Narrative Progression Traits for Role-Playing Games

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We categorise popular (tabletop) role-playing game (RPG) settings according to the content of their game-theoretic outcome (positive-sum, negative-sum, constant-sum) and the arbitrariness/causality of that outcome (stochastic vs deterministic). Six categories are captured by assuming that all players collectively represent one agent, the prescribed game universe defines the game, and some of the other world entities represent other players. We show how this categorisation of games can inform the design of rules for new games based on the game setting by introducing 'narrative progression traits', which offer a method of tracking the progress of player characters.

1 Introduction

ROLE-PLAYING GAMES (RPGs) are an eclectic mix of narrative and elements from board games and miniature war games [1]. An imaginary universe is fleshed out in a series of source books that are coupled with rules that allow players to create stories within that universe. One of the players receives a special role, usually called the *game master* (GM), whose purpose is to oversee the correct execution of the mechanics of the game, bring the setting to life and push the story forward. The rest of the players act as *player characters* (PCs), who are individual *agents* with their own goals within the game universe. The archetypal game of this type is Dungeons & Dragons [2].

The GM is responsible for: 1) handling the mechanics of the universe, and 2) acting on behalf of *non-player characters* (NPCs). NPCs are agents who populate the universe and act in conjunction with other characters, and whose roles can be as limited or as extravagant as the game dictates. The *setting* of the game is defined by its narrative combined with its mechanics.

RPGs are usually played on a table but without using a board as such. The typical equipment for each PC includes a character sheet, pencil and set of dice, as shown in Figure 1. The GM equipment typically includes: 1) a rulebook, which is often accessible to the players; 2) a GM screen, with concise reference information for the GM's eyes only; and 3) some dice, as shown in Figure 2.

Most studies in role playing games have focussed on the nature of PCs, possibly due to the strong influence of the online games community [3]. Other studies exist which look more broadly at the entire RPG experience [4]. In this article, we will focus on the relationships between the game universe, PCs and NPCs.

Figure 1. Typical PC equipment: character sheet, pencil and dice (from Shadowrun [18]).

The rest of the paper is organised as follows: Section 2 describes the relationship between RPG games and multi-agent environments; Section 3 proposes six categories for classifying RPGs with examples; Section 4 proposes a mechanism for including *narrative progression traits* in games based on the categories they belongs to and explain why such mechanisms are important; and Section 5 concludes the article with a short discussion.

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Figure 2. GM equipment for Eclipse Phase [21], including a GM screen, rule book and dice.

2 RPGs as Multi-Agent Environments

The link between RPGs and multi-agent environments has been long established [5, 6]; one can see these games as massive asymmetric extensive form games, where players (and, consequently, player characters) are expected to maximise some notion of (long term) reward (e.g. maximise treasure, gain experience points, avenge a death etc.). The rewards provided by a game as characters progress are not necessarily of the same type; PCs might have to maximise multiple orthogonal types of rewards.

For the purpose of this article, however, we consider all rewards as existing along a single dimension, although this simplification may not be strictly true. A common abstraction in real multi-objective problems is to create linear combinations of rewards, in a process known as *scalarisation* [7]. For example, in settings where the rewards are *experience points* and *wealth*, a linear combination of the two can reasonably define a single-dimensional progress metric. With qualitative rewards, such as *revenge* and *treasure*, a non-linear mapping might be more suitable.

Each game can be broken down into two sets of agents: the PCs and the NPCs. If, at the end of a series of adventures or a long session, the PCs and the NPCs collectively have more total reward, then we label the game *positive-sum*. If the total amount of reward stays the same, we are going to label the game *constant-sum*. If the total amount of reward is collectively less for everyone involved, the game is labelled *negative-sum*.

Note that this is different to the element of *progression* [8], which does not necessarily coincide with rewards. An example is the progression of someone captured as a slave; their strength might improve from working in the mines, but the possibility of permanent servitude would be mind crushing. Even if the game does not have mechanics to address such a concept, the narrative created in the game may push toward an outcome that is worse for the PCs overall.

What constitutes reward depends on the narrative of the game setting, and might not be explicitly tied to the game mechanics/system. Notice that negative-sum vs positive-sum concerns the overall trend and not just the present situation; a bad situation that improves positive-sum, while a good situation that gets worse is negative-sum. A key point is that the characterisation involves all players, PCs and NPCs, collectively.

