

## **Voluntary delegation as the basis for a future political system**

**Abstract.** This paper describes a hybrid of direct democracy and representative democracy, in which citizens can vote directly if they wish, and name a representative (or ‘proxy’) of their own choosing otherwise. These provisions follow from the premise that, in a democracy, representation should be voluntarily sought by voters rather than imposed by the electoral system. Here I develop this simple but powerful premise into a set of blueprints for a fully functioning system of government. Alternative provisions are developed for the case in which internet-based voting is used, and the case in which it is not used. Several innovative ideas are introduced throughout, such as the use of ‘virtual committees’, and a provision for continual consideration of issues.

### **1. INTRODUCTION**

It is commonly believed that large democratic nations must choose between direct democracy, which is strongly democratic but highly impractical, and representative democracy, which is practical but only weakly democratic. If this were so, it would be an extremely important and somewhat depressing fact that would have sweeping implications for the future of human societies, but, perhaps surprisingly, it is not so. Over the years a few scholars and hobbyists have been quietly aware that a highly plausible middle-ground exists between these choices, which may bring together many of the best elements of direct and representative democracy, saving us from having to rather unpleasantly choose between them.

It’s true that if our system allowed only for direct votes and not for any representation at all, it would most likely be a mess. If everyone studied enough to learn everything they needed to know about every political issue, then people would have time for little else, and we’d be wasting massive amounts of time in duplicated effort. Or, if everyone voted, but most people didn’t take the time to learn about the issues, then the results would be highly random, and/or highly sensitive to overly simplistic public relations campaigns. Or, if only a few people voted, then many demographic and ideological groups would be either over-represented or under-represented.

So, it is clear that some form of representation can be extremely helpful to the political process, but here is where the standard thinking leaps one unnecessary step too far. Rather than imposing representation on the citizens, we can instead allow citizens to appoint representatives voluntarily. This ‘voluntary delegation’ differs from standard representative democracy in two distinct but related ways: The first is that citizens retain the option of voting directly, and the

second is that citizens may choose their own representatives (or ‘proxies’), rather than being forced to accept the winner of an election as their representative. Thus, in functional terms, a voluntary delegation system is a direct / proxy voting system.

Standard direct democracy, which includes no representation at all, is sometimes referred to as ‘pure’ democracy, but it should not be viewed as ‘more democratic’ than a system that includes voluntary delegation. That is, under voluntary delegation, citizens still have the same direct voting option that they would in a standard direct democracy; the delegation option doesn’t remove this power from voters, but rather gives them more potential ways to use it. Delegation can be seen as a transfer of power to representatives, but it can also be seen as a transfer of information (about how to vote) from representatives to citizens. A good direct / proxy voting system makes this kind of communication as efficient and seamless as possible, so that, with minimal cost, each voter can access the preferences of other people who share similar values but who are better-informed. Thus, even when people are not fully informed on a given issue, the vote that they end up casting should tend to be quite similar to the vote that they would have cast if they had been fully informed.

Compared with most existing direct democracy systems (such as the propositions, initiatives, and referendums used in some U.S. states), this system would be radically non-arbitrary, intelligent, and coherent (because people would have more information behind their votes), and thus it could handle vastly more issues without becoming chaotic. Compared with most existing representative democracy systems, it would be radically democratic, returning to citizens their sovereignty over the political process.

Miller (1969) gives a visionary early description of a voluntary delegation system, but as noted in section III, and to a greater extent by Mueller et al (1972), many of the important details are left unresolved. This paper attempts a modern, comprehensive expansion of Miller’s proposal into a well-described and plausible democratic system, a task which, perhaps strangely, does not seem to be achieved elsewhere in the academic literature.<sup>1</sup>

The remainder of this paper is organized as follows: section 2 reviews related work, section 3 proposes a voluntary delegation system that uses online voting, section 4 proposes a variant that doesn’t use online voting, section 5 provides additional discussion and introduces further provisions, and section 6 concludes.

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<sup>1</sup> Alger (2006) describes a closely related system, but it is more in the tradition of Tullock (1967), in that it grants citizens their choice of representative, but does not include a direct voting option.

## 2. RELATED WORK

If the leap from having no representation at all to having traditional, ‘involuntary’ representation goes too far, why is it such a universal feature of democratic institutions? The most likely reason is that many of the features of a fully functioning direct / proxy voting system were not really practical in large societies until the advent of modern computing technology, a relatively recent development when one considers how long it usually takes for political institutions to change. Thus, in the late 1960’s, as people began to realize the power that computers would eventually have to re-shape society, the academic literature on these ideas leapt forward.

In 1967, Gordon Tullock devoted the last chapter of *Toward a Mathematics of Politics* to proportional representation. Aside from arguing the merits of proportional representation (PR) in general, he makes an original proposal for a type of PR that satisfies our second principle of letting voters choose their own representatives. In his proposal, every voter chooses a representative, and each representative has voting power equal to the number of votes he receives. People are allowed to vote for themselves, and even if no one else votes for them, they may serve as their own representatives and vote “by wire”, while watching a broadcast of the proceedings. Representatives’ pay and speaking time increase according to the number of votes that they hold, perhaps going to zero for those who fail to reach a certain minimum. Tullock observes, “Real world PR systems are normally much less radical than the one I have outlined above, but they can be taken as efforts to approximate the same results without the benefits of computers.” In other words, the choice-of-representation principle is essentially proportional representation principle, taken to a greater degree (and therefore many of the arguments both in favor and against proportional representation apply to voluntary delegation as well). Both aim to make the legislature resemble a microcosm of the voters, but a choice-of-representation system does so with greater precision. Metaphorically, it’s proportional representation with a finer grain or a higher resolution. Proportional representation systems are often evaluated in terms of how much disproportionality they allow, but Tullock’s primary proposal has a disproportionality of zero. Although it is possible in proxy systems to require voters to choose proxies from within their own geographical regions (as PR systems do when they use more than one multi-member district), such restrictions (which Tullock calls “artificial”) seem less consistent with the idea of

voluntary representation, and so in this paper we will assume that (for the purpose of national decisions, as opposed to state or local ones) the entire nation is treated as one district.

Tullock goes on to consider what to do when (for whatever reason) legislators must have equal voting weight. The first option he mentions is worth discussing in its own right, as it is much less well-known than single transferable vote (STV), and may fit naturally with various voluntary delegation schemes. This method was proposed in *The Principles of Parliamentary Representation*, which was published in 1884 by Charles Dodgson (also known as Lewis Carroll). It appeared again in the academic literature with Black (1969), and in later work by Forest Simmons and Warren Smith<sup>2</sup>, who named it “asset voting”. Dodgson’s proportional representation method begins with an election in which each voter chooses one representative. Each representative (with many votes or few) initially ‘owns’ the votes that he receives. Then there is a period of bargaining, during which these votes are gathered together into Droop quotas<sup>3</sup>, which, by agreement among their initial owners, are awarded to specific people, one person per seat, and one seat per person. As Tullock colorfully puts it, those with enough votes for more than one seat can award the extra seats to their “stooges”. This method is similar to STV in that both provide for the re-investment of surplus votes and votes given to doomed candidates. The key difference is that whereas STV uses voters’ ranked ballots to determine where these extra votes go next, Dodgson allows voters’ first choice candidates to manage them. Thus, Dodgson has the advantage of a simple ballot and a simple counting mechanism, at the expense of possibly misrepresenting some voters who don’t agree with their favorite candidate’s choice of whom to donate their vote to.

