Title
Median v. Bargain Democracy

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Median Democracy

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Abstract:

The median rule is implemented in a democracy by initiatives and referenda, special districts, and two-party competition. Alternatively, political bargaining is implemented by legislatures, comprehensive districts, and multi-party politics. Theory and experience suggests that median democracy is more stable and less susceptible to corruption than bargain democracy. Median democracy may provide part of the solution to problems of instability and corruption that plague some countries, especially in the third world. In these countries, bargain democracy, which aggregates intensities and can realize gains from trade, is too risky as the foundation of politics.

Robert Cooter[*]

Median Democracy[i]

I. Democracy's Worst Enemy

The modern state possesses monopoly power, including the power to make laws and collect taxes.[ii] Although the state necessarily possesses monopoly power, the politics that determines who controls the state can be competitive. In democracy, popular elections direct state powers, either indirectly through elected officials or directly through referenda. Democracy is thus a system of popular competition to direct the state's monopoly powers. The scope and breadth of political competition distinguishes democracy from other forms of government.

Unlike democracy, a ruling family (monarchy), a powerful individual (dictatorship), a priestly caste (theocracy), a vanguard party (communism), a dominant social class (aristocracy), or a self-perpetuating bureaucracy (autocracy) insulates itself from popular competition. Following the language of economics, these non-competitive forms of government can be described as different ways of monopolizing politics. Regardless of its form, political monopoly is the enemy of democracy.
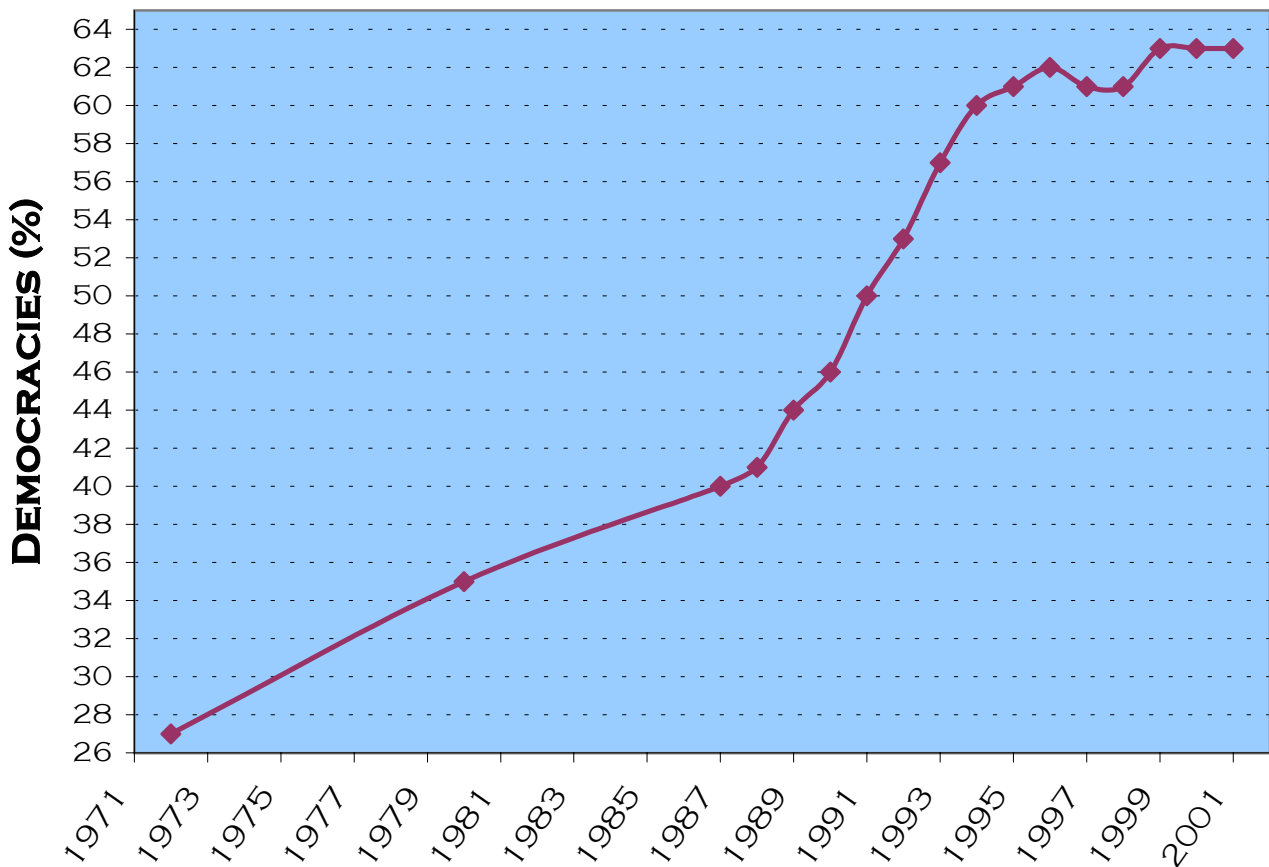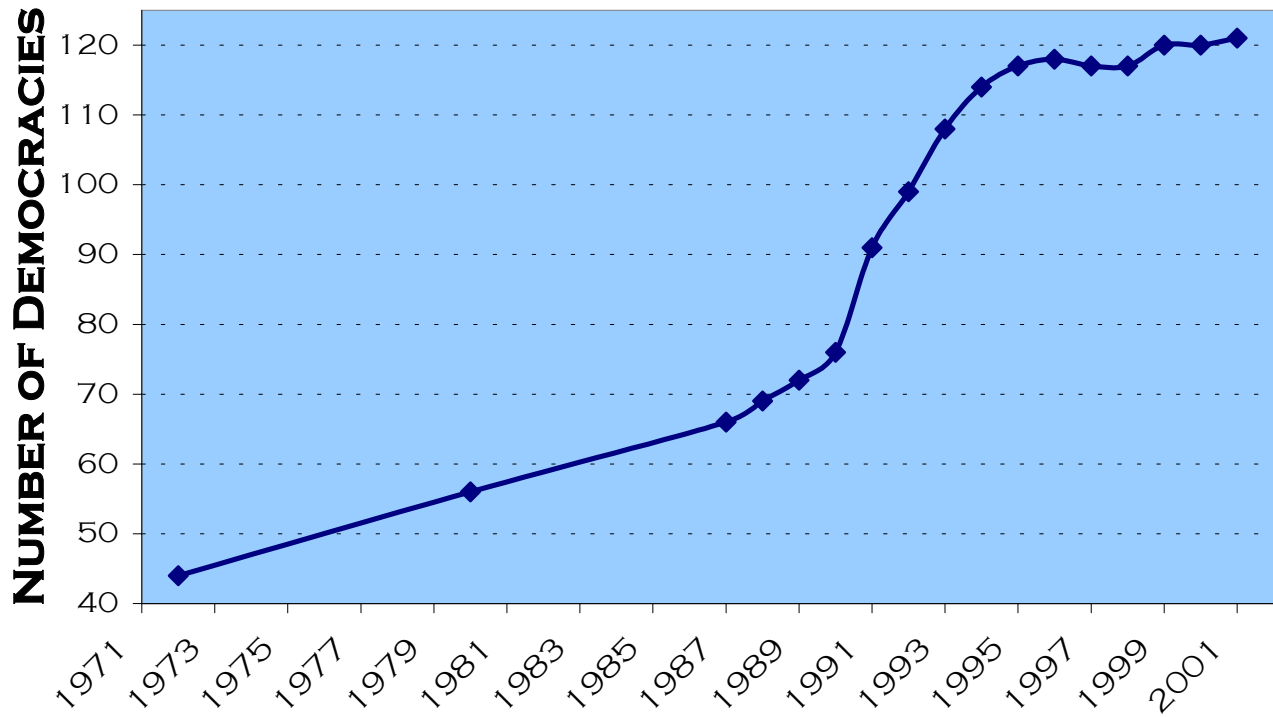
Monopolies typically provide their owners with exceptional profits at the expense of other people. As the most encompassing power within its domain, the state is potentially the most profitable monopoly for anyone who can control it and the most dangerous for everyone else. The dictators of desperately poor countries are often among the world's richest people while they remain in power. Great wealth and unrestrained power provide ample reason for ambitious people to undermine or overthrow democracy.

In the 20th century, democracy and dictatorship fought for world supremacy, especially in the northern hemisphere. The fight of the century is over and dictatorship lost. According to the Freedom House index, the proportion of democratic states in the world rose sharply between 1970 and 2000, from approximately 26% to 63%. (See the following figures.) At the beginning of the 21st century, the established democracies have no worthy opponents. Military and economic superiority secure democracy from outside, and superior ideas and ideology secure it from inside. Without hope for conquest, its enemies are reduced to terrorism. Aerial bombing of civilians failed to subdue their

spirits or paralyze economic life in the 20th century, and 21st century terrorism will also fail in these respects.

