Definition of Metagame
in Contemporary Context
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1 Introduction

Metagames are being more and more popular and can always be the main point of innovation in storytelling and gameplay. But as the technology as well as our devices to play games evolve rapidly, metagames' form and definition are also changing fast. In order to explore the possibility of metagaming and its future use, I decided to analyze this kind of game. The definition of metagame Garfield and Zimmerman mentioned is far from mine, so that before I explore what can metagame be like in the future, I would try to find out what meta means, and to explain my definition and explanation of what is metagaming, and why it is so fascinating.

2 Definition of Metagame

2.1 meaning of "meta"

As a word or prefix, "meta-" has several meanings:

2.1.1 Greek meta- is equivalent to the Latin words post- or ad-.
The use of the prefix in this sense occurs occasionally in scientific English terms derived from Greek. For example: the term Metatheria (the name for the clade of marsupial mammals) uses the prefix meta- merely in the sense that the Metatheria occur on the tree of life adjacent to the Theria (the placental mammals).

2.1.2 In epistemology, the prefix meta- is used to mean about (its own category). 4For example, metadata are data about data (who has produced them, when, what format the data are in and so on). In database metadata are also data about data stored in a data dictionary and describes information (data) about database tables such as the table name, table owner, details about columns, – essentially describes the table. Also, metamemory in psychology means an individual's knowledge about whether or not they would remember something if they concentrated on recalling it. The modern sense of "an X about X" has given rise to concepts like "meta-cognition" (i.e. cognition about cognition), "meta-emotion" (i.e. emotion about emotion), "meta-discussion" (i.e. discussion about discussion), "meta-joke" (i.e. joke about jokes), and "metaprogramming" (i.e. writing programs that manipulate programs).
In a rule-based system, a metarule is a rule that governs the application of other rules.

2.1.3 On a higher level of abstraction
Any subject can be said to have a meta-theory, a theoretical consideration of its properties, such as its foundations, methods, form and utility, on a higher level of abstraction. In linguistics, a grammar is considered as being expressed in a metalanguage, language that operates on a higher level in order to describe properties of the plain language (and not itself).
Meta is also gaining currency as an adjective, as well as a prefix, as in the work of Douglas Hofstadter.

2.1.4 Etymology

The prefix comes from the Greek preposition and prefix meta- (μετά-), from μετά, which meant "after", "beside", "with", "among" (with respect to the preposition, some of these meanings were distinguished by case marking). Other meanings include "beyond", "adjacent" and "self", and it is also commonly used in the form μητα- as a prefix in Greek, with variants μητ- before vowels and μηθ- "meth-" before aspirated vowels.

The earliest attested form of the word "meta" is the Mycenaean Greek me-ta, written in Linear B syllabic script. The Greek preposition is cognate with the Old English preposition mid "with", still found as a prefix in midwife. Its use in English is the result of back-formation from the word "metaphysics". In origin Metaphysics was just the title of one of the principal works of Aristotle; it was so named (by Andronicus of Rhodes) simply because in the customary ordering of the works of Aristotle it was the book following Physics; it thus meant nothing more than "[the book that comes] after [the book entitled] Physics". However, even Latin writers misinterpreted this as entailing that metaphysics constituted "the science of what is beyond the physical". Nonetheless, Aristotle's Metaphysics enunciates considerations of natures above physical realities, which can be examined through this particular part of philosophy, e.g., the existence of God. The use of the prefix was later extended to other contexts based on the understanding of metaphysics to mean "the science of what is beyond the physical".

2.1.5, Quine and Hofstadter

The OED cites uses of the meta- prefix as "beyond, about" (such as meta-economics and meta-philosophy) going back to 1917. However, these formations are directly parallel to the original "metaphysics" and "metaphysical", that is, as a prefix to general nouns (fields of study) or adjectives. Going by the OED citations, it began to be used with specific nouns in connection with mathematical logic sometime before 1929. (In 1920 David Hilbert proposed a research project in what was called "metamathematics.")