So far we have seen some early examples of the choice-of-representation principle (which is a logical extension of PR), but not the direct-voting-option principle. The latter appears in James C. Miller III’s 1969 article, “A Program for Direct and Proxy Voting in the Legislative Process”. Miller, too, is inspired by the promise of technology. He writes:

One marvels at the advancing technology of electronic computers, indicating devices, and recording equipment. Some, in fact, have predicted that within 20 or 30 years every home will have a console tied into a computer upon which the children do their homework, the housewife will make out her grocery list, and the husband will pay the family’s bills. Such a computer console also

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<sup>2</sup> For example, see Smith (2004).

<sup>3</sup> A Droop quota is equal to  $\frac{V}{S+1} + 1$ , when  $V$  is the number of voters and  $S$  is the number of seats in the legislature. Let this be the minimum number of votes that each candidate must have to be assured of a seat.

could be used to record political decisions, giving each voter an opportunity to cast his ballot on every issue and have it recorded through the machine.

Gender role issues aside, Miller's proposal is visionary. It is a true voluntary delegation system in that it allows for both a direct voting option and an unrestricted choice of representatives. Voters are able to vote independently on all issues, to "delegate proxy" to someone else on all issues, or to vote independently on some issues and to delegate proxy on others. (Miller notes that this proxy option is similar to stockholder voting systems in large corporations.) Since voters can change their proxies at will, those who serve as representatives may see their voting power fluctuate on a day-to-day basis. Miller proposes that "those 400 representatives having the most proxy votes for the House would sit in the House, and those 100 having the most Senate proxy votes would sit in the Senate", although he does not comment on the possibility of overlapping membership between the two. Miller's proposal also has the novel feature of adjusting citizens' voting weight for the purpose of Senate votes, so that each state has equal voting power. (For example, a voter residing in Wyoming would have vastly more clout than a voter residing in California.)

Shubik (1970) is a response to Miller (1969). Shubik felt that advances in computer technology would lead to a system similar to Miller's "in the next ten to twenty years". (Forty years later, it is interesting for us to ask why this hasn't in fact happened!) Shubik isn't entirely negative about Miller's proposal, which he calls the "instant referendum", but he does express some reservations. In particular, he is concerned that the political process might speed up to the point where those who "both think and read about political problems", but are not part of the political elite, will no longer have enough time to influence those who vote but don't spend substantial time or effort thinking about how they will vote. To prevent this, he suggests that "any referendum be put to the public twice with a time lag of not less than six weeks between the two pollings."

Mueller et al (1972) use the Miller-Shubik discussion as the context for their own proposal for "representative democracy via random selection". They correctly point out the difficulties with a 'pure' direct democracy (i.e. the impossibility or undesirability of all voters becoming fully informed on all issues), but perhaps they neglect the potential of Miller's 'proxy politician' feature to efficiently manage the division of political labor. Nonetheless, they do not dismiss

Miller's proposal, but rather suggest that it should be given more detail, and included in future discussions about alternative political systems.

As for their proposal to select legislators from the population at random, one drawback is that, if some people are in any way inherently 'better' than others at being legislators (for example, more intelligent or socially concerned, better at generating or recognizing sound policy ideas, etc.), it does not give these people any greater probability of becoming representatives. Obviously, a system based on elections has its flaws (for example, the process of campaigning may often give politicians an incentive to cater to narrow interests), but nonetheless we may hope that the ability of elections to use information about the candidates' relative merits (based on the aggregate of the voters' opinions) can more than compensate for these flaws. It's true, as the authors point out, that their system delivers a kind of ex-ante democratic equality, but for some of those people who are not randomly selected, the reduced opportunities to participate in the political process might be quite discouraging, even alienating. However, using this random selection method not to replace the regular legislature but rather to serve in an advisory capacity (which is one of the authors' suggestions) would at the very least be an interesting alternative to traditional opinion polls, and as such would probably be a worthy experiment.

In his 2006 article, "Voting by Proxy", Dan Alger takes as his inspiration Tullock (1967) and the science fiction author Robert Heinlein, who describes a kind of proxy voting scheme in *The Moon is a Harsh Mistress*. Alger's proposal, like Tullock's, doesn't provide for a direct voting option, but rather describes what can be thought of as a highly advanced system of proportional representation. Alger's proposal is broken into three cases: (1) He first discusses a simplified scenario in which the set of representatives is already fixed. Citizens then vote for their favorite representative, and the representatives' voting weights in the legislature are determined by the number of votes they receive. (2) Second, he drops the assumption that the representatives are already known. He proposes an election in which voters submit ranked vote for candidates. The candidates then have voting weight equal to the number of first-choice votes received. After observing how many votes they received, candidates may opt to resign their candidacy, in which case citizens' votes are passed along to their next-ranked choices. Like Tullock, Alger allocates debate time and other privileges according to the number of proxies held, and he suggests that those with proxy holdings below a certain threshold wouldn't be given seats in the legislature, but rather would be given the opportunity to watch the debates and vote electronically. (3)

Alger's third case is like his second, except that representatives are no longer able to cast votes remotely, which means that the number of representatives must be limited, which in turn means that there must be a provision to eliminate candidates who do not wish to resign voluntarily. He suggests eliminating the candidates with the lowest Borda scores, or counting the votes in rounds, and eliminating the candidate with the lowest Borda score in each round. Of course, another alternative would be to eliminate the candidate with the lowest plurality score in each round, which would make the procedure similar to STV, but without any transfer of surplus votes. This may be more consistent with the goal of proportional representation, as voters who are already represented by an elected candidate would not affect the choice of which other candidates to eliminate. For example, if there are four candidates ( $A, B, C, D$ ), three available seats, 66 voters who vote  $A \succ B \succ C \succ D$ , and 34 voters who vote  $D \succ C \succ B \succ A$ , then either of Alger's methods will choose the set of representatives  $\{A, B, C\}$ , whereas STV will choose the clearly more proportional outcome  $\{A, B, D\}$ .

In addition to making these proposals, Alger provides valuable analysis. For example, he shows that in a simple model, voting by proxy maximizes both the closeness (in a one-dimensional issue space) of voters to their representatives, and the closeness of the legislative outcome to the median voter (subject to the constraint that the representatives' positions are fixed). He argues that the robust competition among candidates will lead to better provision of constituent services relative to other systems. He points out that, in the case in which no candidates need to withdraw, voting by proxy possesses the highly unusual and desirable properties of having zero disproportionality and zero incentives for strategic voting. (That is, voters who simply want to be represented by their favorite candidate have no reason to vote strategically, although of course the legislative process itself may still involve strategic voting.)

In addition to what has been published in academic journals, substantial work on voluntary delegation systems has been produced in a less formal capacity, and much of it has been made available online. Lanphier (1995) proposes 'public elections' in which ballots are not secret, and voters can choose between representing themselves and appointing a 'steward'. Ford (2002) proposes a system of 'delegative democracy' that is akin to Tullock (1967) and Alger (2006), but with special attention paid to structuring of legislative committees. In Ford's system of 'weighted open forums', delegates who don't choose to participate in a given committee may re-delegate their voting power to someone else whom they trust, allowing for specialization. Green-

Armytage (2005) and Allen (2008) allow delegates to receive votes and re-delegate them to other delegates, creating what Allen calls a ‘delegate cascade’.

