

# It Is Democracy, Jim, But Not As We Know It. - On the Impact of Knowledge Systems on Democracy

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**Abstract:** The advent of new technologies has prompted much research on the effects these technologies will have on our ways of governing ourselves. The discussion tends to oscillate between two perspectives: the non-deterministic and the technology deterministic view. In short the first view says that we have to focus on democracy and develop it as we see fit, without regard for technologies and the second view says that the technologies will force upon us a certain form of democracy that inevitably will become our reality. In this paper we suggest that both of these views are flawed, and that the proponents make a serious mistake (which we term “the assumption of constancy of concept”). We then propose a third view, where the key point is that the evolving technologies also result in evolving practices that change the meaning of concepts such as “voting”, “democracy” and “democratic participation”. This evolutionary perspective makes it impossible to discuss the future of democracy, since the future democracy will be something very different from what we have today. Our suggestion is that we instead focus on introducing and understanding new practices, both the voluntary and the inevitable, and try to understand the evolution of these concepts.

# 1 Introduction

Democracy is a term that is inherently fuzzy. It can easily be argued that a representative democracy of present day Europe is nothing like the early Athenian democracy, and that the term has changed in so many ways, and is laden with so many meanings that all attempts to use it in scientific contexts should be shunned. However, the term also holds tremendous importance to us, and excluding it from scientific investigation is thus not a recommendable course. We instead propose that we accept the fuzziness as a property of the concept that is inextricably related to its importance and usefulness. No crisp definitions are thus offered and no delineations presented.

To add to this, the new and merging information and communication technologies are changing the conditions for and constitution of democracy. This is a point that most researchers agree on, but the nature of this change is under heavy debate.

Barber (2001), for example, argues that the new technologies must be seen as subordinate to a more important question, namely the question of what democracy really is. Barber points out that

[...] there is no such thing as democracy. There are only a variety of forms of government, which have a variety of characteristics that can be labelled under different groupings that define (not without controversy) distinctive forms of democracy.

While true, this insight leads Barber to a somewhat unexpected conclusion. He states that he wants to

[...] offer you a discussion of some of the technical characteristics of the new technologies and their impact on democracy – keeping in mind that much of what we say is a political, not technical, choice- the choice, of how we are going to use the technology.

This illustrates in a clear way the way this problem is framed by Barber. He claims that the issue of how information and knowledge systems (though he does not use the term) will affect democracy is an issue of *choice*.

On the other side we find writers like Poster (2001) who claims that there will be an element of deterministically induced change in the development the new technology induces in the democracy.

So the issue seems to boil down to a question of what choice we have in the future development of democracy. But this is not the only way of framing the problem. We might instead argue that both these views are inherently flawed.

The flaw, we suggest, is this: both the deterministic and the non-deterministic discussion of e-democracy focus on the concepts as they appear today. They assume that democracy given a certain set of technologies will still be the democracy we speak of today, albeit – by choice or with necessity – it will change

in any number of ways. Even the deterministic view succumbs to this error: in assuming that technologies will take democracy as it looks today and develop it into something different we also assume that democracy is a concept, the meaning of which will remain constant throughout technological change.

It is our belief that the opposite is true. No matter what amount of time we spend predicting the routes democracy will take we will fail. The only constructive thing we can do is to study emerging practices and changes in democracy today. From these observations we can try to understand, and perchance choose, what will be.

This view is found, in a slightly different form, in Collins (1989), who writes the following passage:

Is democracy dynamically stable, or will it, through time change into something else? A prevailing view visualizes democracy as the end result of political development. [...] There is, however, another view. It argues that democracy is not stable. Rather, as time passes, democracy self destructs by virtue of its own internal dynamic.

Whilst it does not necessarily follow that if democracy is not dynamically stable, it will self-destruct, it is an intriguing idea. The point however is to highlight that the real question that has to be asked in research on democracy and on the impact of information and knowledge systems on social systems must be not “how will this affect democracy”, but rather “what new social systems will emerge, and how can we classify these systems?”

## 2 Evolving practices

Democracy is a concept in constant evolution – some parts subject to choice, some not – and a greater part of that evolution has been induced by new technologies. It is crucial to offer some example of how concepts are evolving today, and what this might mean for the future of democracy. We will discuss a few evolving practices here: new voting possibilities, new decision support systems, new models for understanding democracy and finally new forms of democratic interaction.

