A Reconstructed Neo-Aristotelian Theory of Interactive Drama

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Abstract

Aristotle's *Poetics* has served as the basis for understanding interactive drama since Brenda Laurel proposed her neo-Aristotelian model in 1991. Michael Mateas (2004) has recently extended Laurel's model to include an explanation of user interaction. This current poetics has accumulated a number of valuable additions during its development. However, the omission of key Aristotelian features—such as the distinction between object, manner, and medium—has lead to certain tensions. Here, we trace the evolution of the current poetics in order to examine its strengths. We then propose an overhauled model that includes most of these benefits while eliminating some of the internal strain.

Aristotle

In the fourth century B.C.E., Aristotle (1961) laid the foundations of narrative theory in his *Poetics*. Though he focuses primarily on describing the nature of tragic drama, he does refer to other art forms such as epic poetry, comedy, dithyrambic poetry, music, dancing, and painting. He claims that all these forms of "imitation" differ from each other in three defining respects: their objects, medium, and manner (which is sometimes called mode).

Objects

The object "imitated" in drama is "men in action" (Chapter I). Tragedy and comedy can be distinguished by the character of the men represented and the nature of the action. The men can be portrayed as "better" or "worse" than they are in real life; the action may or may not be serious, unified, and complete. But the important aspect is "men in action".

Fergusson, in his introduction (Aristotle 1961), explains that our understanding of Aristotle's *action* should be in light of his writings on ethics. Action here means *praxis*—an active, rational "movement of spirit", directed outwards. It is action arising from thought, focused to some end. The motivation of a character is essential to this sort of action.

Aristotle thus explains that the three objects of dramatic action are Plot (that is, the "arrangement of the incidents"), and the Character and Thought of its agents (Chapter VI).

Medium

Art can represent objects through a variety of different media—color and form, or the voice, or rhythm and harmony (Chapter I). Tragedy, specifically, is conveyed through Diction and Song (Chapter VI). That is, actors speak and sing in order to convey the action to the spectators.

Manner

Within the same medium, there may be different manners of presentation. For instance, in poetry conveyed through the media of speech and song, the events can either be narrated through a personality, narrated as if by the poet himself, or enacted as if the characters were "living and moving before us" (Chapter III). This is a distinction between epic and tragedy—epic is narrated, while tragedy is enacted. Aristotle calls this enactment of tragedy the Spectacle (Chapter VI).

Aristotle lists these six parts in terms of their order of importance to tragedy: Plot, Character, Thought, Diction, Song, Spectacle (Chapter VI). The first three are the objects—we understand the Plot of the action in part because we understand the Character and Thought of the characters. The action is presented through the media of Diction and Song, Diction being the more important for Aristotle. He lists the manner of Spectacle as the least essential to judging tragedy.

Smiley

Sam Smiley (1971) explores the process of playwriting, using Aristotle's model as a framework. In the first chapter, in arguing that fine arts produce artificial (that is, manufactured) objects, he explores Aristotle's four causes for coming into being of an artificial product.

The two causes relevant here are the material and the formal. The material cause of an object is the substance of its construction. The material cause of a house is the wood and concrete used to construct it. The formal cause is the form of the object. For a house, this would correspond roughly to its blueprint design.

Smiley very briefly presents Aristotle's six parts of drama as connected by formal and material causes. (Although the four causes are an Aristotelian concept, Aristotle himself does not state such causes between the six parts in *Poetics*.) Smiley presents them in the same order as Aristotle—Plot, Character, Thought, Diction, Sounds, and Spectacle—and contends that each element dictates the

form of those below, while each provides the material for the element above.

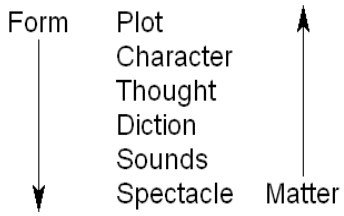

Figure 1: Smiley's model (p.11)

For Smiley, Plot is constructed in terms of the actions of the Characters. The material from which we build Character is Thought. Thought is itself constructed of words, or Diction. Diction is made up of Sounds. (Note the change here from Aristotle's Song.) Spectacle—"the physical actions that accompany the words" (Smiley 1971, p.12)—is the most basic material of all. A playwright holds the formal order to be most important, as the Plot dictates the qualities of the Characters, which therefore espouse certain Thoughts, and so on. The actors and production team tend to construct the play working in the material order, beginning with the Spectacle.

Note that Aristotle's distinction between object, medium, and manner has been ignored here.

Laurel

Brenda Laurel (1991) begins with Smiley's model, renaming some of the elements to be Action, Character, Thought, Language, Melody, and Spectacle. She describes these elements first in terms of drama, and then expands their meanings to be suitable for all human-computer activities (such as computer-based interactive narratives).

Starting at the lowest levels, Laurel begins by defining Spectacle as "everything that is seen" and Melody as "everything that is heard". However, this does not fit cleanly into the causal hierarchy since Spectacle does not form the basis of Melody. Also, this emerging neo-Aristotelian model does not seem to allow for visual signals to travel "up" the hierarchy to become the basis of Language and the understanding of the drama.