Practical applications of proxy / direct democracy systems are also being developed. The Demoex project is a Swedish political organization that fields candidates who pledge, if elected, to cast their votes according to the outcome of web-based polls that are open to general participation, thus attempting to informally introduce direct democracy into a representative democracy system. They succeeded in electing one representative to the municipal council of Vallentuna, Sweden<sup>4</sup>. Various software projects, such as Vivarto’s NetConference Plus, Votorola, and Adhocracy, have sought to implement proxy voting systems.

### **3. A PROPOSAL FOR VOLUNTARY DELEGATION WITH ONLINE VOTING**

#### ***3.1. Basic setup***

This section provides an outline of how internet-based voting can be used to construct a very sophisticated voluntary delegation system. Recall the core ideas: citizens can vote directly if they wish, and otherwise they can name a representative of their own choosing. Consider also that naming a representative for the purpose of a particular issue can be thought of in two ways: that is, we can think of the citizen transferring his voting power to the representative, or we can think of the citizen copying the representative’s voting decision onto his own ballot.

So, suppose that there are a number of issues to be decided at the end of a given time period.<sup>5</sup> As a citizen, I have an online account that allows me to view these issues and vote on each of them. Suppose also that a number of people (called ‘public voters’ or ‘model voters’) have chosen to publicly cast suggested votes on each of these issues, that is, to post them online for anyone to refer to, perhaps along with discussion forums and written or taped statements explaining the reasoning behind the votes.

Now, if I’m not sure how to vote on an issue, then rather than abstaining or taking a random guess, I can pick a public voter whom I trust and copy his vote onto my own ballot. For convenience, I should be able to simply enter the name of the public voter in a particular field; then the computer will copy his vote automatically to mine. After I do this, if the public voter decides to change his public vote before the end of the period, then my online ballot will update

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<sup>4</sup> See Ottesen (2003).

<sup>5</sup> To resolve Shubik’s concern, we can make this period long enough to permit ample discussion and reflection.

itself accordingly (unless I specify otherwise). Likewise, if I change *my* mind during the period, I can cast a different vote or indicate a different public voter as my proxy.

If I want to use the same public voter as the basis for all of my public votes, then I should be able to do this with a single command, rather than having to perform the same action separately on each of the different issues. The goal here is to minimize the cost to citizens with limited time to spend on voting.

Public voters can view each other's accounts, discuss the issues, and copy each other's votes. Like ordinary voters, they can choose to copy votes automatically, but the expectation is that they would tend to look at the issues more closely. In the sense that person *A* can use person *B* as a model while person *B* uses person *C* as a model, this proposal is similar to re-delegation schemes such as those included in Allen (2008) and Green-Armytage (2005).

### **3.2. Legislators**

Would the existence of this system completely obviate the need for professional, full-time legislators? Most probably not. They needn't be extremely powerful, but at some point there should be an elected group of people serving fixed terms in a chamber with a limited number of seats, who can take care of certain 'administrative' votes. That is, aside from perhaps deciding some of the non-controversial and/or time-sensitive matters, the legislators would also be important in terms of promoting coherency and clarity in the direct voting process itself. That is, their main task should be to coordinate the direct votes, and connect them together into consistent government policy. In other words, we stay closest to the spirit of voluntary delegation when the important, controversial, 'big-picture' decisions are made by the direct voting process, leaving mostly 'detail work' for the legislators to figure out, along with any other parts of the process that might prove particularly unwieldy when left to the direct / proxy voting process. Inevitably the legislators would have some power to shape policy outcomes, but not nearly as much as they do in traditional representative democracies.

So, if we do have fixed-term legislators in a fixed-seat chamber, how should those seats be allocated? This is already one of the best-studied public choice problems, and there are of course many different options, but some are more consistent than others with the theme of the overall proposal, which aims to provide very precise proportional representation. For example, assuming that we want the legislators to have equal voting weight, we could hold online elections at fixed

intervals, and use either Dodgson's proportional representation method or STV to allocate the seats. Note that as it would probably be difficult for voters to rank all of the candidates in STV, this should not be required. In fact, ranking them all should be quite unnecessary; as long as voters rank at least one or two people who end up getting seats, their votes will not be wasted. (Also, voters could rank some candidates, and then use a proxy to rank the others.)

As with other votes, citizens should be able to use public ballots to determine the votes they cast for legislators. If the legislative election method calls for a ranked ballot, like STV, then citizens could have the option of ranking as many candidates as they like, and then using a public ballot to determine their remaining rankings.

### ***3.3. Ballot types and tally methods***

Very few substantial social decisions can be reduced to a simple up or down vote. Therefore, in many cases it will be important to allow voters to express ranked preferences over an appropriately wide range of options. When majority rule is the goal, the tally method should be Condorcet-efficient, and in the case of a majority rule cycle<sup>6</sup>, the winner should be a member of the minimal dominant set<sup>7</sup>. There are a few voting methods that always choose from the minimal dominant set, such as Nicolaus Tideman's ranked pairs method<sup>8</sup> and Markus Schulze's beatpath method<sup>9</sup>. If it is considered acceptable to hold a sequence of votes on the same issue, then an alternative method would be to eliminate options that are not in the minimal dominant set after the first round of counting, and then to repeat the process until there is a Condorcet winner. In the interest of resolving persistent cycles, there should be further provisions for removing options between rounds. For example, human candidates would be given an opportunity to voluntarily withdraw their candidacy, while other legislative options would be subject to removal by their original authors. If no such voluntary withdrawals occur, and the cycles still persist, then a resolution method could be imposed, such as the successive elimination of the candidate in the minimal dominant set with the fewest first-choice votes.

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<sup>6</sup> A type of situation in which there is no Condorcet winner. For example, if *A* is preferred by a majority to *B*, *B* is preferred by a majority to *C*, and *C* is preferred by a majority to *A*, this constitutes a cycle.

<sup>7</sup> Also called the majority set, the Smith set, or the GeTChA set, in Ward (1961), Smith (1973), and Schwartz (1986), respectively. It is the smallest set of candidates such that every candidate inside the set is preferred by a majority to every candidate outside the set. When the set has only one member, it is the Condorcet winner. This is probably the most straightforward operational definition of majority rule in multicandidate elections when cycles are possible.

<sup>8</sup> See Tideman (1987).

<sup>9</sup> See Schulze (2003).

For majority rule when the options can be reasonably arranged into a one dimensional spectrum (and preferences can be assumed to be single-peaked), it should be sufficient to ask each voter to specify their preferred point, and select the median position. If proportional representation is more appropriate than majority rule for a particular issue, then some form of single transferable vote can be used as the tally method. Other ballot types are possible when appropriate for a given issue, for example, an up or down vote, a series of up or down votes, an approval vote, a cardinal (rating scale) vote, or a vote that combines two or more of these methods.

