by Assets other than the Shot. For example, the same piece of video can be used as a Proxy and as a Shot, in different parts of the workflow, or a set of images can be treated as a Storyboard in pre-production and, used as a stand-in for unfilmed scenes, a Shot in Editorial.

Sample Attributes for Shot

Attribute	Description
Identifier […]	One or more identifiers for the Shot.
Name	A name for the Shot
Description	A description of the Shot.
Start	The starting point of the Shot.
End	The end of the Shot.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any Contextual information for this Shot.

Notes:

In some cases, e.g., Editorial, the source of a Shot is in the form of a Moving Image, but in some specialized circumstances, especially in VFX, the source may be an Image Sequence.

Slate and Slate UID are very common part of the Context for a Shot.

There are many ways to specify the start and end for a shot: frame numbers, index of an image in a set of individual images, and various timecodes. Different formats are used for different kinds of underlying media and different software applications, and the details are left for the technical data definitions.

The same capture can be used in multiple Shots, for example when using a seciton from the start of the Capture and a section from the End.

Sequence: An ordered collection of media used to organize units of work.

This is Sequence at its most basic and is the underlying model for more specialized kinds of Sequence.

Sample Attributes for Sequence

Attribute	Description
Identifier […]	One or more identifiers for the Sequence.
Description	A description of the Sequence.

Attribute	Description
→ Sequence Chronology Descriptor	Technical description of the Shots in a Sequence and how they combine (see definition below.)
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ Context	Any Context required when using or processing this Sequence.

Notes:

In some cases, a Sequence is used as a grouping mechanism to organize particular units of work, e.g., a VFX Sequence is a Sequence containing things that need VFX work.

The Shots used in a Sequence are in the Sequence Chronology Descriptor (see below.)

A Sequence, or a rendered version of it, can be used as a Shot in another Sequence.

Now we get to some more specialized Shots and Sequences.

9.1 Editorial Sequence

Editorial Sequence: A sequence of shots linked to creative intent.

This generally has a loose relationship to narrative intent and is the piecing together of a portion of the Creative Work from potentially quite disparate Shots – some will be from the capture associated with a single Slate, some may come from different Slates, and some may have gone through a VFX process. The end result is a realization of part of the narrative.

Sample Attributes are the same as for the general Sequence, but with a strong assumption that all of the components will be Shots or other Sequences and the addition of an optional Reel, for editorial Sequences that interact with sound editorial.

Additional Attributes for Editorial Sequence

Attribute	Description
->Reel	The Reel (q.v.) associated with this editorial sequence.

9.2 VFX Shot, VFX Sequence, and VFX Image Sequence

VFX Shot: A Shot that has been identified as requiring VFX work.

The Sample Attributes for a VFX Shot are the same as those for a generic shot.

VFX Sequence: A unit of work made up of an ordered series of VFX shots.

The sample Attributes of a VFX Sequence are the same as those for a generic Sequence.

Notes:

> A VFX Sequence may not be a continuous narrative. It is usually created around blocks or related VFX work. For example, all the VFX Shots involving a particular Prop can be grouped together in one VFX Sequence.

VFX Image Sequence: An Image Sequence used in VFX work

A VFX Image Sequence is used when the VFX process needs individual, independent frames. In this case, all of the Shots should be Image Sequences rather than Moving Images.

9.3   Animation Shot and Animation Sequence

Animation Shot: A Shot that has been identified as requiring Animation work.

The Sample Attributes for an Animation Shot are the same as those for a generic shot.

Animation Sequence: A unit of work made up of an ordered series of Animation shots.

The sample Attributes of an Animation Sequence are the same as those for a generic Sequence.

Notes:

> Animation Sequences are usually complete from a narrative perspective; they differ in this way from VFX Sequences. Their content is often decided by the editorial department.

> Shots and Sequences with both live action and animation are categorized as VFX Shots and VFX Sequences.

9.4   Color Sequence

Color Sequence: A sequence of shots with color grading characteristics linked to creative intent.

The attributes for this are the same as for a VFX Sequence, and like a VFX Sequence it is more related to the grouping of work than to narrative sequence. For example, scenes depicting foggy docks in Victorian London may all be grouped together for similar color work, and outdoor scenes at a leafy stately home grouped together for a brighter look.

9.5   Sequence Chronology Descriptor (SCD)

Sequences are formed from Shots by following a set of directions. There are several formats for this general concept, including EDL[27], AAF, and OTIO; all of these formats are subclasses of the general concept, which this Ontology calls a Sequence Chronology Descriptor (SCD). The SCD includes

- Identifier and optional start and end timecodes for each shot
- start and end timecodes in the destination (called the "record" timecodes, for historical reasons.)

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[27] Edit Decision List

- Other ancillary metadata (markers, transition effects, etc.)

The details of sequence construction are highly implementation dependent. The classes defined in this section serve as a basis for interoperability at a high level, rather than complete descriptions; individual implementations will extend them as needed.