Figures 1 and 2

TRACKING DEMOCRACY

Number of Democracies (top chart, vertical axis 40–120; horizontal axis years 1971–2001)

Democracies (%) (bottom chart, vertical axis 26–64; horizontal axis years 1971–2001)

FREEDOM HOUSE

Nevertheless, democracy faces a massive challenge in the 21st century. The following table from Freedom House indicates that a minority of states in Africa and the Middle East are democratic. Furthermore, democracy in many states is tentative and fragile. Democratic forms often exist, but without institutions that sustain political competition.

Figure 3: Percentage and Total Number of Democratic and Non-Democratic Countries by Region, 2001.[iii]

	Africa	The Americas	Asia	FSU & CEE	Middle East
democracies	38% (33)	91% (32)	62% (24)	70% (19)	14% (2)
non-democracies	62% (20)	9% (3)	38% (15)	30% (8)	86% (12)

A criterion for identifying a good form of government is that experience with it strengthens the commitment of people to it.[iv] By this standard, democracy receives mixed reviews. To illustrate, as the British empire shrank, the English vigorously debated African independence, with anti-imperialists predicting that newly independent nations would flourish once freed from the colonial yoke, and neo-colonialists predicting that independence would degenerate into anarchy. I read these debates as a student in England when Uganda approached independence in 1962. On independence, the newspapers proclaimed that Uganda had an elected Parliament, prime minister, independent judiciary, peace in the streets and money in the treasury. The situation deteriorated rapidly as civilian politicians collided with the military. A shaky civilian government lasted until 1971 when Idi Amin staged a military coup, followed by orgies of violence. After Amin was overthrown by a Tanzanian army in 1979, the subsequent civil war has sometimes raged and sometimes simmered, but never entirely expired.[v] The anti-imperialist won the popular debate on Ugandan independence, but the neo-colonialists predicted the future.

Uganda is not typical in Africa, nor is it unique.[vi] In the decolonization process, the imperial powers tried to graft democracy on Africa's tree. With Freedom House currently counting 38% of countries as democratic, democracy is a minority form of government with an uncertain future in Africa.

South America offers an interesting contrast. Bolivar's revolutions displaced the colonial power in the first quarter of the 19th century. Since then, much of South

America experiences democracy and dictatorship episodically. A Brazilian friend once said to me: "In Brazil, democracy is never terminated but it is suspended from time to time." According to Freedom House, democracy is currently ascendant in South America. The civilian politicians, however, operate in the shadow of the military, whose turn may come again.

Why have democracy and dictatorship oscillated in Latin America? Each political turn in each country has its unique historical causes, but perhaps a pattern in political sentiment underlies the oscillations. In Ecuador, where the 20th century saw more periods of rule by military than civilians,[vii] a political scientist who conducted polls in the 1990s told me that approximately 20% of the citizens typically express a preference for dictatorship over democracy. These people apparently see democracy as unstable, corrupt, and inefficient, which is reason, whereas they think the right military leadership, dictatorship can correct these problems, at least temporarily. Military dictatorship, however, is power without legitimacy, which is the definition of tyranny. Tyrrany becomes less tolerable the longer it lasts. Perhaps democracy and dictatorship ebb and flow partly because the perceived importance of efficiency and legitimacy ebb and flow.

There is a theoretical reason, however, why democracy should provide more efficient government than its rivals. Competitive elections ideally make government respond to citizens much like competitive markets make the economy respond to consumers. In theory, electoral competition provides the best guarantee that the state will give citizens the laws and public goods that they prefer, just as market competition provides the best guarantee that the economy will give consumers the private goods that they prefer. The efficiency of competition and the definition of democracy as competitive government implies that democracy should be the most efficient form of government for satisfying the political preferences of citizens.

Unfortunately, the facts imperfectly confirm this prediction from theory. Democracy often fails to provide acceptable levels of efficiency, stability, and honesty in government. To illustrate, citizens everywhere want prosperity, yet econometric studies find democracy weakly associated with a nation's economic performance.[viii] While 21st century democracy is unrivaled for legitimacy, its inefficiency in some countries makes

democracy its own worst enemy. In so far as the enemy of democracy is democracy, the struggle for democracy must focus on improving its quality, so that it better satisfies the preferences of citizens for laws and public goods. In a remarkable change, organizations such as the World Bank and USAID have reoriented themselves to this problem. Instead of improving the economy's physical infrastructure by, say, building railroads and power dams, these organizations now give much weight to improving the legal infrastructure, such as courts and legislatures. More generally, Americans are now debating intensively the extent to which the US should engage in "nation building" abroad, and Americans naturally think that nation's must be built on the foundations of workable democratic politics.