So instead, Laurel renames Spectacle to Enactment and redefines it to mean all the sensory dimensions of the represented action—visual, auditory, tactile, and any others. From these sensations, the user constructs Patterns. Language now does not mean only spoken human language, but any "selection and arrangement of signs, including verbal, visual, auditory, and other nonverbal phenomena when used semiotically" (Laurel 1991, p.50). Thought and Character remain largely unchanged, though for Laurel they may arise from computer-based, rather than solely human, origins.

Though Laurel has overhauled the bottom half of the hierarchy in an attempt to fit the demands of the causal connections, we shall see that a number of inadequacies still remain.

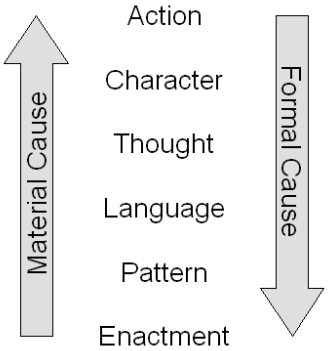

Figure2: Laurel's model (p. 51)

Mateas

Michael Mateas (2004) follows Laurel's model, both in the terms used and the material and formal causes. He adds to the model Janet Murray's notion of Agency, which Mateas defines as "the feeling of empowerment that comes from being able to take actions in the world whose effects relate to the player's intention" (Mateas 2004, p.21).

In an interactive drama, the story is enacted with the player taking the role of one of the characters. To support interaction at this Character level, Mateas adds two new causal chains—a Material for Action and a User Intention. When a user is interacting within a virtual world, the objects and the characters in that world afford certain user actions (from below). In turn, the story provides some narrative constraints, or at least direction (from above). When the user acts upon other characters in the story, her intention becomes a formal cause in much the same way the requirements of the action shape characters in traditional narratives. "A player will experience agency when there is a balance between the material and formal constraints" (Mateas 2004, p.25)

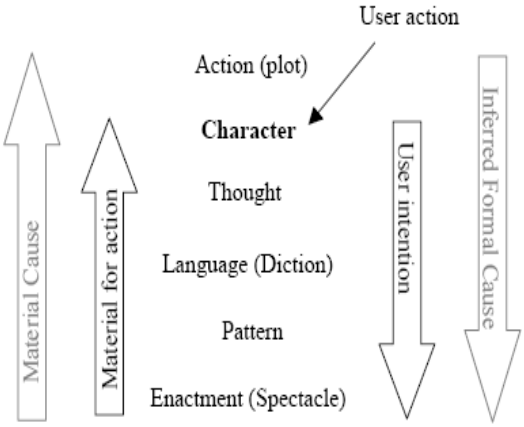

Figure3: Mateas' model (p. 24)

The Problems

We can thus see that Aristotle's model has come a long way through these additions and reformulations. However, due to the introduction of material and formal causes, a number of omission and tensions have been introduced.

First of all, we have lost Aristotle's sense of manner. Rather than differentiating between whether a narrative is enacted or presented, Spectacle has come to mean "all that is experienced by the audience."

Secondly, we have lost the idea that the medium is variable, yet still specific. When defining medium, Aristotle admits that medium may be color, harmony, rhythm, etc. (Chapter I). Only in describing tragedy (and other drama such as epic) does he limit himself to Diction and Song. We have since come to assume that all dramas are presented only through Diction and Song, which are primarily auditory channels. Through Laurel, in order to allow for the visual signs so prevalent in the computer medium, we have rather ungracefully expanded Song and Diction to Pattern and Language. Yet we now may speak only generally of Patterns, rather than specifically of medium-specific modes; and Patterns must then be assembled into something as well-defined as a Language in order to serve as the basis of Thought, Character, and Action.

Most importantly, the causal hierarchy implies sequential and exclusive links between the levels. That is, it seems *only* the level directly below should form the basis for the level above. For example, we certainly construct our understanding of a Character in terms of her Thoughts, which are understood in terms of her spoken Language. However, her physical features, expressions, gestures, costume, and theme music also contribute to our understanding of who a character is. Yet these attributes seem to serve as the material for Character without conveying Thought or using Language.

Mateas runs into this problem when he describes interaction with objects as existing "somewhere between spectacle and pattern" (Mateas, p.25). Yet what affordances are granted by the raw sensory experiences of Spectacle? What sort of constraints are provided by Patterns such as a purple jacket and an ominous musical chord? Yet it does not seem right to move objects to the level of Character, as objects are not assembled from Language-encoded Thought.

Aristotle does not mention setting or props, probably due to the fact that plays of his time had limited scenery. However, objects in the world play an increasingly important aspect of computer-based interactive drama since they are often the means through which the player can affect the action.

The Reconstruction

Aristotle provides us the basis for describing an art form in terms of its object(s), medium, and manner. Smiley gives us the idea of formal and material causes between these elements. Laurel explores this process that Smiley only sketches, and expands this framework to describe computer-based drama. Mateas tackles the problem of how interaction and the experience of agency can fit into this model. We believe that we can keep all these contributions, yet remove many of the tensions introduced during this model's evolution.

