# Allegorithmic Politics of Game Exchange – Subversion, Ideology, and Capitalism in Strategy Games

**Filip Hauer**
The Academy of Fine Arts in Prague
U Akademie 172/4
170 00 Prague
filip.hauer@avu.cz

## ABSTRACT

This paper proposes that the underlying ideological mechanisms of game fiction are based on dominant modes of exchange of players' labour for game progress. It offers an analysis of two iconic strategic games *Age of Empires II: Definitive Edition* and *Civilization VI*, which can be seen as advocates of capitalist exchange. Although games promise emancipatory, subversive, and speculative futures or joyful idleness. I argue that this potential is limited due to the games underlying ideologies, to define these ideologies and fully use the emancipatory potential of the game medium we should unmask their underlying modes of exchange. I argue that this can be done through analysis of the inner game markets - the mode by which players exchange their labour for advancing in the game's algorithm - and finally, I propose developing alternative modes of game exchange, allowing for critical and speculative gameplay.

## Keywords

Game Exchange, Marxism, Ideology, Allegorithms, Game Markets, Game Labour, Speculative Strategies, Capitalism, Civilization, Age of Empires

## INTRODUCTION

In this paper, I will focus on searching for alternatives to the economic fiction of mainstream digital games by analysing turn-based strategy *Sid Meier's Civilization VI* (Firaxis Games 2016) and real-time strategy *Age of Empires II: Definitive Edition* (Forgotten Empires, Tantalus Media, Wicked Witch 2019). Alexander Galloway (2006, 90) argues that digital games always contain hidden allegorithms, intimate interfaces, that players create to intuitively interpret the game's abstract algorithm.[1] Specific allegories and game economies can, within their procedural rules, offer the promise of fulfilment of desire and subversive dreaming of possibilities that we lack in contemporary capitalism. As a result, digital games can have unique speculative, subversive, and critical potential. To build on the speculative and subversive potential of digital games, we should analyse their economic systems, which often define the game's ideologies and its relationship to the player's work – the mode of exchange of game labour for progress through the game. Therefore, I will focus on the analysis of the game exchange and its political fiction of capitalism - on two modes of the game power fantasy: the ability to recursively plan for the future and to quickly respond to contingent crises in the game world. To utilize the critical potential of digital games we have to examine their ideological contradictions by analysing the mechanics of exchange in their inner game markets.

**Proceedings of DiGRA 2023**

## Premises and method of analysis

According to digital media theorist Benjamin Bratton (2015, 224) digital games, and generally, our software, offer specific persuasive interfaces. My first premise is that games and interactive digital simulations are interfaces of so-called positive feedback. This feedback can be understood as an inalienable reward for in-game activity and generally for work in digital software. [2] For example, each action in *Sid Meier's Civilization VI* triggers an algorithm response that delivers the feedback players expected according to previous experience with this software. Similarly, each click on a custom unit in *Age of Empires II: Definitive Edition* can set in motion a series of events – players select a unit or building, and with a subsequent click, they can schedule its next action in the game. We encounter a promise that it's up to us, the players and interface users, whether the action will be effective or if we fail in our planning. In any case, a reaction is triggered that may be ideological from my perspective. Described interface promises a meritocratic reward for actions in simulation in contrast to our social reality, capitalism, in which our actions may not bring any predictable reaction, or even run up against the limits of our material possibilities. The interface of positive response can be the vehicle of the inner ideology[3] of digital games since it is an interface based on the promise of a fair exchange of player labour for the software response.

Much has been written on the relationship between games and society (Huizinga 1949) and about the political relations between games and labour (Caillois 2001). According to theorist Matt Garite (2003), digital game labour can be seen as an ideological advocate of the status quo of late capitalism. Game scholar Jamie Woodcock (2019) argues from the Marxist perspective that digital games, being one of the most influential contemporary mediums, translate contradictions of capitalism as well as its modes of production, which have been defining digital games since their inception. According to Woodcock, games are thus containing dominant capitalist ideologies, which have to be analysed to understand relations between the *base* and *superstructure*. Following Terry Eagleton: *"A Marxist critique of literature, and indeed of videogames, is part of a project to understand ideologies"* (Woodcock 2019, 110). This paper will explore this notion further, emphasising digital game modes of exchange and their ideologies.

My second premise is the assumption that analysed games, through their markets, engage in wider social discourse. Following Marx (1990), the individual objects in the game, as well as our time, become objects of accumulation, and market commodities, whose value is created by the labour we must perform to obtain it, along with its use and exchange value. In this sense, digital games reflect their developers' and players' ideas about economic systems, relations of production, and about exchange which are often utopian and normative – game allegorithms pursue and depict the ideologies behind their algorithmic rules, their game markets, and modes of exchange. The exchange value of individual game commodities is created in the community of players within desire arising in the feedback of players' experience, and the rules of the game algorithm.