### 2.1 The evolution of voting

Voting today is not a complicated act (unless you live in Florida). It is a question of choosing between a limited set of possible choices. It can be automated relatively simple.

However, with automation also comes innovation, as Susskind (1996) observes. The emerging possibilities of automated voting are many and diverse, and propel the concept of voting as we know it into something completely different.

The security measures needed for on-line voting alone change the conception of what we mean by voting. Using advanced cryptography and new secure protocols for voting will turn voting into a complex procedure that does not resemble showing up at your local school, presenting an ID and then casting your vote by means of paper ballots.

Furthermore: the new possibilities in voting will revolutionise the concept of voting. With combinatorial voting techniques you will be able to vote for sets of preferences given that other decisions are made. It is for example possible to vote for a and b if c wins, but only for a if c does not win. It will also be possible to grade votes and to allocate graded votes to several candidates or options. You could for example give candidate a a 50 % vote, and candidate b and c 25 % respectively. This way the vote could more adequately mirror the opinions of the voters, since traditional voting is digital (a vote for one candidate excludes a vote for other candidates). Political opinions, on the other hand, are in fact analogue (one voter can have, and presumably often has, sympathies for more than one candidate at least to some extent). These evolving complexities might be welcomed by those who feel that voting today is too simple and non-representative of the will of voters, but it will change the very nature of voting as we know it.

## 2.2 The evolution of making decisions

Another important facet of democracy that is changing is the way decisions are formed. The amount of information available and the complexity of the decisions require that special means be used to visualise the decision parameters. One way of doing this is to utilise support systems. McBurney and Parsons describe such a system and discuss the consequences of using it. Their model is interesting, since it suggests a new understanding of the relation between society and state that is highly influenced by the metaphors of computer science. They write: “The key normative question for democracy, then, is: What should be the process of formation of political will?, or How should Society program the State?.”

Their answer is that a dialogue game, presenting the different sides in argument, in quantifiable ways, might be the best way. Using these systems we then formalise the discussion so that the process is rationalised into finding key and fact arguments.

This view of political decision-making is clearly slightly estranged from reality. Much of what is politically sound has little or nothing to do with facts or quantifiable issues, but is merely an issue of political will. The model proposed by McBurney and Parsons is interesting still, since it might in itself be read as a sign of a development that the new technologies could lead to. When the process of

formation of political will is rationalised into a knowledge or information system it will certainly look different from what it looks today.

### 2.3 The evolution of modelling democracy

Modelling democracy is an important aspect of democracy that is often left out of the general discussion of the changes affecting democracy and changing it into something new. There are several reasons for this, but the first and foremost is that the models we use to understand a concept reveal much about how we understand the concept and choose to work with it.

Traditionally democracy has been modelled for example in education, in clubs and also in cultural phenomena such as films and books. Today democracy is being modelled to a large extent in computer games. Simple examples like Sid Meiers SimCity allows the user to take on the role of mayor in developing and strengthening a city. The practice of mayorship is a simulation of the workings of economics, practical city planning, but also the workings of democracy.

What is not discussed as often is the impact that this game, this model, obviously has on the understanding of democracy. The immensely popular game is teaching young players the basics of politics and the use of the different policies available to a mayor in a very concrete way. It would not be absurd to state that the way this game is designed will mean a lot to the way the democracy is understood in the future.

The same goes for the immensely popular games Civilisation, Age of Empires and other games that model, if not democracy, civilisation and the civilisation mechanisms on a global scale. It is interesting to note that all these games follow a Darwinistic model that assumes that there can be only one governing civilisation – coexistence is not an endgame alternative.

Beside these obvious examples we also see emerging examples in academic research today. Vreeswijk (2001) has studied an implementation of the game Nomic and initiated some interesting research on this topic. Vreeswijk's idea is simple: by constructing a computer implementation of Nomic, he proposes to investigate the workings of democracy.

The game of Nomic is very simple. It starts with a series of basic rules and then each round in the game consists of a player suggesting a change of the rules that is then voted upon. Hofstadter (1985) presents a more exhaustive discussion of the subject and the rules are available at <ftp.cse.unsw.edu.au/pub/doc/Nomic/FAQ>, see also Suber (1980).

