

www.e-DEMOCR@CY (after Plato-Leibnitz-Internet)

or

INFORMATION SOCIETY FOR AN ENLIGHTENED CHOICE

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On November 11, 1947, in a speech in the House of Commons, Winston Churchill pronounced his famous dictum: "Democracy is the worst form of government except all those other forms that have been tried from time to time." The paradox in this familiar quotation stems from a classical dogma to which mankind is still subservient - that democracy is synonymous with universal suffrage. Sixty years later, our world has left light years behind the technologies of the past, which enables us to enrich democracy with new, more effective and more moral forms of enlightened government of the countries and the world.

Churchill was right that elections are an ineffective method of government. The reason is that, in their present form, they do not serve the principal TARGET of public development: an ongoing and sustained improvement of the quality of life of each succeeding generation. Quality of life is actually a **number**, derived by complicated formulae, which take into account the most important **objective** benchmarks in the development of a country: economic prosperity, education and literacy, health care and life expectancy, infant mortality, security (external and internal), environment, individual freedoms and rights etc., all the way to Internet penetration. Increasing this quantity is a particularly intricate task. Taking care of one benchmark deteriorates others (e.g. a rise in pensions pushes up inflation).

When we go to the ballot box, we do not have a truth detector to judge **objectively** which of the contesting parties will be leading us towards the Aim and at what speed, and which is cheating us and how much. So we have to **vote in the dark**, for the party we fancy. Only a supercomputer can have at its disposal the detector in question.

To be reliable, a governance method must be stable.

*Just as a calculator, it must deliver the same output from the same input. The answers in a referendum, in the same country, may be opposite, depending on **who** asks the question and **when**. Thus, a niche opens between the Voter's logic and psychology which democracy generously provides to populism, whose promises are lulling music to our ears but by no means lead to Quality of Life. Therefore, democracy has quite often committed suicide through elections **for lack of information**. Hitler is the most telling among the hundreds of such examples that still exist in the developing world.*

Science established this fact back in the 20th century, when Kenneth J. Arrow, later on recipient of the Nobel Prize in Economics, proved his famous theorem that the only voting method that is not flawed is dictatorship. (*Science is categorical: an uninformed Voter is unable to make a reasonable choice between his petty immediate interest and the long-term interest of his children tomorrow. (The most warped manifestation of this rule is vote selling). We voters are not chess grandmasters, and we can either see just one or at best two moves ahead, or do not play chess at all. Which is why we are afraid of backing a politician who would sacrifice a queen so as to win the game after five moves. The good news is that the world Voter is becoming increasingly aware that it is precisely the blind election that blocks his choice).*

Another three Nobel Prize-winning economic studies demonstrated the incompatibility of the electoral system with reasonable democracy: Paul A. Samuelson (1970), Arrow's co-author, Gerard Debreu (1983), and Arrow's follower Amartya Sen - for his contribution to the theory of collective choice and social welfare (1998). Other Nobel laureates, too, not only diagnosed the problem but proposed rudiments of solutions leading to the Target: Kantorovich and Koopmans (1975), and Hurwicz, Maskin and Myerson (2007).

So much about the **findings**. Sixty years ago, Churchill definitely arrived at many of them, but the technique of the day was helpless to come up with anything better than blind elections. His fellow Briton Alan Turing had just formulated the principles of the modern

computer: the Turing machine broke the Enigma machine, deciphering Nazi encoded messages. But even Turing himself was hardly aware of the potential of his discovery. Now computers can offer tests and strategies to evaluate the views, capabilities or intentions of a politician or a party and the extent to which they lead to the Target. The Voter has the right to know. The time is ripe for global www.e-democr@cy.

Step One, prescribed by Plato (currently in Google's pipeline). To make life easier for the Voter, a Computer Simulator can test in advance a leader or a party team for their fitness to do the job. Thus, every party will be brought down to earth and compelled to promote managers instead of canvassers and algorithms instead of campaign slogans. What we need is an electronic game (say, an upgraded version of the strategies Civilization, or Age of Empires), which is the nearest approximation to state governance, and some sort of "electronic field" for competitions. Governments have the right to improvise only within certain limits, beyond which experiment turns into disaster. The first step of [e-democr@cy](http://www.e-democr@cy) shows the Voter the teams that are well aware of these limits, which is a solid insurance against failure. Then the Voter is free to choose from among those teams. The military have long introduced e-exercises, and Google is already working on the beginnings of such truth superdetector.

The key question that arises here is: who formulates the task? There are various adequate options. One suggestion (I don't claim it is the best): The team of all living winners of the Nobel Prize in Economics (currently 37), selected over the last forty years by the various Prize Committees (six professors serving three-year terms of office), whom the Royal Swedish Academy of Science selects from among its members. Swedes have proved that they know perfectly well what Quality of Life is all about. We will thus adhere to Plato's precept for the citizens of the Ideal State: stick to mathematics, come what may.