What can social science tell us about improving the quality of democracy? Democratic constitutions have various forms, such as direct and indirect democracy, federal and unitary states, unicameral and bicameral legislatures, and president and prime minister. The scientific problem is connecting democratic forms to outcomes and performance. Making this connection, however, requires developing new concepts. To illustrate the process, from medieval times "consumption" referred to a disease that causes the body to waste away. In 1882 the cause of pulmonary consumption was identified as the tubercle-bacillus, after which the disease came to be called tuberculosis. [ix] Similarly, the name "croup" was replaced by "diptheria." As medical science progresses, replacing a familiar name with a scientific name directs attention to an illness's cause. In this paper, I propose such a development for the ills of democracy. The vocabulary for describing the forms of democracy should be supplemented by an analytical name, "median democracy." Improving the quality of democracy in states where it performs badly moving towards median democracy and moving away from its alternative, which I call "bargain democracy."

II. Median versus Bargain Democracy

Under certain conditions, electoral competition among parties causes their platforms to converge towards the center of the distribution of political sentiment. To be more precise, the winning platform in certain conditions is the one favored by the citizen who is the median in the statistical distribution of political sentiment (Black 1958). This proposition apparently explains the familiar fact that the candidates in American

presidential elections tend to adopt moderate positions on the political spectrum (Downs 1957). I describe legal and political institutions that empower the median voter and enable his preferences to control political outcomes as "median democracy."

This paper does not focus on technical matters, but I will explain briefly what can cause the median voter to prevail.[x] By definition, the median voter is situated with an equal number of voters farther to the right and an equal number of voters farther to the left. Consequently, the median voter can ally with the left to defeat any move to the right of his preferred position, and he can ally with the right to defeat any move to the left. So his preferred position must prevail. The precise conditions are often stated as follows:

> i. Voters face alternatives drawn from a single dimension of choice (e.g. left-right, or the amount of money to appropriate for a particular purpose).

> ii. The alternatives are put to the voters in pairs (e.g. the "status quo" against the "challenger").

> iii. Voting over paired alternatives continues until one alternative beats every other alternative ("equilibrium").

> iv. For any three consecutive points along the dimension of choice, no voter prefers the two ends points better than the middle point ("single-peakness").[xi]

In brief, the median rule is the proposition that the unique equilibrium in paired voting over a single dimension of choice among voters with single-peaked preferences is the most preferred point of the median voter.

Before discussing the implementation of median democracy, I turn to its main rival, which I call "bargain democracy." Whereas median democracy empowers the median voter, bargain democracy empowers the voters' representatives to bargain on their behalf. From this perspective, democracy looks like an application of the Coase Theorem. In its positive form, the Coase Theorem predicts that bargaining over legal entitlements under low transaction costs produces efficient outcomes. Applied to democracy, this proposition predicts that low transaction costs among constituents and representatives cause efficient political outcomes.

In its normative form, the Coase Theorem recommends adjusting the political and legal institutions of democracy to lower the transaction costs of political bargaining. To lower bargaining costs, the parties should be able to negotiate over the full spectrum of

issues. In contrast, implementing the median rule requires raising the transaction costs of bargaining across different issues. Recall that median democracy requires voting on one issue at a time. Consequently, implementing median democracy requires raising transaction costs of combining multiple issues, whereas facilitating bargain democracy requires lowering the transaction costs of combining multiple issues. I will refer to separating issues as "factoring" and combining issues as "splicing." Later we will analyze two ways to factor or splice issues in politics. Specifically, issues are factored by referenda and special districts, and issues are spliced by legislatures and comprehensive governments.

Now we explain the characteristic outcomes of median and bargain democracy. First consider stability, which is a notorious problem in voting. Arrow's impossibility theorem, and other theorems inspired by it, demonstrate that voting tends to cycle under a large variety of procedural rules.[xii] Median and bargain democracy represent two different ways to overcome this instability. Median democracy proceeds by factoring issues into separate dimensions of choice. Voting on each issue separately empowers the median voter.   The preferred point of the median voter on each dimension of choice is a stable equilibrium.

Bargaining confronts the problem of instability in a different way. A voting cycle is an undesirable outcome. From the perspective of bargain, cyclical voting is a non-cooperative outcome of the game of politics. The Coase Theorem suggests that politicians will avoid cycling by implementing bargains when transaction costs are low. Specifically, the voters will bargain over alternatives, reach agreement, and trade votes to implement it. A cooperative outcome involves a consensus vote to embody the bargain in legislation.[xiii] The earmarks of bargain democracy in the legislature are the enactment of omnibus bills by large majorities.