### ***3.4. Virtual committees***

When choosing a model for my votes, there may be no single individual who stands well above all the other public voters in terms of how much I trust him, and how similar I would expect his views to be to mine if I were fully informed. Thus I propose that I should have the option not only to indicate a single public voter whose vote I wish to copy, but if I prefer, to form a virtual committee from any number of public voters. The computer would then use their public votes to simulate a committee vote, and the outcome of this committee vote would determine my vote. (Note that the virtual committee idea is not quite the same as allowing a voter to divide his vote among several representatives, and thus casting separate fractional votes. However, if any voters prefer this option, then it might as well be made available as well; the more options voters have, the better.) If I liked, I should be able to assign different voting weights to different committee members. As with a single proxy, I should be able to name a ‘standing’ proxy committee that determines my vote on all issues that I haven’t voted on personally, rather than having to explicitly name each of the same committee members again and again on issue after issue.

If the issue is a simple yes or no question, then my vote will be determined by a simple majority of my committee. (In the case of a tie, a random tiebreaker could be used.) If the issue requires me to rank a number of alternatives, then my ranked vote can be aggregated from the ranked votes of my committee members using a majoritarian rule such as ranked pairs or beatpath, which both use Condorcet’s pairwise comparison principle to create transitive orderings. If the issue requires me to choose a point along a spectrum, then my vote will be the median of my committee members’ indicated points.

A simple mathematical way of representing the benefits of a virtual committee (relative to a proxy system that does not allow virtual committees) is as follows: My ideal point and my potential representatives' ideal points exist in a one-dimensional issue space, and I know that I view their positions with some error, a random variable with known distribution. Thus, from my perspective, each representative's true position is also a random variable with known distribution. (In this simple model, it's assumed that I know my own ideal point, but this is just to say that I know my own values in an abstract, ideological sense. Since I don't have knowledge of the particular issue at hand, I need the help of a representative to translate my values into a specific vote.) In this situation, I can often achieve a lower expected distance between my position and the position of my actual vote with a multi-member virtual committee than with a single representative.

For example, suppose that my ideal point is at  $x = \frac{1}{2}$ , and there is a representative whose true position I perceive as uniform random variable on the interval  $[0, 1]$ . My expectation of his vote is of course  $x = \frac{1}{2}$ , but my expectation of the Euclidean distance between his vote and mine is  $\int_0^1 \left| x - \frac{1}{2} \right| dx = \frac{1}{4} = .25$ . However, if my committee consists of three representatives whose true position I believe to be uniformly distributed on the  $[0,1]$  interval, then the cumulative distribution function of my vote (the probability that my vote will be less than  $x$ ) is  $3x^2 - 2x^3$ , and the probability density function is  $6x - 6x^2$ . (The general formula for the CDF given  $V$  committee members on the  $[0,1]$  interval is  $\sum_{H=0}^N \binom{V}{H} (1-x)^H x^{V-H}$ , where  $N = \frac{V-1}{2}$ , assuming that  $V$  is odd.) Thus, the expected Euclidean distance of my vote from my ideal point is  $\int_0^1 (6x - 6x^2) \left| x - \frac{1}{2} \right| dx = \frac{3}{16} = 0.1875$ . With a committee of five representatives with this same distribution function, the expected Euclidean distance would go down to  $\int_0^1 (30x^2 - 60x^3 + 30x^4) \left| x - \frac{1}{2} \right| dx = \frac{5}{32} = .15625$ , and so on, trending toward zero as the number of committee members increases.

An interesting added benefit of the virtual committee is that the computer could be programmed to notify me when the vote in my committee is at all close. For example, if I have formed a committee of nine members whose views tend to be similar to my own, but not identical to each other, and all nine members vote in favor of a certain proposal, then it is highly

likely that I would vote for it as well, to the point where it becomes less worthwhile for me to look into the issue. However, if the vote is five to four in favor, then it is less obvious that the committee is representing the view that I would come to on my own, and it becomes more worthwhile for me to investigate. (The exact degree of closeness required to generate a notification message could be customized.) Also, an issue with a close vote would be more likely to challenge me intellectually, thus providing added personal enrichment and fodder for discussion. Furthermore, investigating the issue might help me gain more insight into my committee members' thought processes, possibly leading me to remove some of them or give some of them more voting weight. Thus, forming a virtual committee can provide informational benefits that simply diving my vote among various representatives cannot.

Another potential benefit of virtual committees is that they might, to some extent, reduce the concentration of power in particular proxies. (Since individual citizens' voting power would in many cases be distributed among candidates, it's not unreasonable to imagine that voting power might be less concentrated overall.) Also, virtual committees might make for slightly more collegial relationships between proxies with relatively similar views. That is, if voters must choose only one, then similar candidates will have more incentive to attack each other politically (in order to protect their 'niche'), but if voters can put more than one on their committee, then this incentive becomes less intense. That is, although similar candidates can lead to some dilution of each others' individual influence, they don't as much threaten to push each other out of the process altogether, and thus it should be at least somewhat easier for them to focus on their common values and to work together.

### ***3.5. Continual consideration***

Voters' preferences change over time, and the set of living, adult voters in any given country changes as well. Policy issues may be decided by the legislative process and then remain in place well beyond the time when a new vote would yield a new result. In this manner, voters may go for decades – or even for their entire life – without being able to vote on an issue that is important to them, or to see it put to a vote in the legislature.

Without the use of computers, the number of issues that can be considered during a given time period is naturally limited by the number of votes that may be called during that period. However, with the use of computers, the possibility opens for a vastly larger number of issues to

be considered. Suppose, for example, that within a voluntary delegation system, an issue has been voted on, and an outcome has been decided. Rather than deleting everyone's vote on the issue, the computer can store all of them, and allow people to change their votes in the future if they like. If they were to do so, the computer would not only keep track of the changes, but would also continue to aggregate the votes together and continually re-calculate the winning option, which might change over time. When citizens died, their votes would be removed from the tally (though their public votes should remain for others' reference, if they were public voters). When new citizens reached voting age, a new account would open for them, and they would have the opportunity to vote on a myriad of still-active issues from the past. (Of course, they would probably want to start by indicating a single public voter or virtual committee to determine their votes on all these many issues; then they could further customize issue by issue at their leisure.)

Through all of this, the computer would continue to re-calculate the winning option. However, in the interest of stability, if the winning option were to change, it wouldn't mean that the policy would immediately change as well. Instead, the legislature should have some discretion in terms of delaying any official policy change until a period of public focus and discussion can take place. For example, suppose that the winning option happened to change on March 26<sup>th</sup>. The legislators might announce that the winning option as of noon on June 23<sup>rd</sup> (whether the new winner, the old winner, or another option again) would become the new policy. They would want to schedule it so that there aren't too many other issues that need to be decided at the same time, and they would want to actively call attention to this and other issues that are pending. This would give public and private voters alike an opportunity to check and consider their votes on the issue, and engage in discussion with other voters. Whatever was decided on the 23<sup>rd</sup> would then remain the policy for the time being, but if the winning option were to change again, then the legislature would eventually have to schedule it for another public discussion period at some point in the future.

Without continual consideration, if I as a private citizen feel strongly about changing an existing policy, I can try to lobby for either the legislature or a direct voting process to take up the issue, but in most cases I will not succeed, and no new vote will even occur. However, if a continual consideration system is in place, then I can take immediate action by casting my own vote, and then urging others to vote as I have. I can talk to friends or other people I meet, write a

letter to a newspaper, post a blog, organize a rally or a teach-in or whatever. Every single person whom I can convince to change their vote brings me concretely closer to my goal of changing the policy itself. In other words, continual consideration changes the relationship the people have with their government's laws and policies; fewer policies must be accepted as given, and more policies are subject to democratic action.