Together with the growing popularity of the digital game medium, game commodities may increasingly be interchangeable with real commodities and the exchange value in the market outside the simulation. Therefore, in the following analysis of digital games, I will distinguish between the two concepts: the game's algorithmic exchange rules – the *inner game market*, and their relation to the *external market*, where the value of game commodities becomes an object of status and desire. The Marxist conceptual framework and the labour theory of value are effective for the analysis of the inner

game markets, their ideology, and narratives because game exchange and its allegorithm is always a form of utopia, negation, and abstraction of capitalism.

At the same time, digital games often depict a form of repetitive labour which defines the game mechanics and cycles (Bown 2018). The third premise of this paper is the assumption that the game labour is framed by the algorithm of the game market, where players can exchange their game time for the game progress. I presume that games create, on the one hand, allegorithms of *utopian exchange* – a meritocratic creation of the abstract game value and surplus value[4] from extracting and exchanging game resources, which are based on the accumulation and the fiction of exponential increase of production. The second mode of exchange described in this paper is the *negative exchange* – a form of negation of individual capitals and commodities, the allegorithm of crises and conflicts of capitalism. Allegorithmic exchange idealizes capitalism, but it also contains its alienating tendencies and contradictions.

I understand the inner *game market* as a general set of rules for exchanging game commodities for game progress and as an institution of an algorithm for exchanging game value in our interaction with the simulation.[5] For example, gold in *Age of Empires II: Definitive Edition* can be exchanged for advanced military units and has different use value for effective progress in different stages of the game. Its exchange value varies depending on whether it is currently available to the player, or whether they can currently exchange it for another commodity in the game space. The number of successfully executed actions, converted to the time players spend producing a given commodity, determines its effectiveness and thus its use value for advancing in or winning the game. The inner game market is in this sense a general algorithm that enables the exchange of in-game labour for game commodities.

*The game exchange* is the exchange of effective player labour for game commodities and progress in the game. Game value is expressed by the social exchange value, see (Marx 1990, 164-165), in relation to the game's algorithmic inner markets. In *Civilization VI* and *Age of Empires II: Definitive Edition*, players temporarily become capitalists directly accumulating the value of their labour. In the simulation, players may delve into a fantasy that they briefly own the means of production and directly participate in the inner game market.

Having outlined the premises and Marxist conceptual framework, we can move to my method of analysis. My method is based on analyses of selected aspects of the examined games and questions after: (1) A specific mode of interaction with the algorithm of the game – its rules of creation and accumulation of game value. (2) Possible forms of exchange of game value for progress through the game within the simulation. (3) Specific form of the rules of the inner game market - its crises and the representation of the negative phenomena of capitalism: The emergence of surplus capital, the emergence of surplus populations, and a representation of the role of speculation within the game exchange. (4) The analysis then examines how the labour theory of value can be applied to the selected game: Specifically, how surplus value is created within the rules of the game, and what role their social exchange value plays in relation to the use value of game commodities. (5) If we answer the previous questions, we can describe the specific form of game labour, exchange, and its ideological allegorithm in relation to the fiction of ourselves as free actors in the game simulation.

## THE IDEOLOGY OF THE GAME EXCHANGE

*The ideas of the ruling class are in every epoch the ruling ideas, i.e. the class which is the ruling material force of society, is at the same time its ruling intellectual force. (Marx and Engels 1932)*

For Marx and Engels (1932) ideology reflects the ruling class's ideas, which not only owns and uses the means of economic production but also controls the means for cultural production. Ideologies can appear in today's digital games, as the ideas we encounter in popular culture reflect material relations in society. If we accept this assumption, we can assume that digital games are also a reflection of today's platform capitalism (Srnicek 2016). Especially in a situation where game development is increasingly expensive and time-consuming. Game distribution is dominated by major digital platforms and the means for today's games development are largely the products of the same digital corporations that inscribe their own beliefs into their narratives and economic systems. The dominant game mechanics of repetitive work, accumulation systems, and the paradigm of competitive competition may stem from these ideologies. In this paper, I am examining the ideological allegories present in inner game markets of *Civilization VI* and *Age of Empires II: Definitive Edition* to trace our relationship to the individual process of playing the two games and their ideological allegorithms.

From the players' perspective, I understand game work as a conscious process of accumulating a critical mass of abstract value and effectively spending game time in the game interface for progress in the game. The game economies of *Civilization VI* and *Age of Empires II: Definitive Edition* also include a utopian allegorithm of a static economy with an open game market in which we can exchange accumulated game labour for commodities and values at any moment of the game. Price fluctuations, speculation, market crises, overproduction, and the emergence of surplus capital and surplus populations, according to Marx (1993), the accompanying negative phenomena of capitalist accumulation,[6] are only encountered in these games on closer reading. The negative phenomena of capitalist accumulation disrupt allegorithmic game utopias and construct a much more chaotic environment for game algorithms.