The SCD class makes it easier for applications and systems outside of the actual process used to create the Sequence to:

- Provide information to Sequence creators in an application-independent way
- Allow applications that do not know or understand the details of application-specific sequence construction to find and manage Sequences in which a particular Shot has been used, for example to find all Sequences that use a Shot that uses a Production Prop that requires new VFX work.

Sequence Chronology Descriptor: Describes how a series of Shots is used to generate a Sequence.

It can be used both to construct a Sequence and to "investigate" the sequence, e.g., to see what Shots are in it[28] and transfer that information to other parts of the workflow.

Sample Attributes for Sequence Chronology Descriptor

Attribute	Description
Identifier […]	One or more identifiers for the SCD.
Name	A human-readable name for the SCD.
Description	A description of the SCD, e.g., "final for chase scene VFX sequences"
→ *SCD Components* […]	Information about the Shots used in the Sequence, with optional rough timing information.
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→*Context*	

Notes:

An SCD is an Asset; its structural characteristics have a reference to the EDL, OTIO file, etc. that has the details for constructing the Sequence. In general, these are structurally Digital Data or Structured Documents.

Extra information, including fades and notes about cuts, can be kept in the Custom Data field, but they are more generally kept in the Asset referred to by SCD Details.

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[28] At its simplest, this will be just a reference to the video portion of a Shot, but it can also find the Slate if that has been included in the Shot's Context.

It is somewhat common to refer to a Sequence Chronology Descriptor generically as an EDL, even if it is some other format. An EDL is document in a specific text format, although the term is used more generally for "something that tells how to construct a Sequence from Shots."

The intent is for implementations to extend this as needed. The above attributes should be retained for interoperability.

9.5.1 SCD Component

As indicated in the definition of Sequence, the portion of each Shot that is used in the Sequence has a start time and an end time. These are only approximate – the exact start and end point used might be somewhat different, for example to include or exclude a few frames from either end of the range given – and the SCD has the exact times. The position of the Shot in the Sequence also has to be given. The Ontology uses the SCD Component class to describe this, as follows.

Sample Attributes for SCD Component

Attribute	Definition
-> *Shot*	A reference to the Shot used for this component (See above)
Source Start	Start of the section of the material being used
Source End	End of the section of the material being used
Record Start	The time in the Sequence where this use of the material starts
Record End	The time in the Sequence where the content taken from the material ends
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.

Notes:

Source Start and Source End are usually specified relative to a base timecode taken from the source.

Record Start and Record End are so named for reasons of history and industry practice.

The intent is for implementations to extend this as needed. The above attributes should be retained for interoperability.

9.6 Sequence Example

Sequences can be confusing, partly because of the use of "sequence" to indicate both narrative groupings and collections of work to be done.

As an example, we can apply the concepts to the Penguin Waiters in *Mary Poppins* (1964), who appear on their own and with Bert and Mary. The section where the animated penguins run out of the café is an Animation Sequence: it is a short narrative unit with only animation. The subsequent scenes, where they interact with the live actors are a VFX Sequence (or even multiple VFX Sequences, if the production

team decides to parcel out the work piecemeal): this is a sequence related to work that is being done. Finally, the completed VFX Sequences, the Animation Sequence, and any shots with just live action are combined into an Editorial Sequence: this represents both work being done and a realization of part of the narrative.

10 Artwork

Realizing the narrative – producing the Creative Work – involves significant research and preparatory work to generate the countless ideas that go into the production. Much of this is represented visually, and the resulting images are used to inform the production. This section gives some of the most common and important types.

10.1 Storyboard and Animated Storyboard

Storyboards are often used to sketch out the flow of a Scene or a Shot, show how characters interact with a location, and so on.[29]

Storyboard: A series of images that forms a visual representation of some part of the narrative.

A Storyboard can be used as video, often by turning it into a flipbook animation, when the video for a scene is not yet available, especially early in the production process; that video is an Animated Storyboard.

Animated Storyboard: A moving image produced from the individual images of a Storyboard.

Storyboard and Animated Storyboard are both Assets. See the Assets Ontology for how their different structural characteristics (sequence of images vs moving image) are differentiated.

Sample Attributes for Storyboard and Animated Storyboard

Attribute	Description
Identifier […]	One or more identifiers for the Storyboard. At least one of these should be resolvable within the production environment.
Name	The name of this Storyboard
Description	A description of this Storyboard
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→*Context*	Any other context around this Storyboard.
C→*Narrative Scene*	The Narrative Scene (see above) represented by this Storyboard.
C→*Production Scene*	The Production Scene (see above) represented by this Storyboard.

Notes:

> A Storyboard can be attached to a Narrative Scene, a Production Scene, or both.

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[29] This practice goes back almost to the start of filmmaking. Georges Méliès used them at the start of the 20th century – one of the many still-used techniques he pioneered.

The Context can contain information beyond the Narrative or Production Scene for this Storyboard, e.g., that it emphasizes a particular Location or a Character. The Scene information is included separately for convenience.