Of course, some issues are better-suited to continual consideration than others, as some government actions can't be easily undone. Also, there may be a point at which juggling too many issues at once becomes excessively difficult. Thus, the number of issues subject to continual consideration could be very large, or it could be relatively small, or it could be zero; this is a matter of political choice.

## **4. A PROPOSAL WITHOUT ONLINE VOTING**

### ***4.1. Basic setup***

In some cases, there may be legitimate reasons against casting votes via the internet. For example, there may be a risk of someone hacking into the system and casting fraudulent votes, or making private votes public. Also, some people may lack computer access or computer literacy. (The latter problem may be becoming less serious over time, and in addition it could be mitigated by ensuring computer access at libraries, and possibly by offering free classes on how to use the voting interface. However, it remains a legitimate concern.) The purpose of this section is to describe a voting system that is similar to the one described in the last section, but which substitutes the use of more traditional polling stations for online voting.

Of course, if the polling stations can be kept open all the time, then there is little need to make any changes to the proposal above, but if the cost of this is deemed too high, then we revert to a system in which the general public can only vote directly on specific voting days. In this case, the closest we can come to a direct voting option is to cram as many direct issue votes as possible into these voting days. Of course, we will want to use many of the information-transferring tools described above, so that the process is intelligent, non-arbitrary, and efficient.

That is, the voting machines would be computers capable of drawing information *from* the internet, but (for security reasons) the vote itself should probably be recorded and brought to counting locations by the polling place staff, rather than being cast over the internet. As in most

polling stations, the staff would use voter lists to prevent people from voting more than once, but the votes themselves would be anonymous.<sup>10</sup>

The system of public voters would work more or less as in section 3; people could create accounts on a specific web site, and record their public votes there in advance of the voting day. The computers in the voting booths would be capable of downloading this information directly, using a simple lookup feature. This would give the voters a number of options (as in section 3): They could choose to vote directly on each and every issue. They could choose to vote directly on some issues, and to copy from public voters or virtual committees of public voters for other issues. They could also choose one public voter or one virtual committee that would serve as the model for their entire ballot, thus reducing voting time to just a few moments, even if the ballot included dozens of issues. People could also use the public voter web site to store information for their own private use in the voting booth, with password protection and/or a fictitious user name to prevent others from reading it. This feature would allow anyone (not just public voters) to prepare their votes at leisure in their home, thus combining deep consideration with minimal time in the actual voting booth.

There is a basic tradeoff here between more issues (more democratic) and fewer issues (easier to keep track of, less time spent voting, and fewer computers needed), but the public voter lookup feature should make the system substantially more efficient than traditional direct voting setups, enabling a relatively large number of issues to be considered without prohibitive cost. However, even when the number of issues per session is large, many issues would have to be left up to full-time representatives, making them more important and powerful than in the section 3 proposal. Therefore, we will consider their role in the next subsection.

#### ***4.2. Representatives***

When voters show up to the polls on a voting day, in addition to voting directly on issues, they will be asked to name a representative, someone who can vote on their behalf when it is not voting day. This version of the proposal is further divided in two by the question of whether there must be a strict limit placed on the number of people who can ultimately serve in this capacity. In other words, can those who represent only a few voters, or who represent no one besides themselves, vote when it is not a voting day?

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<sup>10</sup> Note that anonymous voting of this kind would seem to preclude a system of continual consideration.

#### ***4.2.1. ‘Minor representatives’ and self-representatives are allowed***

This first case has the advantage of being more democratic, and more consistent with the idea of voluntary delegation. If I wish to serve as a representative, then I can have my name added to the ballot prior to the election (the list of candidates will probably be very long, but this problem can again be conquered by lookup tools), and I can vote for myself. If I have only my own vote, or only that plus a few others in addition, then it hardly makes sense for me to occupy a seat in the legislative chamber (unless it is a stadium, which would be odd). Thus, those representatives with relatively few supporters would have to use another means to cast their votes. Online voting should be allowable here, because a representative’s vote would be public, and thus easy to verify, so that fraudulent votes would be unlikely. (If online voting is still not allowed, then some kind of permanent voting centers could be established in population centers, but this restriction seems unnecessary.)

As for allocating the seats in the legislative chamber, once again Dodgson’s method and STV seem like natural choices. Votes should be divided into two categories, ‘plenary’ and ‘administrative’. The administrative category corresponds to the votes taken by the full-time legislators in subsection 3.2 above: they should be more procedural and detail-oriented than controversial. For the purpose of these administrative votes, voting weight should be on a one seat, one vote basis, for the sake of ease and speed. (Thus, representatives who didn’t hold a seat wouldn’t participate.) For the purpose of plenary votes, all representatives should be able to vote, and their voting weight should be equal to the number of votes they received in the last election.

#### ***4.2.2. Only a pre-determined number of people may serve as representatives***

If it is determined that only a set number of full-time representatives should be allowed to vote on policy matters when it is not a voting day, then the resulting system begins to look less like voluntary delegation, and more like a traditional representative democracy, except to the degree that policy is determined by the direct democracy process.

Since there would be no distinction between representatives with seats and without seats, it would be less useful to divide legislative votes into administrative and plenary categories. Thus, although systems like Dodgson and STV could once again be appropriate seat-allocation methods, it might be more interesting to explore variants that allow for differential voting

weights, so that disproportionalities in representation could be minimized. For example, STV can be modified so that surpluses are not transferred; instead, candidates with more than a quota's worth of votes simply keep the extra voting power. An analogous variation on the Dodgson scheme can be worked out as well: One at a time, the candidates with the fewest votes are eliminated, at which point they can donate their votes to whomever they like. In the meantime, other candidates can also donate votes to each other. The process ends when the candidates have been reduced to the desired number.

## **5. FURTHER PROVISIONS AND DISCUSSION**

### ***5.1. The information problem, revisited***

In traditional direct democracy systems and representative democracy systems alike, problems arise when many of the voters are not well-informed. Direct / proxy voting systems aim to allow voters who are poorly-informed on an issue to cast votes that tend to be similar to how they would have voted if they had been well-informed; now that we've described direct / proxy / voting systems in some detail, we can discuss how they might accomplish this goal.

So, suppose that I am poorly-informed on a given issue. If I know of someone who generally shares my values, and who is well-informed, then I can happily delegate to him, and my actual vote will tend to resemble my theoretical vote-if-informed. If I know of several people who share my values and who are well-informed, then I can put them on my virtual committee, and the expected deviation from my theoretical vote-if-informed should decrease even further.

What if, although I know of other people who share my values, I'm not sure who among them is well-informed and who isn't? Well, if I delegate to one of them, and he turns out not to be well-informed, then there is still a good chance that he will in turn delegate to someone else who shares his values (and by extension, mine), and who is well-informed. (Or perhaps he will delegate to someone who delegates to someone else, and so on; since each delegation step implies a trust and a set of common values, it is likely that the last person in the chain will represent me reasonably well.) If I form a committee of several people whom I know to share my values, and who may or may not be well-informed, then the chance of at least one of them either being well-informed, or delegating to someone who is, increases with the number of committee members. As long as my proxies and their proxies don't make random-guess votes, the votes of those who do happen to be well-informed should hold sway, and eventually determine my vote.