A theoretical reason exists, however, for thinking that political bargaining will be unstable. In bargaining, the obstacle to creating a surplus by cooperation is the need to agree on its distribution. Rational self-interest does not dictate how to distribute the surplus. Instead of resting on pure rationality, agreement over distribution rests on reasonableness and social norms. Unreasonable politicians and unfortunate social norms can thus obstruct bargains.

Independent of unreasonableness or unfortunate norms, majority rule has an intrinsic feature that undermines bargains. Any majority has the power to redistribute state funds from the minority to itself. If players are symmetrical, however, anyone in the minority can offer a deal to split the majority. This fact destabilizes every possible coalition. To see why, assume that three voters, denoted A, B, and C, must distribute $100 among them by majority rule. Initially, someone proposes to divide the money equally: (A,B,C)=($33,$33,$33). A's counter-proposal is to share the surplus equally with B and give nothing to C: (A,B,C)=($50,$50,$0). A and B can implement A's counter-proposal under majority rule, and A's counter-proposal makes A and B better off than the initial proposal. A coalition is *blocked* if another coalition can implement a distribution that is Pareto superior for its members.[xiv] So A's counter-proposal blocks the initial proposal. However, A's proposal is blocked by B's counter- proposal to distribute the surplus (A,B,C)=($0,$75,$25). It is not hard to see that *any* proposal is blocked by another proposal.

By definition, the *core* of a game is the set of unblocked distributions. Since every proposal is blocked by an alternative, the majority rule game of redistribution has an empty core. Each member of a potential coalition may demand his marginal contribution to it as the price of joining, and satisfying these demands is infeasible.[xv] Even though satisfying all the demands is infeasible, each of the demands may be credible.[xvi] Games with an empty core are usually unstable. Consequently, the distributive element in political bargains can cause instability. Indeed, both Aristotle and Madison shared the opinion that poor people, if sufficiently numerous in a democracy, would use majority rule to redistribute wealth and destabilize the state.[xvii]

These observations bring perspective to the Coase Theorem. "Transaction costs" ordinarily refers to such things as searching for partners, spending time negotiating with them, and spending effort on monitoring agreements. Lowering the cost of communication among legislators, however, may do little to remedy the cause of unstable coalitions among them. The obstacles to stability in political bargains -- unreasonableness, weak social norms, or an empty core – bear little resemblance to the usual types of transaction costs. Later we argue that bringing stability to political bargaining requires competition among a small number of disciplined political parties.

For now we note that theory suggests that median democracy will be more stable than bargain democracy, especially absent two-party competition for office.

Having discussed stability, we turn to efficiency, by which I mean the satisfaction of voters' preferences. A problem of voting concerns intensity of sentiment. Democracy gives equal weight to all votes, regardless of how strongly the voter feels about the issues. From an efficiency perspective, however, more weight should be given to intensive preferences. To illustrate, assume that the chairman of a three-person committee asks each member to write his or her vote on a slip of paper. When the slips of paper are collected, the chairman reports, "I have two slips marked `Yes' and one marked `No, No, oh please, please No!'" Majority rule gives equal weight to a bland "Yes" and a passionate "No."

The unresponsiveness of majority rule to the intensity of feeling about issues causes its inefficiency. Being unresponsive to intensities, the median rule is not generally efficient by the cost-benefit standard. (Under a very special assumption involving symmetrical preferences, however, the median rule is cost-benefit efficient.[xviii]) Asymmetrical distribution of intensities aggravates the median rule's inefficiency.

Unlike median democracy, bargain democracy responds to the intensity of sentiment in striking political bargains. A bargain creates a surplus when each person gives up something that he values moderately in exchange for something that values intensively. Thus political bargains pose this problem: Political bargaining is unstable. When it succeeds, the aggregation of intensities increases the efficiency of collective choice, and when it fails the resulting instability harms the citizens.

Median and bargain democracy resemble the comparison between safe and risky stocks. Like a safe stock, median democracy provides relatively stable results. Like a risky stock, bargain democracy can provide substantially better or substantially worse results than median democracy. The safer bet is median democracy.

The agency problem in politics strengthens this conclusion. In representative democracy, citizens elect officials to represent them. Officials who are faithful agents pursue the best interest of their constituents. In practice, however, citizens have limited information about their representatives, so citizens have difficulty rewarding or punishing officials according to how faithfully they pursue the voters' best interests. Consequently,

elected officials are likely to bargain and vote in ways best for themselves rather than their constituents.

