Tuning Aristotle: An Applied Model of Emotions for Interactive Dramatic Structures

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Abstract

This paper proposes a class-based model of emotions that is built on the original Aristotelian separation of pity and fear, supplemented by fiero as a third class for interactive media and video games. It shows how this tripartite model can aid design processes for dramatically complete games without privileging certain parts of the dramatic structure over others, and how it can offer a holistic and testable emotional playing experience. Furthermore, it provides the theoretical framework to solve a problem introduced by interactivity and player agency into traditional empathy dynamics.

Keywords: *game design, emotions, dramatic structure*

1. INTRODUCTION

Two prominent aspects that define the interactive playing experience are motivational and emotional involvement. The first aspect is experience as *expertise*—developing skills, knowledge, understanding, and attitude toward mastery and competitive performance through motivational involvement. The second aspect is experience as *awareness*—perceiving ongoing events with and through emotional involvement. This paper focuses on the latter, specifically on emotion design in dramatically complete video games, i.e., games that contain a story development arc, a character development arc, and a player development arc.

Emotion design for dramatically complete games, in many if not most cases, starts off with the requirements of the story development arc. From there, ludological, aesthetic, and mechanical elements are created to support these requirements, supplemented by emotions for the character development arc and the player development arc, the latter primarily fueled by the game's reward system. Thus, emotion design in games is often dominated by story requirements, and particularly emotions from the player development arc are often not as well-integrated as they should be. Moreover, player agency interferes with a range of emotions that are important for the character development arc, so that these cannot be fully experienced by the player.

This paper discusses the categorization of emotions into three classes that can be applied to the game design process; how these classes can be balanced, both with respect to each other and with respect to the agency dilemma; and how the emotions from these classes can be integrated into the dramatic structure of a dramatically

complete game to provide the player with an emotionally rich, holistic playing experience.

2.   A MODEL OF EMOTIONS

As well-researched as human emotions are, their categories [1][2], functions [3], and relations to neighboring human experiences like mood and temperament [4][5] are, by and large, still debated. But it is undisputed that emotions influence behavior and have psychophysiological effects that include adaptation and appraisal [6][7], cognition [8], and motivation [9]. Categories and models resulting from this corpus of research can inform and inspire design decisions for interactive narratives in games only to a degree; they are too unwieldy to be applied with any measure of practicability. Thus, to create a set of practical design parameters for player, player character, and non-player character emotions, the much older and simpler model of emotions from Aristotle's *Poetics* is adopted.

In this section, Aristotle's model of emotions is discussed and updated to address a range of emotions from the player development arc that do not apply to Greek Tragedy, but apply to interactive media, especially video games.

2.1   The Aristotelian Classes of Emotion

In the sixth chapter of his *Poetics*, Aristotle posits that Greek Tragedy "effects through pity and fear the catharsis of these emotions [10]." (The catharsis hypothesis is not discussed in this paper.) Aristotle's rationale to pick pity and fear from the emotional palette can be deduced from his definition of tragic heroes as human beings who must not be "superhuman" but have flaws that make them human and bring about their downfall. Against this background, the audience is supposed to pity the hero and to fear that they could face a similar fate themselves someday. This delineates the differences between these two emotions, which are defined as classes for the purposes of this paper. On the one hand, emotions from the fear class are directly experienced by the audience by way of seeing themselves in the situation of the character or characters. On the other hand, emotions from the pity class are indirectly experienced through empathy with the character or characters. With these characteristics as a starting point, both classes warrant a closer look in the context of game design.

2.2   The Fear Class

Following the outlined characteristics of the two classes, emotions from the fear class are defined as emotions that can be directly triggered through visual, auditory, and kinesthetic [11][12] design elements. Collecting emotions from research into emotional categories, this class can comprise *fear*, *joy*, *happiness*, *amusement*, *awe/wonder*, *sadness*, *sorrow*, *melancholy*, *nostalgia*, *anxiety*, *terror*, *dread*, *disgust*, *nausea*, or *revulsion*. These emotions correspond to Aristotle's definition of fear as the fear of facing

a similar fate as the protagonist. Through dramatically and aesthetically well-executed design elements, the player does face the fate of the hero at the point of play.