So far we've assumed that I know whether others (approximately) share my values, but is it possible that someone could fool me into thinking that they will represent my values when in fact they will vote according to a dramatically different set of values? Of course this is possible, but its actual frequency of occurrence should tend to be fairly limited. Consider that, instead of delegating to distant politicians whom they will rarely if ever meet, and whose views are in some cases purposefully obfuscated, voters can choose to delegate to people whom they know personally: well-educated and politically involved friends, family, community leaders, and so on. Although voters may of course choose to delegate to people whom they don't know personally, they can be very selective in doing so, choosing the people whom they deem most trustworthy out of perhaps thousands and thousands of candidates. Whereas it's difficult to keep track of every issue, it is arguably significantly less difficult for voters to keep track of the proxy or proxies whom they themselves have chosen, to make sure that they are not grossly misrepresenting their core values.

Whereas traditional representation typically requires voters to conglomerate into large political parties, which often have extensive hierarchies and multiple competing factions, voluntary representation allows groups of any size to take direct political action and to choose their own representatives. Thus, voluntary representation should help to foster the growth of organic political communities, composed of people who share common values and who wish to work together to achieve common goals. Members of these communities could both share their own thoughts and opinions with their chosen proxies, and provide information about their proxies to each other, which should further assure that their proxies represent them faithfully.

## **5.2. Executives**

This paper is primarily concerned with the legislative branch of government, but it should be mentioned at least briefly how our system might work in cooperation with an executive branch. The chief executive should be elected by popular vote, though delegation to representatives or committees may still be used in this vote. Other executive offices may be elected separately, appointed by the chief executive, or some combination of these two. In the interest of stability, executives should serve fixed terms. In the interest of democracy, executives should not be able to veto the decisions made by the legislative branch, but should rather concern itself with faithful execution of those decisions. (At most, the executive branch may be given latitude to delay the

implementation of new policies, but if the votes on those policies remain unreversed for a certain period of time, then the executive should eventually be compelled to implement them.)

### ***5.3. Protections for minorities***

In almost any democratic system, the potential for a tyranny of the majority is an issue, and this is no exception<sup>11</sup>. Thus, there should be a constitution that guarantees minority rights, and an independent judiciary that can strike down any decisions by the majority that violate these rights. In the interest of judicial independence, supermajority votes should be required for judicial confirmations, and judges should enjoy long (possibly lifelong) tenures of office.

### ***5.4. Bicameralism***

It is possible, of course, to use a direct / proxy voting system as the basis for one of two legislative bodies. Since this kind of body is designed specifically to be as representative as possible of the popular will, it is more consistent with democracy to make it the stronger of the two chambers, if a second chamber is insisted upon. For example, in a federal system, a secondary chamber could give equal representation to each state, but it could be limited to taking up-or-down votes on legislation passed by the primary chamber (as opposed to generating legislation on its own). It could be further weakened by constraining its members so that they would only be able to vote against a bill if they could demonstrate that it would put residents of their own state at a specific and unfair disadvantage, or encroach on the authority of their state governments. (If such strict constraints were followed, it may be appropriate to allow a voting bloc smaller than 50% to prevent final passage of legislation.) This kind of system would satisfy the function of guarding states' rights without creating excessive complexity or legislative gridlock.

### ***5.5. Legislative committees***

The legislative body may choose to create standing committees to focus on specific topics in depth and then make recommendations by majority vote. (For example, budget committees, armed services committees, foreign relations committees, and so on.) A ranked vote on committee membership can be taken through the direct / proxy voting system (whether online or

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<sup>11</sup> The closest thing to an exception might be a system of secession rights as described in Tideman (2004), but this brings up issues that are well beyond the scope of this paper.

on a voting day), or it can be taken by seated legislators. Committee members can be selected by STV (either a standard STV method, in which case members have equal voting weights, or an STV method without surplus transfers, in which case members have different voting weights), and the committee chair can be determined (for example) by a ranked pairs tally among members already selected. There is no need to require committee members to already be seated legislators. They can, alternatively, be experts in the field that the committee is concerned with. This would allow ‘specialists’ to play a more active role in the legislative process, rather than being entirely dependent on ‘generalists’, which is a goal stated in Ford (2002).

### ***5.6. Agenda setting***

The benefit of proportional representation is that political minorities are given a voice in the legislature, but if a majority coalition is able to control the agenda with an iron fist, then this kind of representation is of limited practical use. Thus, agendas should also be set according to a proportional logic. For example, each seated legislator should be able to bring a certain number of issues<sup>12</sup> to a vote in a given time period. Of course, the majority can add as many issues as they like beyond this, so long as they don’t bump others’ issues from the agenda.

The direct / proxy voting system can be used to generate issues as well. To qualify as a possible agenda item during an upcoming period, an issue may first be required to receive a certain number of endorsements, whether online (when online voting is used) or in the form of petition signatures (otherwise). Then, a ranked vote can be taken among these issues, and an STV tally can be used to determine which issues will make it onto the agenda.

Once the issues have been decided, a similar process can be used to determine which options will be considered for each issue. Different reform proposals may be generated, and if there is a desire to keep the number of options on the ballot in check, then once again some kind of proportional representation process can be used. (In this process, a null option could be one of the choices, so that the number of options wouldn’t always reach the maximum.) Again, when there are more than two options for any given issue, ranked choice votes should be taken, and minimal-dominant-set-efficient tally methods should be used to aggregate them, so as to satisfy

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<sup>12</sup> For the purpose of this discussion, let’s define an ‘issue’ as a topic for debate (for example ‘financial sector regulation’, ‘health care reform’, ‘carbon emissions restrictions’, etc.), and let’s define an ‘option’ as a specific plan, proposal, or course of action that can be taken with regard to a given issue. For each issue, the different options are defined as mutually exclusive, so that only one can be chosen.

the principle of majority rule. When it is possible to hold repeated ballotings on the same issue, then the method of successively eliminating options outside the minimal dominant set, as described in subsection 3.3, is most strongly recommended. The reason for this is that it should provide an opportunity to catch any attempt to manipulate the outcome using strategic voting.<sup>13</sup>

### ***5.7. Majority rule cycles***

As Alger (2006) observes, just as there may be majority rule cycles in the preferences of the voting public on particular issues, so too may there be majority rule cycles in a representative body constructed through a proxy method (or in any other kind of representative body, for that matter). When there is a cycle in the population's preferences, there is a fundamental, inevitable ambiguity about which outcome precisely is most consistent with majority rule, and when voters behave strategically, the resulting game is without a core, so long as a majoritarian voting system is used.<sup>14</sup>

There is of course no way to banish this fact from any voting system, but we can at least respond to it by preventing repeated votes on the same issue over and over (or, as suggested in subsection 3.5, requiring an interval of time before policies can be changed), and by avoiding consideration of issues in ways that are especially likely to lead to cycling, such as aggregating several issues into one vote when they can just as easily be considered separately.