2.2 Richard Garfield's definition of metagame

< Metagames by Richard Garfield > and his Magic

My definition of metagame is broad. It is how a game interfaces with life. A particular game, played with the exact same rules will mean different things to different people, and those differences are the metagame.

There is of course no game without a metagame - by this definition. A game without a metagame is like an idealized object in physics. It may be a useful construct, but it doesn't really exist.

He divided the metagame into four broad categories:

What you bring to a game.

What you take away from a game.

What happens between games.

What happens during a game.

In his definition, metagame is kind of property or element that all game should have. And it's significative but define it as "meta-element" of board

games may be better. Metagame as it's named "game", should be a kind of game or a genre of game.

In Lost in the shuffle, Garfield said that: When you play a number of games, not as ends unto themselves but as parts of a larger game, you are participating in a metagame, just like the definition of "Game in game" and it's still suitable in todays' digital game. Actually, most of those giant "3A" games has lots of metagame in it, especially in todays' MMORPG. Many activities and gameplay are made up of lots of small game. But if that, metagame's definition is too big and far from my thought.

Zimmerman's addendum to metagame (the way in which "a game interfaces outside of itself.") is close to my definition.

metagame means "the game beyond the game" and refers to the aspects of game play that derive not from the rules of the game, but from interplay with surrounding contexts.

the metagame refers to the way a game engages with factors permeating the space beyond the edges of the magic circle.

But It may lead to a common misunderstanding of metagame.

## 2.3 Common misunderstanding of metagame

It's believed that metagame is the games can influence or be influenced with elements outside the magic circle. But as Zimmerman mentioned, the magic circle of a game is where the game takes place, to play a game means entering into a magic circle, or perhaps creating one as a game begins. Hence playing game including the metagame is just happened in the magic circle.

2.3.1 The magic circle when metagaming

After that, it's clear that as player enjoying playing metagame, he must be in the magic circle, and be immersive in it. Take Magic as an example, when someone exchanges card or doing anything related to this game, they are just playing the game, and enjoying the experience of collecting and exchanging. And in their cognition, game was still going on to give those cards value. If it happens outside the magic circle, those cards are just well-printed paper, and exchange is just meaningless and invalid.

 Actually, what makes metagame different is that the magic circle was designed to be expanded to other activities outside the generally considered game or platform. "Game in game" is a suitable phrase to explain it:

In a metagame, there is a common game in it, and the connection or break of the inner game's border is just what happens in a metagame.
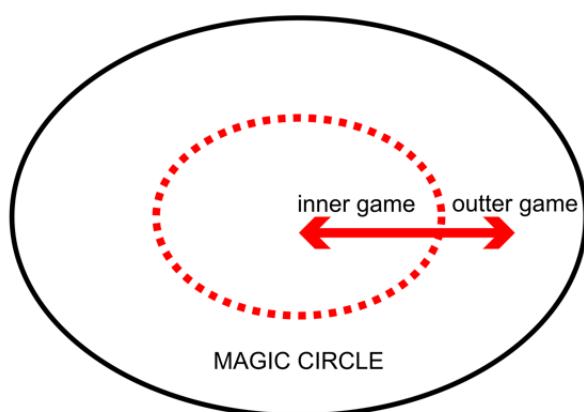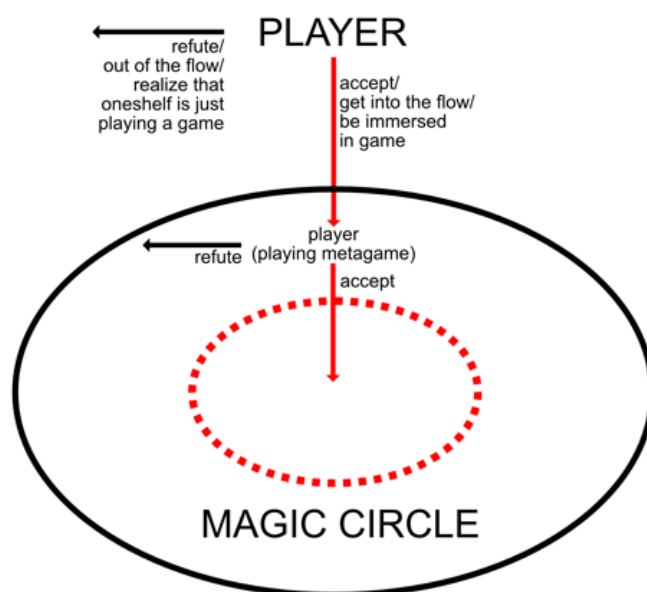
2.3.2 How metagame be immersive