One such negative phenomenon linked to the accumulation of game work is gamification. In the article on *Playful Capitalism* (2021), Miguel Sicart describes gamification as a new tool for labour extraction and exploitation. With gamification digital platforms, such as Amazon, try to enhance employees' attention during repetitive work, or even build artificially competitive environments among employees through custom-designed games and various rewards. Sicart uses the example of Google's application *Quick, Draw* (Google 2016)[7] to show how the game rules setting and environments can be used to extract our information to train AI applications. Sicart understands *Quick, Draw!* as *ghost work* - unpaid proxy labour that enables the accumulation of value and profit for digital platforms. While interacting with game rules, we often cease to be critical of the processes behind the game. According to Sicart, the digital game can thus serve not only as a means of ideology but also as a means for exploitative labour. By giving players the promise of an agenda and free choice in their systems constrained by game algorithms, games allow capitalism to mask "*cooperation with its logics"* (Sicart 2021, 6). Furthermore, the strategies for ethical games are complicated as their ethics are networked problems concerning both narrative and ludic elements of the game design, as well as players and their community's ethics, values, and histories, as argued in (Sicart 2011). Sicart argues that

the politics of digital games is enabled exactly by this dialogue between the player's actions and the game design (2011, 122). This paper further argues that the politics and ideologies of digital games are shaped by the allegorithms of exchange digital games employ. Those are predominantly ideological constructs, which need to be challenged to develop truly speculative or subversive digital games.

In *Persuasive Games,* Ian Bogost (2007) argues that games represent the world by interaction with processes. Digital games can therefore use *procedural rhetoric* based on interaction with a system of game rules, while it also motivates us to closely understand these rules. This rhetoric does not have to be uncritical: Bogost illustrates the critical procedural rhetoric in independent game development with the subversive game projects developed by Molleindustria (Paolo Pedercini), which use *procedural arguments* that question labour relations, emerging automation, and capitalism, by employing explicitly critical rules. (Bogost 2007, 29)

In *Persuasive Games*, Bogost explores game mechanics concerning the notion of *enthymeme* – a rhetorical *"technique in which a proposition in a syllogism is omitted;* [the player] *is expected to fill in the missing proposition and complete the claim."* (Bogost 2007, 43) Bogost's notion of enthymeme is associated with the game-specific notion of *Simulation Gap* – the omission of the (often ideological) proposition of the simulation, which allows players to form an intimate relationship with the game. A critical enthymeme can be, for example, the *rhetoric of failure*. Games can advocate for the status quo, but they can also represent how the policies are failing - games can be *"critiques of dysfunctional political practice."* (Bogost 2007, 85) Procedural rhetoric creates *simulation fever* in the process. As games motivate us to closely experience their *explicit and implicit claims* about given systems and their ideological positions, we inevitably encounter flaws in their logic. (Bogost 2007, 333) We imagine the game world within the game simulation, projecting our individual experiences and opinions into it. While the simulation generates it through an algorithm, convincing us to modify our position. Therefore, while playing digital games we are engaged in synthesis and not just with filling a values sheet: We fill in the gaps between our own subjectivity and algorithmic processes.

The notion of procedural rhetoric is similar to Alexander Galloway's allegorithm. Unlike the allegorithm, however, procedural rhetoric presupposes a specific agenda of authors who purposefully create a game to represent their chosen propositions. In the following analysis, I prefer to work with the notion of allegorithm, which allows for the analysis of game ideologies based on false assumptions, which are not clearly articulated in the selected games - they may be unconsciously inserted into the game's algorithm, without a clear agenda or intention.

Further analysis of ideology in digital games and their relationship to technology is described in a recent paper by game theorist Justin Keever. Its method is based on Althusser's notion of technicity – the dominant ideology as a technology that constitutes its subjects by linking their subjectivity with technical being. This can be seen in our belief in free action, or our *influence (agency*) in digital simulation. (Keever 2022) An analysis of game economics, focusing on multiplayer games is also offered by theorist Václav Janoščík in his *Dystopian Realism*. The game rules, in addition to unwittingly translating the contradictions of capitalism, become the key to understanding its economics. According to Janoščík, dystopias, utopias, and contradictions of contemporary capitalism are more comprehensible in games than in our everyday reality. (Janoščík 2021, 160)

## Utopian Exchange in Civilization VI

In the popular turn-based strategy game *Civilization VI* you and other players control one of the selected game civilizations. Their choice freely follows the historical state formations, but the choice of civilization itself will only partially affect the game. From the perspective of the game algorithm, the choice is mainly affecting parameters and several variables that affect strategic priorities, the choice of unique buildings, military units, and the game soundtrack.[8] The main game mechanics of *Civilization VI* are built on a cycle of decisions through which players expand their borders, accumulate scientific, cultural, religious, and economic capital, and increase the production of individual cities – the production of their buildings and citizens, which increase the total accumulated value of civilizational capital (the sum of all raw materials and production). In this way, players can expand the power reach of their civilization by expanding production and exchanging it for new buildings, units, and cities.

