

Life as Algorithms: Political Game Design

It is useful, for me, to think of games as simulations. Although all games are not explicitly simulations, they all come to life by representing some activity, as a prerequisite to being able to afford the player to partake in that activity. While this activity implies some sort of closed environment -be it through physical ability or problem solving- it is also possible to use this simulated aspect as a way to open up on the world around us and, as we will take a closer look here, on politics and political systems. This article is centered around the idea of bringing politics back into games and game development through both player and developer awareness. By taking the particular topic of political philosophy of the Enlightenment, we will see how computer simulations can help us in designing politics in games.

SIMULATIONS ARE BASED ON AGENTS

An agent-based model is a way of, if not solving a problem, at least putting together several of recognized features into agents to see how they interact together and give us global, emergent patterns to interpret, without hard-coding these patterns in the first place. Some of the current research is, for example, in sociology¹ where it is the interaction between agents themselves that is being looked at or in international relations² through aggregates of agents.

Along with the development of computers, ABMs allow us to think about situations on a larger and larger scale, as they prevent us to miss certain steps between the original facts and the 'emerged' result, not being able to imagine these 'emerged' results or to figure out how could slight changes to our starting assumptions lead to changes in the 'emerged' result. Those simulations, through computing power, allow us to test out these assumptions. They allow us to directly assess the consequences of our choices without doing the heaviest lifting, but also provide a fresh look on those assumptions as we set them before running the simulation.

As a developed and designer, when we first set out to build a simulation, we have to focus on what it is we want to explore in it. When doing this, we deconstruct it so that its definition is a bit closer to an objective, machine-readable statement, and a bit further from a human, subjective formulation. For example, defining democracy as a concept for everyday use and democracy as a concept meaningfully embedded in a software yields interesting results:

democracy, n.: *a system of government by the whole population or all the eligible members of a state, typically through elected representatives.*

vs.

```
public static int decisionPower = 1;
```

```
for(int i = 0; i < society.size(); i++){  
    Agent a = society.get(i);  
    a.decisionPower = decisionPower;  
}
```

¹EPSTEIN, J., Modeling Civil Violence: An Agent-Based Computational Approach, Proc Natl Acad Sci U S A. 2002

²CEDERMAN, L.-E., Emergent actors in world politics: how states and nations develop and dissolve, Princeton Press, 1997

Once the simulation runs, it presents us with a heartless, uncompassionate result of the interactions we wanted to explore. We established rules and these rules gave us results. And, because we externalise the thought process, we can look at the results from a different perspective. These emergent results, then, can be traced back to our assumptions until they become the understood results of a given process. They shed a new light on our assumptions, by showing us the consequences of these assumptions.

EVERYTHING IS POLITICS

This isn't about politics in general, because politics in general are both a very vague and misunderstood notion as well as actively despised by those who associate politicians with politics. The politics of the Enlightenment are both a very specific sub-set of political studies but also what i consider being the most important aspect of politics. Politics of the Enlightenment is arguably the next very relevant branch of political thought that came after the classic philosophers, starting around the 16th century, until the 18th century. It's not a coincidence that they are contemporary to the formation of western modern democracies as political systems.

In fact, thinkers such as Hobbes, Locke, Smith or Rousseau were all at the beginning of our modern understanding of society. This is because they were the first ones to start thinking about what became known as social contract theory, which boils down to these two questions:

how is it that we manage to live together?

is this the best way we can live together?

As a matter of fact, John Locke, considered the father of classical liberalism, has had a significant influence on the US declaration of independence, while, Rousseau's ideas were provided a specific framework for the French Revolution, and the drafting of the declaration of rights of Man and of the Citizen, which itself is a fundamental document in the history of human rights. Political philosophers of that era heavily influenced the way we define living together today.

However, they only proceeded through thought experiments, and thought experiments imply a subjective start, leading to an objective end, formulating assumptions about individuals, and deriving laws to reach optimums.

Even though logic is a significant branch of philosophy, it is stuck in dealing with very abstract, very high-level concepts, simply because our brains cannot consciously process the global outcome of so many details. Kant himself, as he wrote the *Idea for a Universal History with a Cosmopolitan Purpose*³, was aware of the problem of theorizing without empirical basis, which only ends up being speculative psychology.

We start to see how these thoughts experiments can easily be replaced by computer simulations. they might lose their theoretical weight, but gain in practical application, while allowing designers to shift the focus of their thought process.

3KANT, I., *Idea for a Universal History with a Cosmopolitan Purpose*, Yale University Press, http://yalepress.yale.edu/yupbooks/excerpts/kant_perpetual.pdf

In parallel, the work of political philosophy closely relates to game design, in that, whenever you design a game, whenever you design a system, you create a world of politics for players to live in. If you agree that our institutions, the ones that are currently in place, dictate our lives not only on a functional level, but also on a moral level, then that implies that you, as a designer, are imposing certain moral behaviors onto your players, consciously or not.