As the metagames expand the magic circle, people who are playing the game would be excited about it, and the expansion of magic circle also lead to the expansion of the range pf possibilities to get players immersive. Take TCG games as example, as its card can be traded, it can give players stronger Identity. It also works in digital games, while some metagame can strengthen players' empathy with the avatar. And the identity or empathy would eventually become highly immersion. Actually, the situation that be out of a game and control it is just a kind of simulation, which use game to simulation the situation people play a normal game. As game is a kind of double consciousness, metagame is just to put player beyond the consciousness.

2.3.3 The double-consciousness of player in metagame

Zimmerman mentioned in *Rules of Play* that *the phenomenon of metacommunication implies that game players are aware of the frame of a game and that a player's state of mind embodies a kind of double consciousness that both accepts and refutes that frame.*
When player is playing a metagame, it highlights the awareness of game's frame so that the in-game consciousness is waken but it is just kept by some well-designed mechanics or stories. It makes no sense that if the in-game consciousness is weakened but make the game more interesting or immersive. Like "game in game", the real situation happens in a metagame can be named as" meta-metacommunication".

PLAYER

refute/
out of the flow/
realize that
oneshelf is just
playing a game

accept/
get into the flow/
be immersed
in game

refute   player
(playing metagame)

accept

MAGIC CIRCLE

2.4 My Definition of Metagame

Games which emphasize relationship between the inside and outside elements.
Different from common definition, "outside elements" doesn't means to the
elements outside the magic circle or outside the platform where you play games, it
means outside the expectation-the unexpected elements which other always take
for granted should be out of the magic circle or near it. For example, if a PC game
use "changing windows size" as a main mechanic, it can be defined as a metagame,
and the "windows size" is always thought as a system function which is outside the
game. But in the game, it's just part of the game, and it can give player a new
perspective about the game and its content, that's amazing and can also be
emerging. With PC and mobile phone and many other platforms of playing game, it
also emerges lots of forms of metagames.

inside elements   outside elements

MAGIC CIRCLE
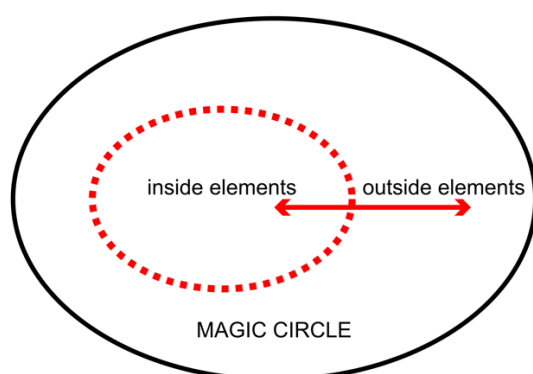
3 Metagaming's Application

Nowadays, primary medium we play games is on table, on computer, on mobile phone, and on game console. And the digital games are all composed of programming code. Many elements are changed since Garfield's theory can only happen in specific kind of games. By analyzing different forms of metagames in different platforms, maybe we can find a paradigm of metagame which can help a lot when designing a metagame.

3.1 Application in board games

In board game, how to make it meta has already be discussed by Garfield, His categories of To, From, Between, and During illuminate the diverse possibilities of the metagame of board game.

3.1.1 Trading Card Game

He analyzed his game Magic by his way:

To: Magic was distinctive in that each player brings half of the cards for the game. Choosing game resources to bring is a large part of the appeal to many players, and it can occupy as much time as the actual play of the game. This is such an important part of the game that there are players who specialize in it, known not as Magic players but as deck constructors and analysts.