The second phase of [e-democr@cy](http://www.e-democr@cy), prescribed by Leibnitz, is even more interesting. Let us rank the aspirants to govern us over the next four years (ministers, parliamentarians and others) through a gladiatorial tournament between the parties on the electronic arena. The Target Computer will be an impartial umpire. (And if we do not trust it that much at the beginning, let us hold elections - on the following day). We will thus achieve Leibnitz's ideal: "when there are disputes among persons, we can simply say: *Calculemus!* [Let us

calculate], without further ado, to see who is right." Disputes can thus be reduced to objective calculations.

Even now we hold such competitive examinations for admission to secondary schools and universities, for entry of civil service, for military and policemen, for fighter pilots. The idea is as old as the world. The first political competition, in the form of a simulated war, was the battle between David and Goliath. It is time that VDUs and joysticks help voters before they come to grips with ballot boxes and ballot papers. Ultimately, these gadgets will supersede the voting paraphernalia.

You will probably ask, once we suggest self-censorship for politicians, should we, too qualify as voters under certain criteria. And will we entrust the Computer, at some later stage, with choosing politicians for us? Will not this abridge people's fundamental democratic rights to participate in government? There are a lot more other questions, too. For instance, do people who sell their vote deserve to be enfranchised, and if they do, should their vote carry the same weight as the vote of Nobel Prize winners? Is everyone entitled to run a country? Or should they be qualified for the job? Or, if not, let him govern up to the safest level for their competence. Just as everybody has the right to operate a motor vehicle or an aircraft, to run a hospital or a pharmacy, or to own a gun, as long as they hold a license. Therefore, there should be a sort of driving license for statesmen, as suggested by Steps One and Two. Incidentally, imagine the passengers of a plane voting (say, after two whiskies) on who of them will be the pilot! The Voter has the right to be warned. The discussion is old and profound, but let us leave it aside for the time being and perfect politicians before their electorate.

Step Three - the Internet-based Artificial Intelligence - is the most interesting one. Let us task the Target Computer with running part of the affairs of state in sync with a Government and a Parliament elected according to the Leibnitz principle. Now comes **the time of the Voter** - our time. Because the Computer will be proposing a number of various but equally fit solutions, and the informed Voter will have to pick one of these. Here every election is correct, to-the-point and safe. Elections will continue to perform their psychotherapeutic functions because, to quote Montesquieu, political liberty is the citizens' tranquility of spirit.

What remains to be decided is who will exercise daily control over the Computer? The answer: another, more powerful Computer (which verifies the work of the first one). Entrusting government to two computers which calculate, respectively, 20 and 40 moves ahead, is indeed twenty times better than to two parties which look one or two moves ahead. Given that the NASA computers can remote-control unmanned spacecraft, why shouldn't university teams remote-control the State!

Evidently, e-democr@acy will turn the political class from a rhetoric club into an enlightened minority. The important thing is that we voters, who are in a majority, will be able to make an informed choice among the right Targets instead of making an uninformed choice from among the wrong means. The march of the new Information Society against populism will meet with the fiercest resistance from the old political class, but will also find its most natural ally in young e-Voters, aware of their long-term interest. We all revere democracy, physics and geometry that evolved in ancient Greece. Over the last couple of centuries, physics and geometry were demythologized and made remarkable progress in Europe and America. Now it is the turn of democracy.

What comes next, Steps Four, Five and Six in the Plato-Leibnitz-Internet Strategy?

The world is full of numberless unresolved conflicts, ranging from the more recent to the antediluvian, on all continents: from Kosovo to Darfur, from Sri Lanka to the Middle East. They tend to exacerbate with time, moving from the ground of logic to the wrestling mat of psychology and fanaticizing the contenders. If anyone can bring them to their senses in future, this will be an impartial, computer-aided arbitration that they can trust. Because globalization will be tolerating ever fewer conflicts.

Sofia, November 11, 2007.

P.S. Many of my colleagues in computer scientist will probably find the proposed scheme simple and obvious. Still, it took me twenty years to arrive at it. In the 1980s I was working on mathematical modeling of human thinking and behavior and computer simulation of cognition. I then ran into Arrow's Theorem, which, roughly said, shows that elections lead to dictatorship, which is not the Target. Since then, I have been wondering *how democracy can be rescued from blind elections without compromising its Target*. In my first paper on

the subject, in 1994, I noted that the referendum is the most illusory and most dangerous imitation of democracy, but I didn't have a constructive alternative. Now, thirteen years later, e-democr@cy provides the solution: replace the blind election by an informed election. It is difficult to forecast how long we will take to graduate to this method: one, five decades or more? We needed fourteen years for NATO and seventeen for the EU, but today's world is faster than yesterday's.

Not all friends and colleagues with whom I discussed e-democr@cy agreed outright or without reservations. Quite a few reminded me of the mishaps of Isaac Asimov's robots. But the most encouraging indication that I am probably right was the reaction of the teenage generation of the keyboard, who were really thrilled that when they grow up they could work as gamers. I realized that, instead of stopping them, I must give them more e-games. For seventeen years, I have won elections in the classical way but I would never squeeze through the needle's eye of e-democr@cy. But our children will make it. The next generation will be of the gamers, the torrents and the bloggers who will cyber-govern in the era of e-democr@cy, and it is preparing for its time right now.

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