The production and accumulation of game value in *Civilization VI* are due to this game mechanic created by the effort to exponentially expand the production of players' economies. In *Civilization VI* victory is always achievable by accumulating resources, and by building individual extraction systems. The means of game value accumulation are found in players' game work – interaction in the game interface, in which players slowly interface towards selected game values through meaningful actions within the game algorithm. The accumulated values are then exchanged on the inner game markets for further progress through the game. The more of the game commodities players combine, the more civilization can accumulate to produce a greater amount of abstract value and production with each turn. To win, players need to reach a critical mass of abstract capital, while limiting the accumulation capabilities of other players. According to McKenzie Wark everything in *Civilization* becomes an interchangeable resource for the dominant form of the game economy, *Civilization "is not so much an allegory for world history as an allegorithm for gamespace itself."* (Wark 2007, 068)

(1) The mode of interaction with the game algorithm, therefore, lies in the pursuit of growth of one's civilization, which is partly satisfying also due to the need to recursively compare one's long-term strategy with the movement of other players and algorithmic actors: When beginning a game in the ancient era, players start to expand the number of cities by producing settlers, who are sent to establish new cities in chosen locations. At the same time, players adjust their plans regarding enemy barbarians who automatically roam the game map, and can capture an unprotected settler, or loot farms and mines previously built by units of workers. The parallel threat is brought by confrontations with neighbouring civilizations. From the beginning, the game recalls a colonization race to capture as much territory as possible while maintaining production in existing cities, calculating possibilities of one's defence, and searching for openings for attacking other civilizations. The large territory will be difficult to defend and fill with economic infrastructure, while the small territory will not have enough strategic resources in the advanced stages of the game, and therefore will yield too low a value of total civilization production.[9]

(2) The forms of exchange of accumulated game value for progress in *Civilization VI* are influenced by opponents and strategic locations on the game map. In the end, however, victory can be achieved by systematically planning the expansion of one's own production, considering the randomness of the generated map. Similarly, the game does not offer functional cooperative strategies – a real possibility of a peaceful victory in cooperation with all civilizations and actors on the game map. The essence of the game is always the competition of individual civilizations and alliances. *Civilization VI* reduces all game actions to calculable values, which allows for further expansion. The

linear accumulation of raw materials through their extraction is complemented by the static market on trade routes between cities, which is automatically conducted by units of traders travelling the map. The static market in *Civilization VI* is further expanded by the dynamic market in barter diplomacy between competing civilizations, this allows the trade of strategic raw materials needed to produce specific units and buildings (iron, oil, uranium, and others) and luxury raw materials (tea, silver, silk, and others). Luxury raw materials serve to increase the overall happiness of one's own population, which ultimately increases the value of abstract civilization production. At the same time, the barter market allows the exchange of other commodities such as cultural artefacts or civilization alliances and pacts.

(3) The specific form of the rules of the *Civilization VI* inner market, its crises, and negative phenomena are based on the convertibility of all game actions into game value. The exchange value of individual raw materials and commodities varies according to the demand and relative strength of the trading civilizations, their use value is also always convertible into points of the total volume of production in the algorithm of the game: Each successful action on the *Civilization VI* inner market is convertible into a value for progress through the game – same to the production system, the simplest shootout between two archer units is converted to the experience points for both units, which can have a decisive impact on their performance in the later stages of the game as it improves their parameters.

The mechanics of the inner game market in *Civilization VI* are based on linear game value production. Specifically on increasing the value of accumulated resources and the production of citizens' population per turn. Players can exchange accumulated value for buildings, units, and other commodities, allowing them to create surplus value in the game's algorithm, along with the promise of enhancing future production created by the original investment of extracted game resources in the game's cities and units. Game work can be simplified to production planning and its subsequent shift within the game interface.

The negative symptoms of capitalism in the game can be seen within the framework of the game's expansive logic. Expansionist civilizations create surplus capitals of raw materials and production in the territories they dominate, forcing others to play similarly aggressively. The logic of exponential growth of game cities, on the other hand, does not include the emergence of surplus populations, each game citizen has his value throughout the game. Not surprisingly, the absence of the allegorithm of surplus populations lies in the before-mentioned convertibility of all game elements into abstract value always ready to produce the game capitals. The role of speculation in *Civilization VI* is hidden at first glance, but it is precisely thanks to the convertibility of individual values into abstract capital that we can say that it ultimately frames the exchange in *Civilization VI.* It is a utopian form of speculation in which money is exchanged endlessly, with the surplus value being added to the system based on the game's algorithmic rules, invested game capital, and players' game work. The speculation about the endless growth of game civilization is an allegorithm of utopian exchange and the fiction of the automatic creation of surplus value. Civilization VI's utopian inner market is still disrupted by various contingent crises due to the nature of the map, the struggle with barbarians, and the negative exchange with hostile civilizations.

(4) Thanks to the linear mechanics of utopian exchange and exponential growth in the game speculation, we can apply the labour theory of value to the *Civilization VI* allegorithm, where the abstract value of the game progress will depend mainly on the amount of time players spent in the game (our game work), on our ability to use and

exchange game time efficiently, with the specifics of the generated map (our production means within the simulation) and other actors on the map.