### ***5.8. Demagogues and debates***

One of the more interesting criticisms of proxy systems is that they may allow irresponsible demagogues, such as ideologue media personalities, to gain more official power than they would otherwise enjoy. For one thing, whereas plurality makes it difficult to win an election when you are very far from the ideological center of your constituents, proportional representation systems do not share this constraint. To the extent that proxy systems offer more diversity and more exact

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<sup>13</sup> If there is a sincere Condorcet winner with respect to the voters' sincere preferences, and everyone votes sincerely except for a faction of people who prefer a specific other candidate to the sincere winner, then the sincere winner will certainly still be a member of the minimal dominant set. The existence of a cycle gives members of the majority who prefer the sincere winner an opportunity to examine the votes cast for signs of strategic manipulation, and if they find any, to adjust their votes so as to cancel it out and elect the sincere winner. It is not obvious that such investigation and reversal will always be successful, but at least there is an opportunity to attempt it, whereas if only a single balloting is taken and the result is binding, then there is a greater probability that strategic incursions will go unchecked, and thus a greater incentive to vote strategically in the first place.

<sup>14</sup> For each option, there is an alternative option that some majority prefers. This majority can cause the election of this alternative option, meaning that the original option cannot be a core equilibrium.

proportionality than most other proportional representation systems, we may expect to see more ‘fringe elements’ serving as representatives. Since there are few barriers to entry associated with becoming a candidate, some people who are already famous might be able to translate that fame into voting power, without the need to form a political party or spend further resources on a campaign. Thus, celebrities, extremists, and even ‘celebrity extremists’ could potentially become representatives.

This criticism can’t be completely dismissed, but it can be addressed. First, the primary goal of this system is to be as democratic as possible, that is, to give ordinary people direct control over the major decisions of government. Because people are fallible, the rule of the people can at times lead to unfortunate results, a fact which no political system can promise to cure. Second, even when political extremists do gain some voting power, they will not be able to pass politically extreme legislation, since bills need a majority to pass. Therefore, if people feel more satisfied, and more like their views are being heard, when they are represented by someone whom most people consider ‘outside of the mainstream’, then one shouldn’t always assume that this is a bad thing. The very things that make this possible, i.e., low barriers to participation and diversity of representation, can also be seen as extremely positive. In many cases, this diversity should lead to a public dialogue that is more robust and freewheeling than what is currently the norm, which could be extremely refreshing, and cause a great many more people to find the process engaging and interesting rather than stuffy and cynical.

Of course, the quality of discourse, and of democracy itself, depends not only on the system of formal political power, but also on the quality of the media, the education system, etc. If the media excessively empowers celebrities at the expense of ordinary citizens, then this fact will be reflected in the political system, to its detriment. If politically extreme groups merely preach to their own converted, then we’ll miss out on many of the benefits of diverse public dialogue.

Describing an ideal political media structure is beyond the scope of this paper, but clearly one of the key elements is that representatives of different political groups should have both an opportunity and an incentive to engage in substantive discussions with each other – discussions that go beyond grandstanding and towards finding compromise and common ground, and in the case of disagreement, identifying and in some cases challenging the fundamental basis of that disagreement.

To help this along, it might avail us to have a system in which every seated legislator (and perhaps even some large proxy holders who don't have seats) is required or at least strongly encouraged to participate in a series of one-on-one debates or discussions. For example, suppose that each legislator was asked to participate in five debates per year, with each debate lasting about two hours. For any given legislator, so long as more than five people wished to challenge them to debate (these people could be other legislators, or just regular citizens), these debate slots would be scarce, and thus once again it would make sense to use a proportional representation method such as STV to allocate them. (The use of PR rather than a majoritarian voting system would guarantee that, even if legislators were members of some kind of majority coalition, they still wouldn't be able to stack their debate schedule with comrades and thus avoid any real challenges to their views.) There would be no limit to the number of debates in which one person could serve as the challenger; thus, for example, in addition to the five debates in which they were themselves challenged, a single legislator might serve as the challenger in dozens of other debates.

As for the formats of the debates themselves, they should be organized by a politically neutral authority, and they should be performed with fact-checkers on site to keep the discussion firmly grounded in reality. Topics would be initiated by participants rather than by moderators; for example, each might have the opportunity to ask four questions of the other, and the discussion from each question would be given a period of fifteen minutes or so. Rather than having a limited time for each response, candidates should have a limited time to speak in each discussion period. This way, the participants can have something approaching a normal conversation, asking and answering questions, making short statements of just a sentence or two, and following specific trains of thought to the end, rather than giving lengthy speeches that only partially respond to each other, and leave most issues unresolved in the end. Participants should be allowed to pause their clocks – and the video coverage – to consider their replies and to ask questions of the fact checkers, but of course they shouldn't be allowed to have aides feeding them responses during these times. The videos of these debates, when completed, should be made available for free online. Compared to current presidential debates, which tend to be rather frustrating to watch, and which only vaguely approximate what one might call a substantive discussion, these debates should be quite engaging, and thus hopefully fairly popular with viewers.

Aside from such a system of debates, there are other ways in which voters' proxy selections might be based on merit and shared values rather than mere fame. For example, proxies who are especially full of good ideas, or who represent a particular community especially well, might gain support through word of mouth, social networking media, etc. It would also be quite straightforward to develop various algorithms that would recommend proxies to voters based on similarity to their own views. For example, I could vote directly on as many issues as I wanted, and the computer could show me a list of public voters, ranked according to how often they voted the same way as I did. This system could be further refined by allowing me to place different weights on the issues depending on their importance to me, to give acceptability ratings to other options besides the ones I chose, and so on.

### ***5.9. Proxy loops***

In some proxy voting schemes, there is the possibility of a loop, e.g. a situation where person *X* names person *Y* as his proxy, and vice versa. Provisions can be made for this, such as asking voters to submit a ranked list of possible proxies, but in the proposals introduced here, no such provisions are necessary. One might imagine that the use of virtual committees might create extra-complicated proxy loop issues, and in some cases this is true (though they are not tremendously difficult to resolve), but here they are mostly avoided because of the time dimension of the voting processes.

That is, in the polling station proposal described in subsection 4.1, the model ballots filled out by public voters would be completed in advance of the voting day, so they would not be able to form loops with votes made on that day. In the internet-based proposal described in subsections 3.1 and 3.4, private votes may track public votes but not vice versa, so no loops can be formed between the two. Public votes may draw from other public votes, but again the time dimension provides an opportunity to avoid accidental blank votes. At the beginning of the consideration period, when voting on an issue first becomes possible, all public votes are set by default to abstention. Thus, if I simply defer my vote to you and vice versa, then we will both still be abstaining. However, if one of us overcomes our laziness, notices that he is still abstaining, and then either votes on the issue directly or defers to someone else who has voted directly, then both of our votes will change accordingly.