Median democracy ameliorates the information problem by eliminating strategic voting, whereas bargain democracy aggravates the information problem by causing strategic voting. To illustrate, assume a legislature considers bills A, B, and C. Further, assume the constituents of a particular representative favor all three bills, whereas the representative personally favors A and opposes B and C. If there is no bargaining across bills, the representative can reveal his faithfulness to his constituents by voting for all three bills, or else reveal his faithlessness by voting against B and C. If there is bargaining across bills, the representative may claim that, while he actually favored all three bills, he had to vote against B and C in order to secure enough votes to enact A. His constituents will need a lot of private information about legislative bargaining to assess the truth of this claim. Strategic voting easily deteriorates into political corruption. Simply stated, the agency problem refers to the fact that what is best for politicians may not be best for citizens, and strategic voting obscures the difference by confusing public-interest bargains and rent-seeking bargains.

The following table summarizes our comparison between outcomes under median and bargain democracy.

Figure 4: Outcomes of Median and Bargain Democracy

	stabitity	efficency
Median Democracy	yes	intermediate
Bargain with Cooperation	yes	high
Bargain with Noncooperation	no	low

III. Referenda

Now I turn from theory to implementation, beginning with referenda. The direct vote of citizens has so much legitimizing force that many states use referenda occasionally to decide large, constitutional issues. In contrast, I focus on referenda as a device of ordinary politics. Unlike the federal constitution, 22 of the US state constitutions allow referenda, which may arise on the initiative of voters who gather the requisite number of signatures. From 1950-1974, states adopted only 279 initiatives, but

in the succeeding 25 years, they adopted 929.[xix] In a dramatic reorientation of politics, referenda have become a normal part of California politics, deciding small and large issues from consumption of horsemeat to affirmative action in state institutions.

Most constitutions that permit referenda restrict them to a yes-or-no vote on a single issue.[xx] To illustrate, of the 22 US states whose constitutions allow referenda, 17 have a single-issue rule.[xxi] Thus Californians might be asked to vote "yes or no" on restricting abortions and "yes or no" on capital punishment, but the law precludes Californians from being asked to vote "yes or no" on restricting-abortion-and-restricting-capital-punishment. In legislatures the members often bargain, compromise, and draft a single bill that combines different issues. In contrast, rules restricting ballot initiatives to a single issue give different groups little incentive to bargain or vote strategically. A practical reason compels restricting each ballot initiative to a single issue. Logrolling, which combines issues in a single vote, requires bargaining and bargaining among different groups requires representation. Ballot initiatives bypass elected representatives. Thus a multiple-purpose ballot initiative invites bargaining without any framework for it.

The distinction between median and bargain democracy predicts some consequences of supplementing legislation with referenda. First, when citizens vote their preferences on a single dimension of choice, the median usually prevails. Referenda should yield outcomes favored by the median voter on each issue, and preclude expression of intensity of sentiment by citizens on different issues. Second, referenda should lower the information barriers to the expression of political preferences by citizens. I looked for these points when I read legal cases involving disputes over referenda in the states. Constitutional provisions allowing referenda in US states typically came out a populist tradition emphasizing citizens' control and distrust of politicians. Judges recognize that referenda lower the information barriers for citizens to influence politics. However, judges showed no awareness of the tradeoff between empowering the median voter and blunting the expression of intense political sentiment. Indeed, judges wrote obscurely as if majority voting across multiple issues generally has an equilibrium that democratic politics should try to find.

Along with California, Switzerland is the place where referenda are a continuing aspect of ordinary politics. The best empirical research on the effects of referenda comes from Bruno Frey and associates. Differences in cantons and changes in time provide sufficient variation for econometrics tests of the effects of referenda. Among their findings are that more use of referenda results in better informed voters, lower public debt, lower salaries for public officials, higher tax compliance, and (most surprisingly) a higher level of self-reported happiness by citizens.[xxii]

Underling these findings is the belief direct democracy satisfies voters' preferences and checks the tendency of indirect democracy to form political cartels that blunt electoral competition and frustrate the preferences of voters. For example, the spectacular disclosure of corruption among leading Italian politicians in the 1990s suggests that citizens had little influence over deals struck by their representatives. An opaque political process and proportional representation made Italian electoral competition relatively ineffective. In these circumstances, a change to direct democracy can break the political cartel.