From: A traditional way to play Magic is for ante, in which each player randomly selects a card from her deck before play and sets it aside before the game starts. The winning player wins both cards.

Magic is often played in formal tournament settings as well, in which official standings or cash prizes can result from play.

Between: Between games of Magic, there is much circulation of game resources and information. Players trade cards, share strategies, and take part in rich player communities.

During: Reputation is important in all kids of Magic play. While some people simply strive to be victorious as often as possible, others are driven to win with unusual strategies, or in order to prove that particular combinations of cards are viable.
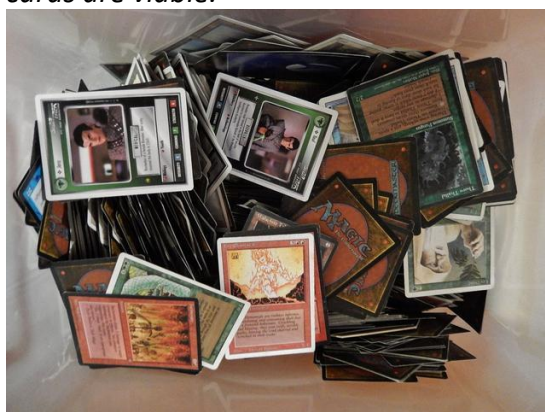
To analyze it in my definition of metagame, the "outside elements" is his cards can be traded (for & from), and the card can also be part of the strategy (between & during). The trading cards is kind of connection between game elements and "outside elements" (real paper cards). And also, the strategy of preparing cards is the connection between the player and its inner system. This way, it is clear that

metagames can always be analyzed in the way of decomposing it into inside and outside parts, and the point is what elements are in the outside part and how to build the connection.

3.2 Application in video games

Then I would focus on analyzing metagame's application in video games in the way of decomposing game, showing different ways to build the connection with different outside elements.

3.2.1 Game's connection to its carrier

Carrier as an outside element is a most common way in video game. This kind of metagame building a connection between the game and its carrier or platform can always give the player a sense of surprising and metagaming. The carrier such as computer or other consoles includes information and basic function. For example, in a game, if someone said that he knows who you really are, you are not the avatar of the game, but XXX (which is your nickname or even real name gotten from the platform or computer system, it can easily give the player a strong sense that it's not just a game or someone is not just a NPC, the game is something really happening, etc. When a game can have access to something outside the software itself can always work. And I would take *Doki Doki Literature Club!* as an example.

Case: Doki Doki Literature Club!

Doki is a meta galgame about a love story with cute girls. But the truth is that the protagonist Monika is just the controller of this game and can even have access to many outside elements, such as the player's username of its carrier, and including the file system as a software.

In the game, Monika acts as a true controller of this game. She "can" control over other characters in the game and even control the monitor, seems like that she is looking at player. Since she is also part of this program which has a straightaway file directory, player can even find the file related to Monika and delete it. This kind of mechanics set its boundary of magic circle to the game system or its carrier: it gives the players the feeling that they are modifying a game

just like a coder, and Monika is a character in the program who have intelligence, which can be frightening. It's also a manifestation of how a future AI which is out of control would be like. These two experiences build up the main part of digital metagames which are based on it's an artificial program.

3.2.2 Game's connection to the its system

This form of games also based on the principle that game is a program. As a program, many basic functions could be also modified, like value or definition. For example, Baba is You make changing definition as a core mechanic, bind with traditional Sokoban-like mechanic. Since it can give player the ability to change the game system itself, which is always be out of the magic circle (outside elements), I think this kind of games can also be called metagame. In this situation, the border of inside elements and outside ones are blurred, some of them even combine the mechanics with game system's functions.