Game's expansion *Sid Meier's Civilization VI: Gathering Storm* (Firaxis Games 2019) is an example of the educational potential of strategy games based on systemic planning. The expansion introduces new mechanics of climate change to Civilization VI. Players have to fight the impact of climate change starting in the industrial and modern eras, they have to try to reduce emissions caused by coal and oil extraction. The *Gathering Storm* expansion is one of the few games depicting the ecological and civilizational crises as vital problems that must be systematically addressed for the progress in the game. The *Gathering Storm* expansion is also original in this context, as it introduces the need to consider the game map as a living organism. Impending floods, volcanic eruptions, or changes in ecosystems dynamically affect game agriculture and production based on the player's previous actions.

At the same time, *Gathering Storm* introduces new conditions for diplomatic victory, which consists in accumulating a critical mass of diplomatic victory points, which players earn for helping other civilizations in the fight against natural disasters or aggressive wars. Diplomatic points can be also earned for tackling the crisis, or if one's own civilization is elected a world leader at a congress of civilizations. In this respect, diplomatic victory may be seen as an allegorithm of cooperation, but in the end, it remains an allegory of power hegemony based on the critical mass of a certain capital. The issue is that the game fails to go beyond the implicit expansive logic of the game cycle, visibly based on an effort to increase the volume of accumulation of game value per turn.

(5) The game resources that players operate within *Civilization VI* are abstract and interchangeable, thus contributing to the reduction of all game activities to an interchangeable accumulation of resources necessary for victory: Culture is reduced to a strategic resource interchangeable with the output of industry, or perhaps with the accumulation of gold, which allows players to quickly purchase various units and pay for their maintenance. As such everything we encounter on the game map is perfectly converted into commodities. In my analysis the inner game market in *Civilization VI* is similarly an allegorithm of work, colonization, and industry in capitalism – it represents the performance of the citizens of the game cities as well as the degree of their industrialization as an extractible and exchangeable value. A similar reduction to abstract exchangeable values in *Civilization VI* meets culture, science, and the entire game map, which becomes a battleground for expansion and extraction.

## Negative Exchange in Age of Empires II: Definitive Edition

*Age of Empires II: Definitive Edition* is a popular real-time strategy game (RTS), it builds the mechanics of the game cycle, and its mode of exchange of game work for progress, on the need to quickly respond to opponent tactics on randomly generated map. In a competitive game, players have only one victory condition, destroying enemy buildings and units. Progress through the game is based on exchange in conflict with enemies. To win, players accumulate a critical capital of value of units, and buildings, while extracting map resources.

As in *Civilization VI*, the choice of the player's civilization at the beginning of the match in *Age of Empires II: Definitive Edition* is a matter of unique characteristics and parameters of units, buildings, and civilization technologies, rather than significant

gameplay changes. From the beginning of the game towards its late stages, players constantly produce villagers (game workers - gatherers and builders) to keep their economy competitive. At the same time, players build structures and units, expand their influence on the map, and strategically decide whether to quickly advance from the Dark Age to the Imperial Age or try to attack the opponents and their economy as soon as possible.

(1) The production and accumulation of game value in Age of *Empires II: Definitive Edition* is based on the constant optimization of unit production and on the most effective control of their actions on the game map. Villagers can build new structures and extract map resources; players then exchange those resources for units that allow them to gain control over the game map. The algorithm of this contingent game time, filled with various crises, requires precise timing of production and micro-management of units: If players lose focus and precise control of their units and buildings at any moment in the match, their economy will slow down and eventually stop producing resources. The number of idle villagers will begin to grow and the production of resources necessary for the creation of new units will be interrupted. Maximizing production in *Age of Empires II: Definitive Edition* requires immediate and optimal exchange of collected resources for game units and structures, along with planning the construction of advanced buildings, and research in the near future. The production and accumulation of game value are based on a combination of players' ability to react quickly and efficiently – to predict and adjust strategies for winning the game and to know its algorithm and parameters.

Compared to *Civilization VI, the ability to play Age of Empires II: Definitive Edition* is even less dependent on understanding the game's allegorithm in relation to history. The intuitive controls of the game are rather an allegory of the simulation, dependent on the ability to quickly react to a changing situation on the game map. The historical setting serves as a backdrop that relates to the game’s algorithmic rules regarding the visual design of units, buildings, and overall aesthetics. It does not reflect the different political and economic systems in history. In *Age of Empires II: Definitive Edition*, there is always one dominant paradigm of exchange, the accumulation of game value is an allegorithm of the simulation rather than an allegorithm of history.

(2) The exchange of game work for value in Age of Empires II: Definitive Edition is possible via a similar form of utopian exchange as in *Civilization VI*. Nevertheless, it is complemented by a dominant form of negative exchange, in exchange of the economic output for units which are destroyed in combat with enemies. To progress through the game, you need to effectively exchange your military units in skirmishes with enemies on the game map. If you lose attention for a moment and accidentally lose, say, twenty archers to enemy mangonel catapult fire, you will lose a precisely calculable quantity of resources: exactly 500 units of wood and 900 units of gold or the cost in resources paid to produce the archers, against 160 units of wood and 135 units of gold the production cost of an enemy mangonel. On the inner market of the game, you have just lost an exact value of game resources, and the opponent has negatively gained a certain value for advancing through the match on your account. At the same time, you have also lost the time and other game resources that you have used for training archers – part of the value needed to build an Archery range, the resources spent for research of better arrows, recruitment time, and a number of your mouse clicks, which you could have alternatively devote to maximizing production.