Critics of democracy allege that the majority of citizens will vote to redistribute wealth from the few to the many. For example, if most citizens buy auto insurance, they will vote to cap its price. Or if most citizens rent houses, they will vote for rent control. Similarly, critics of democracy allege that racial or ethnic majorities will vote to exploit minorities. Any democratic system of politics, whether direct or indirect, requires protection of minorities, such as ethnic groups and wealthy people. Forms of protection include bicameralism and constitutional rights.[xxiii]

Critics of direct democracy allege that indirect democracy provides better protection of minorities. This proposition seems doubtful on its face. To illustrate, in the era of Jim Crow southern states oppressed African Americans through indirect democracy, not referenda. At the level of theory, there is no reason why minorities should stand in greater danger from direct democracy rather than indirect democracy. Direct democracy factors the issues. After factoring, the minority on one dimension of choice is seldom the same group of people as the minority on another dimension of choice. Any single person with complicated political views wins on some dimensions of choice and

loses on others. In general, factoring issues can dissolve large blocks of citizens and insure that everyone wins some of the time. In addition, all the non-median voters participate in determining the median voter. Thus everyone's preferences has an effect on the voter equilibrium.

In contrast, indirect democracy splices issues, which encourages citizens to coalesce into blocks in order to bargain with each other. When groups coalesce, some minorities may suffer permanent exclusion from the ruling coalition. This is especially true in a stable, two party system. In contrast, proportional representation guarantees representation of minority groups in political bargaining, at the cost of fragmenting parties and destabilizing politics.

A special feature of California politics reduces the influence of ethnic minorities in referenda. Direct democracy gives more weight to those citizens who actually vote, whereas indirect democracy gives more weight to the number of citizens living in a district. To illustrate, assume that poor people, vote at relatively low rates and live in poor districts. Indirect democracy apportions representatives by population, so the number of representatives from poor districts reflects the number of poor citizens, including those who do not vote. In contrast, direct democracy responds to the citizens who actually vote. Thus, in the preceding example where rich people vote at higher rates than poor people, direct democracy gives more weight to the opinions of rich people. This phenomenon may tilt California ballot initiatives in favor of older, conservative, white citizens.

Another special feature of US politics protects minorities in California referenda. In the California initiative process, the number of signatures required to qualify an initiative is either 5% or 8% of voters in a previous election, depending on whether the initiative proposes ordinary legislation or a change in the constitution. In practice, the difference is so small that California voters seldom notice whether or not an initiative proposes a constitutional change. These facts might undermine the ability of the California judges to use its constitution to protect minorities. However, California referenda must pass constitutional review in the federal courts, which have found some referenda affecting minorities to be unconstitutional. In general, the failure to entrench

minority rights against referenda is a dangerous feature of California's constitutional design that the U.S. constitution corrects.

Besides the legal obstacles, transaction costs currently limit the frequency of referenda. Specifically, electoral rules usually require the costly gathering of signatures to create a ballot initiative, thus limiting the number of referenda placed on the ballot. In the future, however, technological developments such as collection of signatures over the Internet and electronic voting could dramatically lower the transactions cost of direct democracy. With lower costs, the pace of referenda will accelerate, thus forcing citizens to vote on a barrage of hopeless proposals and to decide close votes over and over again.

Is there a better means to ration referenda? Bonding offers an attractive alternative. According to this approach, supporters could place a proposition on the ballot by posting money bond with the electoral commission. If the proposition performed well in the election, the bond would be returned. Conversely, if the proposition performed poorly in the election, the bond would be forfeited to the state. For example, in lieu of 100,000 signatures, supporters of an initiative might post $100,000, which they would forfeit unless the initiative won, say, at least 45% of the votes.

Compared to collecting signatures, bonding reduces the transaction costs of direct democracy. Compared to cheap collection of signatures by Internet, bonding discourages frivolous or previously defeated initiatives. By bonding ballot initiatives, constitutional law could reduce the velocity of direct democracy without stopping it or imposing unnecessary costs. Note that some countries, notably New Zealand and the United Kingdom, already require candidates for Parliament to post bond that they forfeit for poor performance in elections. Also note that a market for bonds would allow poor groups to mount an initiative for a popular issue.[xxiv]

IV. Special Districts

Now I turn from referenda to special districts. Broad jurisdiction splices independent issues together like the strands of a rope, whereas narrow jurisdiction factors politics into independent issues like a mathematician dividing a large number into prime numbers. For example, citizens may elect a town council to control the police and

schools, or the citizens may elect a school board to control schools. Factoring jurisdiction between police and schools increases the number of governments and creates barriers to bargaining across issues, whereas splicing jurisdiction by putting police and schools under the town council reduces the number of government.