Returning to Aristotle, we can say that an object of "imitation" is presented through some medium. We can think of this medium as our experience of a "text", whether this be reading a script, watching a movie, or playing a narrative game. The object of imitation does not formally dictate the choice of a certain medium as a whole—a story could be presented as either a novel or as a play. However, the object does formally dictate its construction within a specific, chosen medium—a story's dialog is written within quotes in a novel or spoken by the actors in a play. We materially construct a sense of the object from our experience of its instantiation in a particular medium.

The Medium

Our experience of a medium may utilize a number of sensory channels—the visual, auditory, tactile, etc. This raw sensory experience corresponds to Laurel's (and Mateas's) definition of Enactment.

At a higher level, as Laurel suggests, we discern patterns based on this sensory experience. From various sounds, we may differentiate music or speech. From our visual experience, we may differentiate text, diagrams, photographs, animation, or live action. We might call these differentiated sensory patterns the *modalities* of the medium. (Although Aristotle's manner is sometimes translated as *mode*, that is not what we mean here. Modalities, as defined here, essentially correspond to such parts as Aristotle described as medium—spoken language, musical rhythm, color and form.)

We may also want to consider that, also as Laurel describes, there are certain conventions (something like a proto-language) that develop for these different modalities. For instance, a shot-reverse-shot with a fade can signify a reminiscent flashback in film. Comic books use different "word balloon" conventions to show whether a character is speaking, whispering, or thinking.

The specific sensations, modalities, and conventions depend on the particular medium used. Each level provides the material necessary for constructing those above it, while formally constraining those below it. This reformulation of medium opens the way for a media-specific analysis, as called for by N. Katherine Hayles (2002). Whether a story is conveyed as a live performance, a film, or a novel, we should be able to explore the particular details of its material embodiment in a medium and how that specific embodiment affects our conception

of the work as a whole. This is a different, broader notion of medium from Aristotle's, which would correspond only to what we are calling the modality.

The Object

The object of drama is "characters-in-action". This Action has Characters as its material cause; in turn, the Action determines what sort of Characters are needed to produce it. As held by Aristotle, a character's motivation, or Thought, is essential to understanding that Character. However, as we have seen, it is not the *only* material from which characters are formed. They have a number of other physical attributes, and often Thought can only be inferred from these outward appearances. While essential to Character, Thought does not cleanly fit within the exclusive formal/material cause hierarchy.

The notion of Setting is missing from Aristotle. Yet, Action is partly constructed in terms of where things happen and what objects are used. This is particularly true in an interactive drama, in which the user assumes the role of a character and, through this character, interacts in a virtual story world. Though some of this interaction means affecting other characters, the user often spends time manipulating objects and their character's current location. We might refer to the Characters and Setting together as the World of the story.

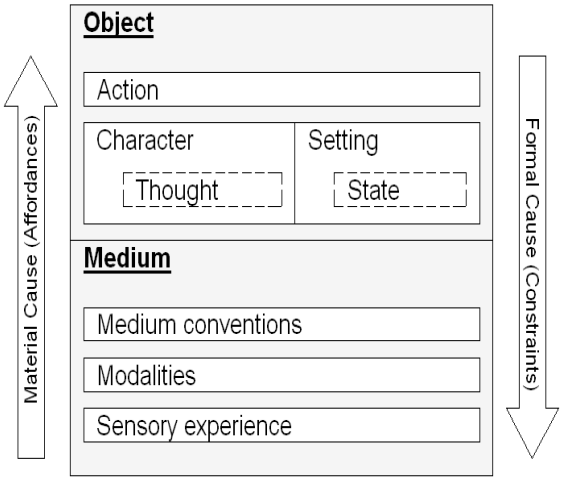

Figure 6: A reconstructed neo-Aristotelian poetics for interactive drama.

The user's actions at the World level serve as partial material for furthering the Action, while the narrative context of the Action so far provides some constraints on the user. This is just as Mateas describes Agency, though in this reformulated model, the world's objects are placed within the same narrative context as characters. Like characters, modeled story objects often have an internal state that must be inferred by the user from the objects' outward appearances (as conveyed through the medium). Though we are usually most concerned with the affordances offered by the story world, it is helpful to remember that the medium itself must also successfully afford the interaction controls needed to affect those objects.

We have not yet included Aristotle's manner in this model. However, the features of the discourse—whether presentation or narration—fit well between the Medium and the Object (Tomaszewski 2006).

Conclusion

We have attempted here to clarify the existing poetics model of interactive drama by tracing its evolution. Although we have changed some of the relationships and labels of the current model, we have tried to maintain its basic concepts—particularly the formal and material causes, the description of "patterns" and "languages" at work in a medium, and the mechanism of user agency.

However, we have also been able to reinstate the Aristotelian distinction between medium, manner, and object, thereby reducing some of the strain of the current model. Our new model recognizes the effects of a work's particular medium on the experience of that work as whole. We have also added Setting to the world of the story, as Action does not progress in terms of Character alone, especially in a computer-based interactive drama.

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