As an example, this design strategy for emotion-rich video games is most prominently applied in horror and survival-horror games. While playing *Silent Hill* [13], *The Suffering* [14], or *Dead Space* [15], players experience emotions from the fear class directly through visual, auditory, and kinesthetic design elements, the latter—in case of a gamepad—augmented with vibration and pulsation effects.

2.3   The Pity Class

Following the outlined characteristics of the two classes again, emotions from the pity class are defined as emotions that can only be experienced by the player through empathy; these emotions cannot be triggered directly through visual, auditory, or kinesthetic design elements. Again, collecting emotions from research into emotional categories, this class can comprise *pity*, *compassion*, *worry* (for loved ones), *love*, *contempt*, *anger/wrath*, *outrage*, *hate*, *admiration/adoration*, *envy*, *jealousy*, *resentment*, *grief*, or *bitterness*. These emotions correspond to Aristotle's definition of pity as the pity for the hero. Here, it is dramatically and aesthetically well-executed game characters who can let the player feel these emotions through empathy, and these emotions are not necessarily restricted to the point of play.

Games with well-designed characters, e.g., the *Mass Effect* trilogy [16], *The Last of Us* [17], or *Gone Home* [18], can create strong empathic reactions in the player that correspond to the emotions from this class. As the case of *Gone Home* shows, these characters do not even have to be "present" in the game as game character models; when dramatically well-designed, they even trigger empathic reactions in the player when these emotions are merely related through letters, notes, and other elements from the world narrative [19].

However, it is the pity class where, as mentioned, a formidable challenge is introduced by interactive games, where the protagonist is both the player character and the player avatar which represents the player's actions. Dramatically complete games invite the player to "identify" with the hero, and for the fear class, this identification can make the experience of its respective emotions even more powerful. For the pity class, though, triggering emotions from this class through empathy with the protagonist no longer works because it is not possible to empathize with oneself in general or have pity with oneself in particular (except in the form of self-pity, which is a different emotion [20]). A solution for this dilemma, which has further ramifications, is discussed in the third section.

2.4   The Fiero Class

In non-interactive media, there is a range of emotions which, in most cases, do not operate on the player directly like the emotions from the fear class, but indirectly as part of the pity class through empathy with characters. Collecting emotions from re-

search into emotional categories once more, these are the emotions of *triumph*, *relief*, *jubilation*, *satisfaction*, *pride*, *gratitude*, *confidence*, *hope*, *guilt*, *remorse*, *shame*, *embarrassment*, *disgrace*, *regret*, *humility*, *disappointment*, *frustration*, or *despair*. In contrast to non-interactive media, however, video games can trigger emotions from this range directly along interactive play in ways that constitute this range as a class of its own. Similar to emotions from the fear class, they can be experienced by the player directly—not through situational awareness, though, but through successful or unsuccessful player actions.

As a label for this class, "guilt" would certainly be the best fit in accordance with Aristotle's argument on Greek Tragedy and the *Poetics*' overall mood. Yet, to pursue more positive connotations, this paper proposes "fiero" as a label for this third class of emotions.

The term is based on the concept of fiero as introduced by Nicole Lazzaro [21] [22]. According to Lazzaro, fiero represents the overwhelming feeling of accomplishment that includes emotions like triumph, pride, or relief when players, through their own player actions, have overcome a major obstacle, triumphed in the face of adversity, or won a huge victory. This can be extended to its opposite, the experience of negative emotions like frustration, regret, or humility, when players have failed to overcome an obstacle; let characters, non-player characters, or other players down; or lost the game. In interactive media and video games in particular, emotions from the fiero class can be experienced as a direct consequence of the player's own actions and decisions.

3. SOLVING THE PLAYER AGENCY DILEMMA

As sketched above, there exists an interference problem in interactive games with regard to the pity class. In non-interactive media like novels or movies, the audience empathizes with the hero and experiences the whole range of emotions that are part of the pity class. This empathic operation no longer works in dramatically complete games when the hero is both the player character in terms of narrative, and the player avatar in terms of interactivity and player representation. Suggested by the narrative structure and supported by the interactive structure, the player is invited to "identify" with the hero. This shift in player perception from empathy to identification is supported by findings that players display more prosocial behavior or less prosocial behavior in their in-game actions and decisions as a direct function of identification with a more benevolent or a more malevolent protagonist, respectively [23]. Thus, this shift prohibits the operational dynamics of empathy on which the experience of emotions from the pity class traditionally relies. One cannot have pity with oneself, only self-pity, and several other emotions from the pity class would work in equally unintended ways, among them self-contempt, self-love, or self-admiration. Others, still, do not work at all, among them self-envy, self-grief, or self-jealousy.