The first question we must ask is of course if this at all resembles the workings of democracy. For example: it is quite possible in Nomic to allow that the rule providing for voting on every proposed rule change is in itself changed, possibly

resulting in a dictatorship or a majority vote. This would seem to imply that we readily would allow for a democratic assembly such as the Swedish parliament to vote itself out of existence. This might not necessarily be a part of the concept of democracy we have today.

The second question this gives rise to is whether this model of democracy yields interesting or provoking results, and what these results imply for the evolution of the concept of democracy we know today. Vreeswijk is, he himself admits, only in the starting stages of this research, and he proposes that more work needs to be done here. Nonetheless his work already is becoming a part of the set of models we utilise to understand and change democracy.

The emerging technologies ability to simulate multi-agent patterns and interactions seem to allow us to understand democracy as a deterministic system that can be simulated. This, we believe will affect the perception of democratic systems in a high degree in the future. The Nomic-implementation could be said to support a social engineering policy development. The problem with this model is that it is self-reflexive only in one dimension, whereas society is self-reflexive in at least two. The agents in the computerised version of Nomic have the ability to change the rule of the game they are playing, but they lack the insight that this is what they are doing, and the meaning implied by their ability to do so. We, as ordinary citizens, realise that we can change the rules and that this very fact in itself matters.

Nonetheless these kinds of models can be presumed to become important in our future understanding of the concept of democracy.

Another important model of democracy has already been discussed above, but it is worthwhile to return to it, and it is the model of voting now being developed by computer scientists. Voting today is viewed as a simple activity and the really complex theoretical possibilities inherent in voting are not discussed in society at large. The new systems being developed in conjunction with the e-democracy discussion, however, are very complex and allow multi-preference and combinatorial alternatives that would not have been even possible before the availability of the new technology.

The mathematical models of Aragonés and Postlewaite (1999) for example are indeed intended to describe real world examples, but present a view of democracy that is more formal and mathematically inclined than the ones we regularly meet with.

## 2.4 The evolution of interaction

Another interesting field of practice to study in the search of the descendants of democracy is the emerging multi-player on-line role-playing games. These games

allow users to partake in a virtual society where they can hunt for dragons, form adventure teams or merely hang around and chat. Most of these systems are today designed in semi-medieval settings with fantasy as a strong part of their set-up.

Examples of these games abound: Asherons Call, Ultima On-line, Everquest. The games keep becoming more and more popular and recently a new game called Anarchy on-line was introduced. These games are interesting since they offer actual laboratories of interaction. We can see that in these games proto-legal and proto-democratic alliances are formed and developed over time. The systems allow users to create clans and affiliations in a multitude of ways.

The practices evolving here will be important for many reasons. The main reason is that these communities, as they age and mature, might very well become influential enough to have their own rules of decision making and representation. It is indeed not far-fetched to say that players might feel more affiliated with their community than with their home country in a few years.

Becker and Wehner suggest another way in which the new technologies affect interaction. They discuss the emergence of Teilöffentlichkeiten (“partial publics”), where the new media creates islands of public debate that are semi- or totally isolated from other publics across the net. Their point is that interactions seem to form clans and social relationships in ways that scale to much smaller groups. That the technology used also affects the societies formed is noted and discussed in another work by Becker, (Becker and Mark), where it is also stated that the new technologies give rise to new social systems with unique qualities – a thesis that supports the evolutionary view of democracy held in this paper, as well.

### 3 Conclusions

The debate between deterministic and non-deterministic democracy researchers is based on the flawed assumption that the concept of democracy is constant and dynamically stable. We argue that there is no such constant concept of democracy. Instead the emerging technologies will change the core concepts of democracy. The result will be something completely different than the democracy we have come to regard as a socially stable phenomenon. We have showed examples of how technologies will change and in some cases already have changed core concepts of democracy such as voting, decision-making, and democratic interaction. We have also showed how the modelling of democracy is changed. All these different kinds of impact of technology on democracy are changing the concept of democracy itself. What we have tried to show is that the concept of democracy is impacted by the development of knowledge and information systems in ways that are far-reaching and revolutionary. Our conclusion is the observation

that the future of democracy is in itself not so interesting. What is interesting is the future of society and of us, and it is far from certain that democracy as we know it, or anything like it, will be a part of that future.

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