We distinguish *monsters* from NPCs. That is, not all entities in a game are viewed as players with agency; monsters can be seen as forces of nature. Thus, exterminating a tribe of *kobolds* is not to be considered genocide, but rather reshaping the environment, like digging a dam or building a house. Games in which PCs are monsters, such as most World of Darkness (WoD) games, might make normal humans seem lacking in agency. If a game does not make a clear distinction between monsters and NPCs, one will be made in this text. This distinction between automatons and conscious agents is often found in stories.

Another element of extensive form games is stochasticity, and most RPGs involve an element of luck. Here we are going to be concerned with the way the reward structure of the game treats those. For example, in most RPGs, battles have an element of luck which can be offset by skill. On the other hand, a game that involves random deaths or random encounters with extremely powerful monsters has a high element of stochasticity in the way it deals rewards.

It should also be noted that most role playing games can be tailored to suit the style and preferences of its players; even the most grim setting can be turned into a a cheerful, comedic experience. This is a perfectly valid use of the material, but playing against the intended spirit of a game makes it harder to formally categorise the type of playing experience it provides.

Finally, although a game setting might not be positive-sum for the *characters*, of course RPG sessions should be positive-sum for the *players*. That is, the players should enjoy the experience if the game is to continue, especially if they are participating in a campaign that will continue through many sessions. This is analogous to players enjoying a social game of Poker game or Chess, even though the game itself is strictly competitive and some players will lose.

3 Six Categories

Given the short analysis above, we identify six categories, formed by three types of reward outcomes in stochastic and deterministic settings. Representative games from each category are summarised in Table 1, and their relationships shown graphically shown in Figure 3. The breakdown of NPCs, PCs and universe can be seen in Table 2. It is worth noting that our analysis is not definite. Different categories can arise depending on campaign focus and interpretations.

3.1 Deterministic Constant-Sum

This category involves games with certain Chess-like zero-sum qualities; someone's loss is necessarily someone else's gain. There are rules in the universe which, if followed to their logical conclusion, can lead to a rewarding life. *Study hard and you will succeed* is an optimistic view of this world; *study hard and there is a small chance that you will succeed* is a more cynical but accurate recognition of the forces outside one's control.

The rules are such that one has to compete with NPCs and outperform them, and improvements come at the direct expense of others. A game in this category is King Arthur Pendragon [9], which leaves little to chance, and is strongly antagonistic towards NPCs given its inherent element of power politics.

3.2 Deterministic Positive-Sum

This category involves games that do not have an inherent element of conflict; if conflict arises, it is the result of lack of knowledge on the parts of the PCs or NPCs. The universal remains judgemental, but strong competition with other NPCs is not necessary to succeed. Games in this category are the most cheerful of all, and the inhabitants of such universes – at least those to which the game implicitly attributes agency – could end up living well for eternity. Adventures are often based on some invasive evil motivated by a sort of ignorant malice, such as Sauron from The Lord of the Rings. Everyone prospers until some evil entity ruins everything out of spite, purely to dominate for the sake of domination rather than necessity.

Games in this category include the classic Tolkien-esque worlds of Forgotten Realms [10], games such as Ars Magica [11] that bring a strong element of hope in the discovery of knowledge, lighthearted games such as Ghostbusters [12] and superhero games such as Mutants & Masterminds [13]. NPCs in these games are mostly misguided caricatures, whose evil is a conscious choice rather than a vehicle for material gain or advancement.

3.3 Deterministic Negative-Sum

This game type pits the PCs and NPCs in competition for a share of ever-decreasing rewards. Punishments are being delivered, but they are not arbitrary. The degree of one's suffering typically depends on how well one manages to outcompete other NPCs and other PCs. Games of this type have rules allowing players to control more than one PC due to high mortality rates (e.g. the Advanced Dungeons &Dragons game world Dark Sun [14] has character trees).

Usually, some kind of ecological or other disaster has befallen the game setting, which keeps on dying as the game unfolds. In other settings, a malevolent presence governs the game world. An example of this is the computer in Paranoia [15], which is an insane AI imposing nonsensical rules, which characters violate at their peril.

3.4 Stochastic Constant-Sum

Universes of this type are like a Poker game; competition exists, but rewards are dealt in a quasi-random fashion. PCs and NPCs are in competition with each other, but the rewards are not delivered predictably. One can do one's best and still fail to gain any meaningful reward.