As in chess, a disadvantageous exchange has caused you a loss that you will only be able to make up for by attempting other profitable exchanges. Alongside economics, game warfare is the most important exchange mechanism in the algorithm of the game. In parallel with the linear maximization of production, unit skirmishes are a form of

negative exchange and loss of value between players. Resources that were lost by destroying game units will never reappear on the game map, and the work you have expended while interfacing within the game is lost forever. At one point in the match, those values were used to temporarily tip the balance between the players' progress on the map, but they finally disappeared in a negative exchange.

(3) The rules of the inner game market in *Age of Empires II: Definitive Edition* range between cycles of utopian and negative exchange. The players' actions in the game are determined by the location of map resources – food, wood, stone, and gold – along with the movement of their own and enemy units. Regarding the situation of the game map, players benefit from currently available and efficiently exchangeable resources. Food is essential for the expansion of the economy: For the production of military units, and villagers who can expand the extraction of resources and construct new buildings. In this way, villagers are producing surplus value from the original resource investment (50 units of food) required to produce one villager. Individual buildings unlock advanced units allowing players to gain control of the map in the later stages of the game. Resources on the map are gradually depleting – first, the stone, then the gold, and in the long games, players are running out of wood, necessary for food production.

The marketplace, a building allowing the exchange of resources, is open to all players from the feudal age. Fluctuations in individual prices against gold can be rationally predicted and calculated based on the course of the game. Estimating the moment of exhaustion of other players' resources allows you to gain a strategic advantage and at the same time determines the maximum length of a match between two players.[10]

Unlike in *Civilization VI*, the game map quickly turns into an empty wasteland by mining the game's resources. In this sense, the contingent game time and mechanics of crises created by resource extraction and negative exchange on the game map can be considered a more critical allegorithm of the current ecological crisis.

(4) The most disturbing moments in *Age of Empires II: Definitive Edition* occur when players use optimal strategies determined by the game's algorithmic rules, to maximize the effectiveness of their play. Namely, the moments in which they raid the economy of their opponents by killing unprotected enemy villagers. A similar role is played by excess capital – the moment when players capture and extract resources, they cannot consume efficiently to prevent their extraction and use by enemies. Even scarier is the situation in the late stage of the game when experienced players kill their villagers to make room in their population limit for the maximization of their army. Therefore, we can perceive the game population limit as another resource – an allegorithm of an excess population that otherwise does not suffer from ageing: Its parameters are the life points and exchange value. In *Age of Empires II: Definitive Edition*, we can observe the allegorithm of the game exchange, which not only reduces the map to a network of tactical points and extractable resources but also reduces the game villagers and military units to mere resources producing surplus value from their original price if players use them effectively. The labour theory of value can be applied here again as feedback between the game's algorithmic optimal strategies and players' submission to its allegorithmic reductions.

The speculation in *Age of Empires II: Definitive Edition* aims towards an image of a dystopian future on the exploited map as described above. The only solution that can prevent a dystopian late game here is to win quickly or to stop mining resources, producing troops, and exchanging them in conflict with other actors. But that would mean stopping playing. Unlike the positive utopia of exponential growth in *Civilization VI*, *Age of Empires II: Definitive Edition* conveys a crisis time of negative exchange.

Units and resources are quickly disappearing from the map, and playing the game translates to extracting the game map.

(5) The allegorithm of negative exchange creates a crisis game environment in which players repeatedly build and lose game units. Concerning the player experience, as in *Civilization VI*, the time spent in the game and the knowledge of its algorithm are crucial. In addition to planning, contingent time requires the ability to react quickly and accurately: the total value of players' actions is measured by the players' ability to capitalize on their attention and energy within the game interface.

The pace of *Age of Empires II: Definitive Edition* requires maximum concentration throughout the game. Part of the pleasure of playing it, is the ability to improve gradually – the ability to focus on longer games, to produce and exchange game value more effectively. The RTS genre builds game cycles on player attention and reflexive memory, rather than the pleasure of long-term planning. The pleasure of playing *Age of Empires II* lies in a fantasy of the ability to quickly respond to the simulation's contingent environment and in the fantasy of perfect execution of the pre-learned game strategy. The pressure on the player at the limit of his cognitive capacity or fear of losing the forced economic pace in *Age of Empires II: Definitive Edition* constitutes its crisis time and ideological allegorithm.

## INTERFACES OF IDEOLOGY

The different modes of focus, contingent and recursive game time, distinguish *Age of Empires II: Definitive Edition* and *Civilization VI* ideologies. The fast gameplay pace of *Age of Empires II: Definitive Edition* offers a fantasy of contingent response in a brief time, unlike the recursive fantasy of future planning in the expanded historical horizon of *Civilization VI*. The mode of utopian exchange allows the allegory of slow planning to accumulate and build a utopian vision of a future of capitalism growing and expanding beyond the Earth and further into space. The allegory of negative exchange, on the other hand, forces an accelerated dystopian time of competitive struggle, a dystopia of capitalist exchange. Allegorithm of loss of value if we cannot keep up with the game pace.