ARTISTIC RENDERING OF A SCIENTIFIC SIMULATION

One of the things artists do (and I count designers among them) is that they use the most recent technological tools as a medium, usually subverting them to reveal a previously overlooked part of the world. In my opinion, games, re-using simulations, go beyond that mere subversion, and engage on a more aesthetic and emotional level with their audience, that is, their players.

The transition from scientific to artistic allows for more freedom in terms of the framework in which it is being used (instead of being limited to the strict standards of academia and the research community). The question is now: how can we “artistically” (that is, unscientifically) represent a given set of human behaviors in a game? And the corollary: what consequences do those representations imply both during development and as a finished game?.

By forcing very loosely defined concepts (survival, wealth, culture, which were all at the heart of political philosophy) into a hyper-rigid framework (code) emerges a tension that yields interesting results.

For example, when dealing with ABMs, we have to think about what constitutes an individual as a self-reliant agent (ie. without external or artificial structures). Using object-oriented programming, we create a new object named Agent, and what arguments do we give it? What are the core components of what constitutes a human? That is, what arguments represent a human in theoretical terms as well as in practical, game design terms?

They need a position, a spatial representation, two floating numbers for a 2D space, but they also need a shape. What shape are they? Are humans essentially all the same, or all different? Do they inherently have different sizes and aspects, or are their sizes and aspects the same at the beginning, and then change over the course of the simulation? All these questions are political questions, as they are in themselves forcing the designer/developer to take a stance on a political issue (i.e. ‘Who are we?’).

It would be easy to answer all these questions based strictly on a game design point of view, but designing something as fun as possible usually comes to the detriment to designing something as politically conscious as possible, because it demands more time and more effort than just designing a fun game (and, incidentally, politically-conscious games sometimes end up being not fun at all).

Another example would be seeking wealth. In the simulation, what are the conditions that must be met for an agent to gather a resource? once he has located this resource, what is the interaction that happens between the agent and the resource? Is the resource acting upon the fact that it has been found by an agent or is the agent acting upon the fact that it has found a resource? In this particular instance, we can see a clear stance between an ecological line of thought and phenomenological thought (ie. what is the most important? the human or the resource?)

There is an extensive amount of literature in the field of software studies, and yet this is one of the most under-represented aspect of politics in game design and development. As an example, the way the AI works in *The Sims 3* is explained in a very well-titled paper: *Dumb People, Smart Objects*⁴. This approach is very much a political representation of people as dependent on their material environment and their material belongings.

Indeed, while the scientific simulation is expected to make a statement *ex-nihilo*, that is, independent from the scientist's assumption, designers are free to use these tools and imbue them with their particular worldview to communicate to their players through the phenomenon of computer-facilitated emergence. As an example, the faking of data, or variable tweaking, if greatly frowned upon in the scientific community, is a well-accepted practice in game design. Variable tweaking is a subtle way to change a virtual world in order to conform it to certain expectations, either from the developer or the player.

Defining the very range of what the player can interact with is, again, a statement in itself. If, for example, we're simulating a group of agents developing culture over time. Let's say that we decide to represent that culture by a range of numbers. So they all have a number that represents their culture, from 0-10. What data types do we use? It might be easier for the player to understand integers over floats, and it might be easier to work with, but does that accurately represent culture, as discrete steps? What about differences in culture between two agents? How do we map that? How different is someone with a culture of 1 from someone with a culture of 2? From someone with a culture of 10? Is life about being different from someone or is it about how different you are from someone?

And once you've made that choice, what output do you get from the simulation? How can we as designers interpret it in regards to our input? And, more important, how does the player interpret that? How likely is it that she is going to consider it as undeniable truth, just because she is unable to figure out how that truth was constructed? As we've seen so far, the simulation can be a very useful tool for thinking about game design, and more specifically about politics in game design. But we've remained so far very much on the systems design.

To finish, let's take a moment to talk about how elements of game design that are not, strictly-speaking, simulations, but still very much political. The one big opposite (but not excluding) is the use of story and narrative in games. The artistic concept of simulation gives us the possibility to integrate a more intimate component to the scientific, logical process. Art, and design as art, is about interpretation, and the most prone to interpretation is the story, as written or spoken word. The simulation as a game, and the simulation as an art form, not only allows for different modes of expression, be it systematic of visual, but also semantic, multiplying the number of perspectives a designer can provide on a particular issue. Stories in games are not limited to their self-sufficient existence, but can also provide a gateway to understand other rhetorics at play in interactive software.

By exploring our own assumptions regarding political matters, we can shift the focus of that exploration from the consequences, computed for us by the machine, to what it actually means to define these assumptions, and to allow players to interact with them. Because everything you design, code, and present to the world, is undeniably political, whether it is obvious or not.

⁴TIRRELL, J., "Dumb People, Smart Objects: The Sims and the Distributed Self", The Philosophy of Computer Games Conference, Madrid, 2012