GAME	RANDOMNESS	REWARD REGIME	COMMENTS
Shadowrun	Stochastic	Constant Sum	Cyberpunk with a magic element.
Dark Sun (D&D)	Deterministic	Negative Sum	Post-apocalyptic fantasy universe.
Forgotten Realms (D&D)	Deterministic	Positive Sum	Set in a Tolkien-esque fantasy setting.
Eclipse Phase	Stochastic	Positive Sum	Positive trans-human with horror.
Call of Cthulhu	Stochastic	Negative Sum	The universe is cruel and indifferent.
Mage: The Ascension (WoD)	Stochastic	Constant Sum	Game of existential discovery.
Vampire: The Masquerade (WoD)	Stochastic	Constant Sum	Strict competition among undead.
Pendragon	Deterministic	Positive Sum	Based on the Arthurian legend.
Dark Heresy	Stochastic	Negative Sum	Science-fantasy in a grim universe.
Warhammer Fantasy	Stochastic	Constant/Negative	Fantasy set in mediæval Germany.
Mutants & Masterminds	Deterministic	Positive Sum	The classic superhero game.
Traveller	Stochastic	Constant Sum	Space opera/galactic exploration.
All flesh must be eaten	Stochastic	Negative Sum	Unexpected zombie apocalypse.
Mindjammer	Stochastic	Positive Sum	Trans-human adventures in space.
Paranoia	Deterministic	Negative Sum	Humourous futuristic game.
Ghostbusters	Deterministic	Positive Sum	Light-hearted game ghost catching.
Ars Magica	Deterministic	Positive Sum	The renaissance of magic in Europe.
Fiasco	Stochastic	Negative Sum	Game in which failure is expected.

Table 1. Categorisations of some popular RPGs. Parentheses denote shared game systems.

Most space-faring games, such as Traveller [16], fall into this category. Like real-world colonial powers and buccaneers, PCs explore the universe, which is full of NPCs with interesting back-stories, and there is no guarantee of victory or loss due to one's actions.

Games with a strong element of power struggle belong here as well. A good example is Vampire: The Masquerade [17], which involves power-politics among vampire clans. Typical games of these type also include most cyberpunk themed games. Shadowrun [18] is a classic example: characters work for mega-corporations and must fight in a world of 'low life and high tech'. Other games in this category include magic-heavy Mage: The Ascension [19], a game of magic in the modern world, where two groups – tradition and technocracy – fight each other.

3.5 Stochastic Positive-Sum

Universes of this type will invariably lead to PCs and NPCs gaining rewards without having to strictly compete, although those rewards will occur randomly. Cooperating to find a treasure, for example, might lead to widely different rewards for different teams. Drinking from the fountain of life might extend one's life by a day or a century. This category includes *trans-human* games such as Mindjammer [20] and Eclipse Phase [21].

Eclipse Phase is a controversial inclusion in this category. In a setting of existential horror, characters advance almost infinitely, unhindered by mechanics or back-story, as negative events are things of the past. Adversaries (AIs named TITANs) are currently dormant and can rarely impact the game.

3.6 Stochastic Negative-Sum

This category involves games and worlds that are deeply negative. The universe will punish everyone just for existing, and will do so capriciously. The most prominent game in this category is Call of Cthulhu [22], in which a malevolent universe delivers arbitrary punishments. All Flesh Must be Eaten also fits here, as the characters are faced with a zombie apocalypse.

Warhammer-themed games, such as Dark Heresy [23] and Warhammer Fantasy Roleplay [24], arguably fall in this category, due to the randomly corrupting influence of evil gods. Fantasy games can, however, also be considered to be constant-sum mode, as their worlds often seem more balanced than futuristic worlds. Fiasco, a semi-comical game of active failure [25], is another example.

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Figure 3 plots the games mentioned above based on their randomness (y-axis) versus reward outcome (x-axis). In most such games, however, the overall feeling of *well-being* or *reward* of the PCs and NPCs, as portrayed in the setting, is not actually represented in the game system. For example, as far as the game system is concerned, a gladiator in the arenas of Dark Sun is considered 'successful' merely due to skill bonusses from constant sport-fighting between battles. We can probably agree, however, that such a life would not be a good life by any reasonable standard. The game system does not have rules reflecting such life quality aspects of the narrative, and a character's life is reduced to mere level advancement.