Digital game critic and theorist Jon Bailes (2019) offers an original analysis of neoliberalism against the backdrop of ideologies hidden in interactive simulations of game cities and their power fantasies. According to Bailes, the failure of the games to define the background of the alienated relationship of game actors to capitalism is related to their inability to escape the demands and settings of neoliberal ideology. The feeling of failure returns regularly within the game cycles since the game is not able to critically define the background of the problems faced by its heroes. These are illustrated by various unrealistic demands of neoliberalism which fit the ideological notion of being a rational actor in the market which simply contradicts the limited options of material reality. According to Bailes games, therefore *"function as ambiguous responses to neoliberalism"* as *"they simultaneously criticize existing social conditions and reaffirm certain common assumptions about how the world works."* (Bailes 2019, 5)

Both game maps of *Civilization VI* and *Age of Empires II: Definitive Edition* are allegorithms of the real world, reduced to points with a clear function, depicting a seemingly unrestricted space of accumulation. In a broader sense, they are framed as strategic maps of the territory, rather than a living simulation of a world. Analysed

games are simulating game work with an uncertain outcome: pleasure comes mostly when we win. Otherwise, the simulation frustrates us like real work. *Age of Empires II: Definitive Edition* and *Civilization VI* are the interfaces of contemporary capitalism in this sense – interfaces of ideology whose rules are influenced by both utopia and parallel dystopia of the exchange. The game ideology is expressed in the responsive procedural interface of the analysed games. In this context, the interface can be perceived as a responsive game map with its actors, ideological allegories, and effective strategies necessary for successful progress through the game. Of course, it is possible to play subversively, non-violently, or even ecologically, but the game algorithm encourages players to play aggressively: its rules are framing the game in the constant necessity to expand and maximize production for exchange on the inner game markets for game progress.

## CONCLUSION AND STRATEGIES OF ALIENATION

The static nature of utopian exchange in the open game markets raises the question of why the predominantly utopian and negative fictions of exchange are depicted in both game's narrative and procedural mechanics. My first argument would be that it is because both are functioning as advocates of radically different realities of late capitalism. They represent two different fantasies of exchange. *Age of Empires II: Definitive Edition* is a fantasy of being able to react instantly to contingent crises and events on the game map, while *Civilization VI* is a fantasy of the ability to effectively plan and exchange over a wide historical period. The possibilities of another speculative exchange in which individual values and actors do not influence the game progression, or even at certain moments stand as free actors outside the exchange framework, are missing in the two examined games. In both games, we rather play a mode of idealized capitalist labour. The problem is that these narratives unconsciously reproduce alienated labour and exchange instead of offering an alternative narrative or a possibility for speculation.

The first premise of the paper was that games are persuasive interfaces of positive response – an inalienable reward for in-game actions. The form of utopian exchange analysed in *Civilization VI* is the means of this interface and its positive allegories. Negative exchange is its negative allegory, which brings into play more realistic allegories of exploitation, loss of value, and destruction with limited critical potential. In the end, however, the game economies analysed above are ideological allegorithms of capitalist exchange. Capitalist negative allegory, the negative exchange from *Age of Empires II: Definitive Edition,* is based on a competitive economic pace that does not offer inalienability to game value but works with the explicit possibility of negating any value in the game space. We can achieve a positive response of the game algorithm in a negative exchange if we can keep up its pace, which makes it complementary to the ideological allegorithm of utopian exchange.

Thanks to the previous analysis, we can defend the other two premises about the blending relation of the game space and game work constructed on the inner game market. The analysis showed that it is possible to apply the Marxist labour theory of value in both games if we adjust it for inner game markets – game abstract value and surplus value are always associated with our work in the game interface. However, the rules of the exchange on the market of both games are also influenced by the ideologies of positive and negative exchange. They depict a utopian and, in the case of a negative exchange, a dystopian form of capitalist exchange. The analysis showed, that despite the game rules of both games are depicting the alienating tendencies and contradictions

of capitalism, the criticism in these games remains ambiguous, hidden in the accelerated game market and in the exchange of game work. Both games' critical and speculative elements remain merely a supplement to the prevailing exchange and value accumulation paradigm, as we saw in the expansion of *Civilization VI: Gathering Storm* and its inability to systemically depict the cooperative strategies required to address the climate crisis.

In conclusion, subversive and speculative game narratives cannot simply be based on a capitalist or neoliberal prototype of the exchange of game labour for progress through the game. Because successful strategies in such games will tend to repeat alienating narratives of accumulation, exploitation extraction, and competition. If we want to create radically speculative games, we must use radically different paradigms of exchange and market rules or a more consistent critique of those mechanisms – we must look for new vectors of game exchange.

## BIBLIOGRAPHY


Bailes, Jon. 2019. *Ideology and the Virtual City: Videogames, Power Fantasies and Neoliberalism.* London, UK: Zero Books (John Hunt Publishing).

Bogost, Ian. 2007. *Persuasive games: the expressive power of videogames.* Cambridge, MA: MIT Press.