Case: Pony Island
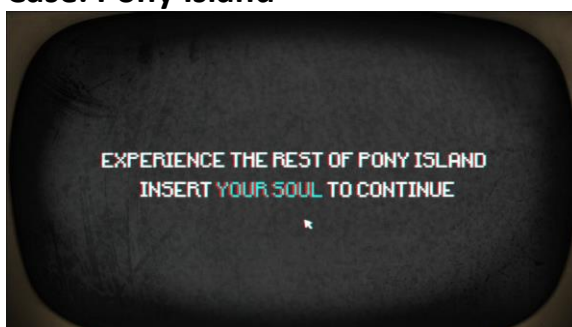
Pony Island is a suspense puzzle game in disguise, all the puzzle is based on the game system in it, which look like normal games' setting menu. The menu and the functions in it act as background, part of the puzzles, and setting itself. The action that players modify the setting of the game turn into the main mechanic of this game. The settings, as outside elements, are connected into the gameplay. In this case, it also shows the game through an old monitor to remind that it's a game about a game on an old computer is also a common form of metagame.

In its storytelling part, it sets its designer as a demon, and player and NPCs' souls are all be trapped in the game, player should destroy the game, which as a program to get free again. It tears the game characters into three part: The designer (enemy), the avatar (self), and character (together). And they also represent three stands: in game, beyond game and outside the game. Different stands of the

characters and the game can make the game narrative meta and can also serve to make a metagame more integrated and thematic.

3.2.3 Game's basic function's connection to game

This kind of games make the game's basic functions as part of game, like changing the volume, the windows size, the resolution, sync, and even the save and load. All these basic functions can be used as one or several mechanics. When a games' basic function become a mechanic or part of gameplay, as inside element, the game can certainly be sort as a metagame.

Case: Undertale

Undertale is an RPG about Kid falling into a world underground and want to find a way home. In the game, player can choose to kill or mercy when meet enemies, and different choices can lead to different influences and ends. But as an RPG game in which player can play for several times, and save & load, it makes these functions part of the game and can also cause something, as well as give some characters intelligence to realize and comment about avatar' "ability", and they know the existence of player.

For example, in game, when player reload the game, some NPCs seems to know it and even know what player has done after last save. To draw a conclusion, this kind of metagame always build bridge between basic function of the game and inside elements, with some narrative contents assist. So narrative part is also necessary in most of the PC metagame.

3.2.4 Separate player and avatar as two independent part

This pattern is always used in the narrative part in a third-person perspective. Just like the metafiction, they have a lot in common. And in the narrative part of game, the most important and Intuitive and direct individual is player and the avatar. How to deal with the relationship between them is the key to this kind of narration.

3.2.4.1 Make player aware of playing a game.

It is most common form - Game in Game, and game would try many ways to emphasize that player is just playing this game, he and the avatar is just two individuals. By separating the player and the avatar,

player can easily get sympathy with the avatar, and plug in the overall story by learning or influencing the avatar.

3.2.4.2 Avatar aware of being control by player.

When avatar be aware the existing of player even be controlled by player can make the game more interesting, easier and more powerful to build relationship between them. No matter the relation is hostility or cooperation.

Case: Oneshot

In Oneshot, player act as the God or a friend of Avatar. Avatar would rely on player and totally believe in player, which can give player an experience that being relied, or build a deep friendship. As avatar convey the information that he knows the exist of player, it can also give player a feeling that it's real person and have an independent personality. It's can help to depict characters of the inner world, which can make the character plumper profound. In Oneshot's story, there are also more than three parts to create conflict and make the event seems more real: The designer, the player, the avatar, the The NPCs are inside element, NPCLs are outside ones, Designer is outside-outside ones, and player is in the outermost of this magic circle. As narrative meta emphasize the relationship between inside elements with outside ones, conflict between even more different dimensions can heighten the gist of the works as a metagame.

3.3 Application in interactive media

It's a special kind of game and are story-based. Interactive movies can always to be more immersive than tradition linear ones, so nowadays there are also many interactive media games. In the interactive media, there are also many different stands like the player, the avatar, the actor, the NPC, maybe someone in the television or player or browser, or even the director and designer. It can also build many interesting connections to make it "meta". And its meta narrative way can also be used in other forms of game.

3.3.1 Avatar aware of being control by player.

The same as 3.3.4.2.