In addition, video games and *massively multiplayer online RPGs* (MMPORPGs)[1] promote a cer-

[1] The reference to 'tanks' in the 5^{th} edition of Shadowrun means 'PCs that can take damage'.

GAME	PCS	NPC	MONSTERS/UNIVERSE
Shadowrun	Shadowrunners	Other Shadowrunners	Megacorps
Dark Sun (D&D)	Adventurers	Dragon King minions	Dragon Kings, Dragon
Forgotten Realms (D&D)	Adventurers	Antagonists	Classic RPG monsters
Eclipse Phase	Firewall Agents	Other trans-humans	Titans, existential threats
Call of Cthulhu	Investigators	Cultists	Great Old Ones
Mage: the ascension (WoD)	Traditions	Technocracy	Reality
Vampire: the masquerade (WoD)	Vampires	Other Vampires	Ancient Vampires
Pendragon	Lords	Other evil Lords	Monsters
Dark Heresy	Inquisitorial Retinue	Heretics	Chaos/Xenos/Empire
Warhammer Fantasy	Adventurers	Chaos	Chaos vs Order
Mutants & Masterminds	Good superheros	Bad superheros	The laws of physics
Traveller	Space-faring adventurers	Other denizens	The universe
All flesh must be eaten	Common folk	Other common folk	Zombies
Mindjammer	Trans-humans	Trans-humans	The galaxy
Paranoia	Agents	Other Agents	The computer
Ghostbusters	Ghostbusters	Everyday folk	Ghosts
Ars Magica	Mages	Other Mages	The church, monsters
Fiasco	Ambitious everyday folk	Relatives	An unforgiving world

Table 2. Agents in some popular games: PCs, NPCs and Monsters/Universe.

tain world view that makes the narrative less relevant than combat. Stories are seen merely as a way to increase character attributes, gain treasure, and so on; the characters' impact on the universe is disregarded, or left completely up to the GM.

Rules that directly deal coherently with the narrative could add tremendously to the game experience, although I understand if some readers disagree. One counter-argument is that additional rules to cover such narrative aspects would significantly increase the length of current rule books. Core books are getting larger all the time (see Figure 4), and not all players will enjoy having even more material to study.

There is no fixed school of thought regarding such consistency, although Tolkien himself had the following to say:

> *Fantasy is a natural human activity. It certainly does not destroy or even insult Reason; and it does not either blunt the appetite for, nor obscure the perception of, scientific verity. On the contrary. The keener and the clearer is the reason, the better fantasy will it make.* [26]

A second counter-argument is that making systems more rule-heavy is detrimental to the games. Indeed, there do seem to be some very successful RPGs (e.g. Fiasco [25], Fate [27] and Apocalypse World [28]), that aim to minimise the rules in favour of a strong narrative.

These games' rules achieve their aim efficiently, by sacrificing the *simulationist* aspect of RPGs, and foregoing the war gaming legacy of RPGs almost completely; for example, there is no *initiative phase* in Apocalypse World. Whether such rules are preferable to more classic systems (e.g. Figure 5) is a matter of personal taste. Similarly, our attempt here to infuse more traditional games with explicit narrative rules may suit some players more than others.

Figure 3. Example games plotted according to randomness and reward outcome (somewhat subjectively).

Figure 4. Some typical RPG rule books indicate the significant amount of content involved.

Overall, we hope that the better alignment between narrative, total rewards and the game, can allow access to a new part of the *design space* [14], one where we maintain the war game legacy, but also augment the narrative as well. Such alignment partially exists in games such as Call of Cthulhu with its *sanity* mechanism [22], or Vampire: The Masquerade with its *humanity* mechanism [17].

I propose a complete system of advancement based on the categories proposed above, alongside the development of character traits that fit the game setting, coupled with the effects that such advancement has on the rest of the game setting. Taking into account the effects of one's actions in the whole setting should allow for new ways of portraying a character's personality. We now explore three types of such *narrative traits*: constant-sum, positive-sum and negative-sum.