Bown, Alfie. 2018. *Playstation Dreamworld.* Cambridge, UK: Polity Press.

Bratton, Benjamin. 2015. *The Stack: On Software and Sovereignty.* Cambridge Massachusetts: The MIT Press.

Caillois, Roger. 2001. *Man, Play and Games.* Illinois: University of Illinois Press.

Firaxis Games. 2016. *Sid Meier's Civilization® VI.* PC game, 2K.

Firaxis Games. 2019. *Sid Meier's Civilization® VI: Gathering Storm.* PC game, 2K.

Forgotten Empires, Tantalus Media, and Wicked Witch. 2019. *Age of Empires II: Definitive Edition.* PC game, Xbox Game Studios.

Galloway, Alexander. 2006. *Gaming: Essays On Algorithmic Culture.* Minneapolis: University of Minnesota Press.

Garite, Matt. 2003. "The Ideology of Interactivity (or Video Games and Taylorization of Leisure)." *Proceedings of the 2003 DiGRA International Conference: Level Up.* http://www.digra.org/wp-content/uploads/digital-library/05150.15436.pdf.

Google. 2016. *Quick, Draw!* Digital game: Google, GHU Enterprise.

Herzog, Lisa. 2021. *"Markets". The Stanford Encyclopedia of Philosophy (Fall 2021 Edition).* Accessed September 2, 2022. https://plato.stanford.edu/archives/fall2021/entries/markets/.

Huizinga, Johan. 1949. *Homo Ludens: A study of the play-element in culture.* London: Routledge & Kegan Paul Ltd .

Janoščík, Václav. 2021. *Dystopický realismus. Jak se učit skrze kapitalismus a temné budoucnosti.* Prague: Akademie výtvarných umění v Praze.

Keever, Justin. 2022. "Videogames and the Technicity of Ideology: The Case for Critique." *Game Studies, vol 22.* April. Accessed December 6, 2022. http://gamestudies.org/2202/articles/gap_keever.

Marx, Karl. 1990. *Capital: Critique of Political Economy, Volume One.* London: Penguin Books.

—. 1991. *Capital: Critique of Political Economy, Volume Three.* London: Penguin Books.

Marx, Karl, and Friedrich Engels. 1932. *German Ideology Part I: Feuerbach Opposition of the Materialist and Idealist Outlook.* Accessed December 14, 2022. https://www.marxists.org/archive/marx/works/1845/german-ideology/ch01b.htm.

Sicart, Miguel. 2021. "Playful Capitalism, or Play as an Instrument of Capital." *Contracampo - Brazilian Journal of Communication, v. 40, n. 2.*

—. 2011. *The Ethics of Computer Games.* Cambridge, MA: MIT Press.

Srnicek, Nick. 2016. *Platform capitalism.* Cambridge, UK: Polity.

Wark, McKenzie. 2007. *Gamer Theory.* Cambridge, MA: Harvard University Press.

Woff, Jonathan, and David Leopold. 2021. *"Karl Marx", The Stanford Encyclopedia of Philosophy (Spring 2021 Edition).* Accessed October 9, 2022. https://plato.stanford.edu/archives/spr2021/entries/marx/.

Woodcock, Jamie. 2019. *Marx at the Arcade: Consoles, Controllers, and Class Struggle.* Chicago, US: Haymarket Books.

## ENDNOTES

[1] Allegorithm is a concept originally coined by Galloway: *"To play the game means to play the code of the game. To win means to know the [game] system. And thus interpret a game means to interpret its algorithm (to discover its parallel allegorithm).*" (Galloway 2006, 90-91)

[2] Inalienable rewards in terms of action and reaction that brings a clearly defined system response to the player and user. In digital games, this can typically involve earning experience points for actions performed in the game.

[3] I will understand ideology in Marxist terms as the dominant social misconceptions that help to maintain the status quo of economic relations in class society, see Woff and Leopold (2021): https://plato.stanford.edu/archives/spr2021/entries/marx/

[4] For the process of creation of surplus value in capitalism see (Marx 1990, 251).

[5] See the general definition of markets in (Herzog 2021): https://plato.stanford.edu/archives/fall2021/entries/markets/

[6] *"[T]he rate of profit, is the spur to capitalist production* [..] *it promotes overproduction, speculation and crises, and leads to the existence of excess capital alongside a surplus population."* (Marx 1991, 349-350)

[7] In *Quick, Draw!* Players compete to quickly draw doodles according to the game's instructions, which are then scored by a machine learning algorithm.

[8] This is a reduction for which Civilization has been criticized along with highly controversial imperial rhetoric framed by the need to constantly expand aggressively in the game (Galloway 2006, 96).

[9] In this sense the game territory takeover in *Civilization VI* and *Age of Empires II: Definitive Edition* is a representation of primitive accumulation.

[10] In team multiplayer matches players use a marketplace for trading with allies. At that moment, the marketplace begins to generate a steady supply of gold, which is exchangeable for other resources. It is significant that even in the *Age of Empires* players have the possibility to make the economy independent of the game map.