This, in turn, gives rise to the player agency dilemma. This dilemma can be illustrated with the help of a heroine in a historical drama who must choose between her fiancée, whom she loves, and her career, which she aspires to. When this heroine

chooses one of these two options herself, the player can empathize and pity her for sacrificing either her love or her career. But when this heroine is both the player character and the player avatar and it is the player who makes the decision, this can no longer work—because, as discussed, players cannot empathize with themselves. Thus, the dynamics of empathy and interactivity preclude that players can experience agency and empathy at the same time in the context of their own actions and decisions. (As such, this adds to the more comprehensive design challenge in dramatically complete games to simultaneously provide player agency and a tightly woven "roller coaster" experience.)

Set upon this challenge, game designers will find interesting and sophisticated solutions. But there is a design strategy that is simple, well-known, and almost universally applied, namely the use of major supporting characters as stand-ins for the protagonist. By and large, this solution is employed for reasons not pursued in this paper, notably the relief of the player from the "burden of tragedy [24]," a burden the game should not impose on players directly to prevent them from crossing "the fragile boundary that separates pleasure from pain" [25]. This design strategy can also be applied to overcome the agency dilemma. Events that trigger emotions from the pity class should not happen to the protagonist. Instead, they should happen to non-player characters or hero NPCs—a term proposed by game writer Chris L'Etoile [24]—to whom the protagonist, and with it the player, has become emotionally attached. As an example, when a beloved character dies as a dramatic necessity, it should not be a character beloved by the player character, but a character beloved by a hero NPC. That way, the player can empathize with the hero NPC's grief. This is both a quick fix and a viable solution for the player agency dilemma. The use of hero NPCs restores the dynamics of empathy and allows the player to experience the full range of emotions from the pity class without interference from player agency.

4.   BALANCING AND INTEGRATING FEAR, PITY, AND FIERO

For the purposes of this paper, a dramatically complete game is defined as a game with a full set of arcs, consisting of a story development arc, a character development arc, and a player development arc. The story development arc advances through effectively placed dramatic events from traditional Western narrative structures, e.g., screenplay structures [26], or non-traditional and non-Western narrative structures, e.g., kishōtenketsu [27] or jo-ha-kyū [28]. The character development arc is an inner journey the player character goes through, often accompanied by an outer journey. It evolves along dramatic elements from well-known or lesser-known journey structures, among them the hero's journey [29][30], nostos [31][32], or quest [33]. The player development arc confronts the player with a progression of well-placed and well-paced challenges to achieve mastery and win or beat the game. Into this dramatic structure, the three classes of emotion need to be integrated in a balanced way.

Story requirements, as stated, often dominate emotion design for dramatically complete games. Applying the three classes of emotion to the design process offers an alternative approach as a remedy. Just like plotting learning curves for the player or

intensity curves for dramatic events and aesthetic elements like music and sound, emotion curves can be plotted—both across dramatic units like levels and the game as a whole—to balance emotions from all three classes very precisely in terms of class (fear, pity, and fiero), type (specific emotions from each class), and intensity.

These curves, in turn, can be integrated into the dramatic structure with a compatibility scheme that is essentially Aristotelian, with the added fiero class to account for emotions attached to interactive play. The story development arc with its dramatic turning points and escalations connects to the fear class as the dramatic situation players can see themselves in. The character development arc with its journey-like structure connects to the pity class as a progression of dramatic trials and atonements players can empathize with (via hero NPCs) or relate to (via the player character through shared basic human experiences around initiation and transformation). The player development arc with its progression of physical, cognitive, and empathic challenges, finally, connects to the fiero class through the players' actions and decisions, dramatically represented and expressed by the player avatar.

5.   CONCLUSION

Attaching emotions from the three emotional classes to the three development arcs and plotting them across the game and its dramatic units in interesting and testable ways during development solves several design problems. The model does not privilege or disadvantage any one development arc with respect to emotional experiences; it solves the agency problem and makes the emotions from the pity class fully available for the player; and it allows for playtesting setups that can test, measure, and tune the emotional player experience precisely and effectively.

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