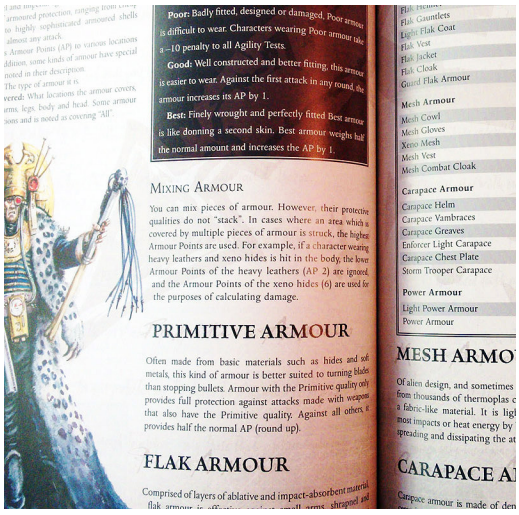

Figure 5. The Dark Heresy rule book shows a mix of art, narrative and rule tables [23, pp. 146–147].

4.1 Constant-Sum Traits

The setting explores competition, and this should be emphasised in both the development of PCs and the characteristics of NPCs. Narrative progression traits include aspects such as *fairness* and *cruelty*. Loss and gain are complementary, so experience points can be won only at the expense of others, e.g. treasure is hoarded and can be stolen.

Game mechanics can also cover social interactions, e.g. when a player attempts to persuade an NPC to behave a certain way or perform a certain action. In a stochastic world, the rolls can form part of a strictly competitive game (in the game-theoretic sense). In a deterministic world, the character with the higher skill level could simply win the social scenario.

Note that it is also harder to assign moral qualities in such a universe; cooperation is practically meaningless, apart from short-term coalitions of *looters*, as is altruism. It is interesting to note that classic RPG settings emphasise competition, with treasure hoarding and experience point acquisition, yet characters often behave – or are expected to behave – rather paradoxically in ways we would consider morally good. This good behavior is typically explained away by comparison to their sadistically evil adversaries, but the setting tells us nothing as to why these adversaries are so evil.

4.2 Positive-Sum Traits

The game can emphasise elements of narrative progression traits independent of other agents. *Personal knowledge* within the setting might include: characters getting better at some ad-hoc in-game play; exploration of remote locations; conflict against a corrupt few – or their conversion; and so on. Most game settings seem to assume that everyone can progress, while existing in a world in turmoil, with little examination of why these adversarial forces exist.

Special in-game attributes of *wickedness* are extremely meaningful here; harming others for personal gain or amusement creates a strikingly *evil* character in an otherwise nice universe. In the stochastic version, one might create attributes such as *stoicity*, i.e. the ability to withstand random, short periods of bad luck. This might indeed apply to all stochastic categories, but stoicism could be a more relevant trait in a positive-sum world in which a PC might think: *Everyone else is doing fine, but I am suffering for no reason*. The system could encourage social interaction by ensuring some kind of gain for all players form the interaction, regardless of its outcome; even a failed social interaction could still yield some benefit for the character.

4.3 Negative-Sum Traits

The inevitability of further loss can be captured here with in-game attributes such as *alienation*, *disconnection*, or even possibly *enlightenment*, which can be linked to both NPCs and PCs to guide their behaviour. One can also add elements such as *sanity* and *paranoia*. These should be more pronounced in the stochastic version, as the world's lack of certainty should have more impact on each character's personality. Progression may occur at either end of the scale of these attributes.

Levels of *exhaustion* can be used to describe the constant struggle to exist in a world with constantly diminishing resources. Social interactions – and possibly battles – can be represented in a negative light. The grinding nature of everything leaves everyone worse off; interactions with others are to be avoided, as they will be a source of pain for everyone.

The specific character traits would create a stronger link between the game setting and the game system, creating different types of character progression among different types of games. Ideally, these traits would also influence the narrative, in return.

5 Conclusion

We have categorised role playing games according to some of their game-theoretic and causal properties. There is understandably a sense of ambiguity to the categories, which is inevitable as the games are too complicated to be broken down into simple mechanics. A more objective study of games and narrative might involve the *word vectorisation* [30] of associated keywords, to perform an optimal classification.

We have introduced elements of progression that tie game narratives closer to the setting, as it is all too easy for a game group to ignore the setting and play even the darkest of games as a 'happy violence' trope. By thinking in terms of future rewards, designers can help limit this, and encourage games to be played in the intended spirit.

But is this coupling between narrative and setting worth pursuing? I would argue that it is. Obviously, players can ignore mechanisms that link the setting to the system, but their existence provides a strong sense of theme and guidance, allowing everyone to be involved in a more satisfying and narratively coherent game.

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Shakashaka Challenge #4

Half-colour empty cells with triangles, as per the rules on p. 13. Challenge by Guten © Nikoli.