Case: Black mirror Bandersnatch

In Black mirror series, there are always many metafiction-like stories, "Bandersnatch" is just its try to make it interactive and can be a successful and typical meta-interactive media.

Just like many other metafictions, it makes player doubt about the truth of the story. But what different is that it also "gives the avatar an independent personality and higher level of cognition-he know someone is controlling him and would even reject player's instructions. It can strengthen the sense that it's just the game but also enhance the characterization to make the avatar more like a real person, make the connection real can also be an effective way to get players into the flow.

As I list those different applications of meta nowadays, I just want to find out the metagames' commonalities, and the way to design. Since the content can be changed, but the ways that analyzing different components or stands of the game and build connection between them can always help a lot when designing a metagame.

4 Metagame's Prospects

As the platform turns from board game to digital ones, the content has changed a lot, as well as the forms of metagame. Meta elements present players' desire to break the fourth wall and imagine about the artificial intelligence or technology itself. It turns out that this kind of game or theme can always attract players.

4.1 Inspiration of metagaming in nowadays devices.

The changing carrier and contents lead to so many different forms, how can we expand it? A Relatively new carrier is just being more and more popular – the mobile smartphone.

4.1.1 Airplane Mode

Therefore, I designed a game aiming to be a metagame in mobile phone. Using the method above, I selected the game's mechanics among many outside elements like basic functions of the Android or other mobile devices, and basic function of most of games on mobile phone. The most distinct part of mobile phone from other carriers is its UI, basic functions like the signal, the Bluetooth, airplane mode and so on. Then, I combine these special functions with a mechanics, pressing the button of them can reflect to some changes of the game world, or as the avatar's skills which can only be activated when press it.

The core mechanic of this game is to press buttons like the normal UI of mobile phones, and it can only happen in the content of phone.

First, in order to make it narrative-meta, I set the background that, the avatar is just a person from the future and travels to players' phone by mistake. He wants to find way to escape from the APP from players' phone and go back home. Player as the owner and the operator of the phone/game, player can have the power to guide and help the avatar, and find out what happened in the world of APP.

To combine the mobile phone's basic function with skills, I give them many interesting meanings. For example, Airplane Mode is A mode in which avatar can really become an airplane and can fly higher. Bluetooth can be used to call out a monster which has big blue teeth. Wi-fi can form a safety but deceptive area where can attract player.

Then I also design some characters who have "intelligence" - seem to know everything, including the ability of avatar, and the existence of player. In that way, the character can help to distinguish the elements from inner and outer ones, and form the border of the "inner faked magic circle".

After that, the prototype of a digital game on mobile phone with meta gameplay and meta narrative is nearly shaped.

4.2 Future forms of metagame

It's reasonable to believe that metagame still have a lot of rooms for development, and it would always be fresh through the changing carriers, platforms, devices. The new technologies which is not so far from us is VR and AR.

4.2.1 Virtual Reality with metagaming

Virtual Reality can present a virtual world to player, which can make the gameplay more real. But it's always played in first-person perspective, which makes the avatar not available. The inside elements including the coordinates in game world, the setting, basic functions, it as a program, and so on. As players' motion and coordinates are measured during the game, some connection ways like corresponding coordinates may works a lot.

4.2.2 Augment Reality with metagaming

Metagame in AR/MR can also enhance the immersive feeling by blurring the border between reality and the virtual world. In these games, the game take place in real scenes like on the table. But objects in game is different from the real one, so if it shows that some inside elements can have effect on the real thing or scene, it can be an interesting metagame. Actually, technology today can already achieve AR's effect, to make metagame based on it can no longer be just a dream. And I could be expecting metagaming in this content.

4.3 Visions

Nowadays technologies are developed to get the "game world" more real, or more related to our life, AI can be wise enough to improve the game quality, but the situation that AI has own personality and would even become human's enemy is still a phantasy in science fictions. Metagame can use its way to simulate and represent this kind of situation, and it can also meet peoples' need of thinking out of the box. Nowadays, many metagames are popular and making progress, but most of them are indie game. Those experimental games can hardly be made by large game company. Hope that more and more novel and high-quality metagame can come out

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