10.2 Concept Art

Concept Art is one of the tools used to translate from the words of the Script to the visual imagery of the Creative Work. There can be dozens or hundreds of pieces of concept art for a Prop, a Location, or a Character. Many of these are not used except as inspirational material, but even the discarded ones are important at the start of the production process.

Concept Art: Images that illustrate ideas for potential depictions of elements of the creative intent.

Sample Attributes for Concept Art

Attribute	Description
Identifier […]	One or more identifiers for the Concept Art. At least one of these should be resolvable within the production environment.
Name	The name of this piece of Concept Art
Description	A description of this piece of Concept Art
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→*Context*	Any other context of this Concept Art

Notes:

Concept Art is connected to Narrative elements through the Concept object.

11 Reference Material

"Reference material" is a common term during production and means two broadly different things. The first is reference material used on set and in pre-production, which we call Creative Reference Material, and the second, which we call Technical Reference Material, is captured during filming as a way of transferring information from one part of the production process to another. The first is for inspiration, and the second is for consultation.

Both kinds of reference material can be used as context elements. This is especially true for Creative Reference Material, which may relate to an entire production or to large parts of a production. For relationships connecting them to a particular thing, see *Part 7: Relationships*.

11.1 Creative Reference Material

Some artwork is one step further removed from a Depiction than Concept Art. It conveys ideas, rather than potential designs, and is never intended to be used as a depiction of the narrative element. For example, it can be used to provide inspiration or to set a mood.[30]

Creative Reference Material: Images or other material used to inform the creation of a production element, to help convey a tone or look, etc.

Sample Attributes for Creative Reference Material

Attribute	Description
Identifier […]	One or more identifiers for the Creative Reference Material. At least one of these should be resolvable within the production environment.
Name	The name of this piece of Creative Reference Material
Description	A description of the Creative Reference Material, e.g. "Patterned Icelandic sweater. Look at the polar bears!"
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context of this Creative Reference Material

Notes:

> Much of this will be images, but it can be video or sound as well.

11.2 Technical Reference Material

A great deal of information is captured during filming: photographs and sets and props for continuity and VFX work, copies of the blueprints of the Production Set, and metadata captured in ad hoc ways. It

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[30] Such as Neuschwanstein Castle in Bavaria for Cameran Palace in *Pokémon: Lucario and the Mystery of Mew* (2005) or the Edo-Tokyo Open Air Architectural Museum for *Spirited Away* (2001).

captures precise information in a timely way as the information is generated. As an example, if a scene is filmed in a grand hall, photographs that document the effects of the lighting, the precise positions of the lights, and the setting on the lights are all technical reference material. Technical Reference Material also includes things like set blueprints, CAD files, and architectural drawings.

Technical Reference Material is a set of functional characteristics for Assets, and many individual types are covered in **Part 3E: On-Set Data (**forthcoming.)

Technical Reference Material: Images, data, or other material created as part of the execution of the production.

Sample Attributes for Technical Reference Material

Attribute	Description
Identifier […]	One or more identifiers for the Technical Reference Material. At least one of these should be resolvable within the production environment.
Name	The name of this Technical Reference Material
Description	A description of this Technical Reference Material
Custom Data	Anything that is application or workflow dependent that can't be otherwise expressed in the Ontology or needs to be present in a particular format.
→ *Context*	Any other context of this Technical Reference Material
C→ *Slate*	Some technical reference material is related to a specific Capture, and the Slate captures key information.

Notes:

> Technical Reference Material can be related to almost anything in the production process. Slate is particularly important for VFX work and is called out for that reason, but the Production Set, Production Location, and Production Props can be equally significant. Fortunately, all of them can be put into the Technical Reference Material's Context as needed.

Appendix A   External Definitions

These are terms defined elsewhere in the Production Ontology, included here for ease of reference.

Media Creation Context: Informs scope within the construction process of a Creative Work.

> See **Part 2: Context**

Asset: A physical or digital object or collection of objects specific to the creation of the Creative Work.

> See **Part 3: Assets**

Camera Metadata: Capture-specific details and information about the Camera itself.

> See **Part 3A: Camera Metadata**

Participant: The entities (people, organizations, or services) that are responsible for the production of the Creative Work.

> See **Part 4: Participants**

Task: A piece of work to be done and completed as a step in the production process.

> See **Part 5: Tasks**

Creative Work: A uniquely identified production.

> See **Part 6: Creative Works**

Relationship: Describes and defines the connections between elements of the Ontology, such as Assets, Tasks, Participants, and Contexts.

> See **Part 7: Relationships**

Infrastructure: The underlying systems and framework required for the production of the Creative Work; it is generally not specific to a particular Creative Work.

> See **Part 8: Infrastructure**

Utilities: Common data models and data structures used in multiple places and in multiple ways in a larger system.

> See **Part 9: Utilities**

Identifier: An identifier uniquely identifies an entity within a particular scope.

> See **Part 9: Utilities**