Likewise, suppose that each of six people have indicated the other five as the members of their virtual committees. As long as none of them do more than that, they are all still abstaining. But if only one of them changes to a specific vote (call it choice *A*), then the other five will change to the same vote automatically (as their committees now have this one vote and four abstentions, so the one vote is decisive). Note that, after this point, if another member of this group changes his vote to choice *B*, the other five will still be voting for *A*, because those still using a committee will have committee votes of four to one.<sup>15</sup>

### ***5.10. Vote buying and privacy***

In all likelihood, it would not be especially difficult to prevent vote buying in any of the direct / proxy voting systems proposed here. Vote buying is only a plausible concern when the buyers of votes can verify that the sellers have cast their votes as agreed, so a system in which every citizen's vote (and/or their choice of proxy) was a matter of public record might increase the potential for vote buying, simply because there would be vastly more potential vote-sellers than in a standard representative democracy, which could make it more difficult for authorities to monitor and prevent such activity. However, this problem is avoided in our proposals, because they keep the votes of private citizens a secret. (In fact, even public voters can be given privacy in the casting of their own vote. For example, as a public voter I may cast my model vote for option *A*, so that anyone who indicates me as a proxy will vote for option *A*, and yet I may privately cast my vote for option *B*.)

Admittedly, the fact that there is a computer record of everyone's vote in the section 3 proposal does leave open the possibility that someone might hack into the system and make them public. If this is such a serious concern that it outweighs the added benefits of this proposal, then the section 4 proposal is recommended. In any case, however, the most straightforward way to prevent vote buying is to make it illegal, to enforce the law vigorously, and to severely punish those caught doing it.

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<sup>15</sup> If this result seems counterintuitive or unsatisfying, note first that this is a rather artificial, atypical scenario, and second, that more complicated count methods could be introduced, which would prevent the first person to make up his mind in this example from having more voting weight than the second person to make up his mind. For example, when any new person changes from deferring to his committee to voting directly, the computer could recalculate all the votes of the people who had him on their committee. If this sets up the need for further recalculations, then the process can iterate, and if these iterations don't converge, then votes can be cast fractionally according to the frequency with which they endorse each option, over a large number of iterations. In this example, such a method would cause the remaining four voters to vote half for *A* and half for *B*, with no need for more than one iteration.

### ***5.11. Political parties***

Like individual public voters, political parties and other corporate groups should feel free to prepare model ballots. Legislators and citizens alike should, of course, be free to join political parties as they wish, though nothing in the law should either require the existence of parties or compel a party member to obey his party's leadership. Since proportional representation systems tend to produce more parties than single-member-district systems<sup>16</sup>, proxy-based system should tend to further distribute political power to smaller parties and independents. As the number of candidates increases, the electoral rewards for negatively campaigning against one particular candidate should tend to decrease, which would hopefully lead to a more constructive political climate.

Although majority coalitions may of course form on specific issues, it is undesirable for a majority coalition to form for the duration of a legislative term, and then act in lockstep under a unified leadership, as this would fail to take advantage of the rich diversity that a proxy-based system can offer. Thankfully, the use of the direct voting option should help to undermine such rigid coalition formation, as it would not be possible to force millions of independent voters to toe a party line.

To an even greater degree than standard proportional representation systems, direct / proxy democracy systems should make the legislative process a microcosm of the electorate. Rather than encouraging voters to affiliate with one of two (or a small few) political parties, such a system would enable voters to make political choices that more fully express their individual views. When there is a spectrum from left to right, the political center should be able to hold sway. As voters' preferences change, this middle point could (and should) move a bit at a time, rather than shifting suddenly from governments dominated by the left to governments dominated by the right, and back, as is more common in two-party systems.

### ***5.12. Possible precursors***

Needless to say, a fundamental re-writing of the U.S. constitution to pave the way for a voluntary delegation system is not imminent. However, there are a number of more modest intermediate steps that might be more achievable within the (relatively) near future.

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<sup>16</sup> For example, see Lijphart (1999).

For example, governments that currently use referenda (for example, many U.S. states) could introduce computerized voting booths that have the ability to draw information from web sites where individuals and organizations could upload ‘model ballots’, thus creating something like the system described in subsection 4.1. Providing these voting computers might be costly, but they could make the direct voting process dramatically less arbitrary, which would in turn make it reasonable to address more issues with direct votes, and to allow voters to express ranked preferences on some issues rather than limiting them to simple up or down votes. Thus, direct democracy would become a more important part of the political process, and the process as a whole would begin to more closely resemble voluntary delegation. (Failing the introduction of such computerized voting booths, the creation of a social networking web site that allowed people to discuss upcoming votes, aggregate the opinions of proxy networks, and print convenient how-to-vote cards, could begin to provide some of the same benefits.)

Another possibility would be to begin with a non-binding version of the proposal<sup>17</sup>. That is, a direct / proxy democracy system could be set up either online (as in section 3) or through polling stations (as in section 4), allowing the people to directly address the most controversial and pressing political issues. Although representatives could choose to ignore the results of this non-binding direct vote, they might feel some pressure to go along with it, and at least they would have difficulty making vague statements like “the American people want *X*”, when the direct voting process shows a clear majority preference for *Y* over *X*. Also, the process could both foster and focus political discussion, and involve more people in the process, who might otherwise feel as though they had no way to make their voices heard.

Of course, the step towards voluntary delegation that is most immediately feasible is to adopt it for use by more local levels of government, and (perhaps more so) by organizations other than governments, such as unions, religious organizations, cooperative firms, cooperative housing, universities, and so on. This could at once provide the benefits of voluntary delegation to these organizations, and help to prepare for voluntary delegation to be implemented at higher levels of government.

## 6. CONCLUSION

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<sup>17</sup> This is similar to the way in which Mueller et al (1972) suggest that their proposal might begin with the creation of an ‘advisory’ body.

In conclusion, there is a highly plausible middle ground between having no representation at all, and ceding all legislative authority to politicians. By letting the people themselves decide precisely when and to whom to delegate their voting authority, we may hope to enjoy the best of both systems. To the extent that people are good at identifying representatives who share their values, and choosing when to vote independently, their votes will resemble those that would be cast in a direct democracy comprised of fully informed citizens, yet they will be decided on without the massive time costs associated with their becoming fully informed.

Because citizens retain a direct voting option, it is not difficult to argue that a voluntary delegation system would be ‘more democratic’ than a traditional representative democracy. Because citizens have the ability to draw voting information from a proxy or a virtual committee, those who don’t have time to become fully informed on any given issue may still cast a meaningful vote that reflects their values and interests; thus, it can even be argued that a voluntary delegation system is ‘more democratic’ than a traditional direct democracy.

Although it is commonly believed that a strongly democratic system must be massively inefficient and unworkable, we can now see that this is not true. For hundreds of years, the common citizens have allowed politicians to have the last word on most policy matters because it has been assumed that no viable alternative exists. Perhaps, before the advent of modern computing technology, this was largely true, but now that this alternative has emerged, we should begin to seriously re-evaluate whether such a dense concentration of power is appropriate for nations that call themselves democracies.

This is not to say that a more democratic process will always necessarily produce better policy; of course there is no guarantee that the will of the majority is infallible. And yet, on the other hand, it is not at all obvious that legislators in current representative democracy systems are uniformly wiser, better-informed, and more compassionate than either the citizens themselves or the people to whom the citizens may delegate their voting power in a proxy system. A great deal of work must be done both in theory and practice before we will be able to fully understand the consequences of voluntary delegation as a real political system, but at this point it would seem to have many advantages over existing systems, and few pronounced disadvantages.

At this point, voluntary delegation still remains a largely theoretical idea, so we may not see it living and breathing in the immediate future, but the idea itself is not dependent on any

particular political age. What we know now is that a much more democratic system is both possible and practical. If and when we are ever ready for it, it will be waiting for us.

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