Sometimes a constitution factors, as when the town's constitution establishes an elected council and a separately elected school board. Alternatively, a constitution may allow for factoring without requiring it. For example, the constitutions of the U.S. states prescribe procedures for establishing special governments for such activities as parks, transportation, and water. Citizens can establish or abolish special governments by following the prescribed procedures. Alternatively, the constitution may limit or forbid factoring, as when the constitution prevents a branch from delegating authority or a government from ceding authority.

I have discussed clear-cut cases of factoring, but unclear cases often occur. To illustrate by the European Union, the ministers forming the Council of Ministers differ on different issues. Thus the Council may consist of the national ministers of agriculture to decide a question about farm subsidies, whereas the Council may consist of the national ministers of transportation to decide a question about railroads. The national ministers of finance, however, often dictate to other national ministers. Does changing the Council's membership according to the issue in question amount to factoring the issues? The answer depends on transaction costs of bargaining. European government is factored to the extent that the Council cannot effectively bargain across such issues as farm subsidies and transportation policy.

Reasoning by analogy with the private sector, proponents justify horizontal mergers in private firms based on "complementarities" that create "economies of scope". To illustrate, automobiles and cucumbers are unrelated products. Manufacturers of automobiles and growers of cucumbers, however, may face comparable labor regulations. Consequently, merging the manufacturer of automobiles and the grower of cucumbers might save total costs of regulatory compliance.

Similarly, the citizens under the jurisdiction of a government might have complementary tastes in public goods. To illustrate, consider an example with two citizens A and B, and two public goods X and Y. If A intensely wants X and feels

indifferent about Y, whereas B intensely wants Y and feels indifferent about X, then A and B have complementary tastes for X and Y. A and B can cut a deal to help satisfy their most intense desires. B supports A's efforts to obtain X, and A supports B's efforts to obtain Y.[xxv]

The scope of complements determines the potential gain from political bargains. When different political factions have complementary tastes for public goods, splicing lowers the transaction costs of political bargains, thus increasing the probability of a bargain and the size of the resulting surplus.

Citizens, however, may have non-complementary tastes. To illustrate, if A intensely likes X and B intensely dislikes X, then A and B have non-complementary tastes for X. The differences in preferences of A and B for X provide no basis for them to cut a deal. Given purely non-complementary preferences, politics becomes a game of pure conflict in which one player's win is another's loss. Redistribution is an issue over when citizens conflict. As discussed above, bargaining for redistribution or majority-rule redistribution is inherently unstable.

I have explained that splicing lowers the transaction cost of bargaining across issues, and successful bargaining across issues can increase the satisfaction of voters with complementary tastes. Splicing also increases the risk of failed bargains and circular votes. When spliced voting causes intransitivity, factored voting may improve the outcome by allowing the median voter to prevail on separate dimensions of choice. Median rule on separate dimensions of choice often satisfies the preferences of voters more efficiently than an unstable contest of distribution. Intransitive preferences in multi-dimensional choice may factor into single-peaked preferences on each single dimension of choice. In general, single-purpose government is like a safe stock with a modest yield, whereas multi-purpose government is like a risky stock that pays a lot or nothing.

To illustrate these points, I turn to a quantitative example. Assume that expenditure on police and schools are the two major political issues in a small town. Police and schools especially represent the two ways that government augments markets. Police are essential to secure property rights and enforceable contracts. Schools are essential to preparing people to participate in a modern, technological economy.

First consider splicing the issues of police and schools. A town council that decides both issues provides a forum for bargaining. If bargaining succeeds, council members who care intensely about police may trade votes with council members who care intensely about schools, so that each one gets what it wants most. If bargaining fails, the council members may waste resources in an unstable contest of distribution. Second consider factoring the issues. A town council that controls police and a separately elected school board that controls schools denies a forum for bargaining over the two issues. With bargaining obstructed and assuming single-peaked preferences, the median voter prevails on each dimension of choice.

Figure 5 sharpens the example with numbers. Assume that voters in a town are divided into equal numbers of liberals, conservatives, and moderates. Expenditure can be high or low for schools and police, with the resulting net benefits for each group of voters indicated in Figure .xxvi The liberals intensely prefer high expenditures on schools and mildly prefer the savings in taxes from low expenditures on police. The opposite is true of conservatives, who intensely prefer high expenditures on polices and mildly prefer the savings in taxes from low expenditures on schools. The moderates mildly prefer the tax savings from low expenditures on police and schools. The row labeled "total" indicates the sum of net benefits to the three groups.

Figure 5: Voters' Net Benefits

	school expenditures		police expenditures	
	low	high	low	high
liberal	0	11	1	0
conservative	1	0	0	11
moderate	2	0	3	0
total	3	11	4	11

Assuming majority rule, contrast the consequences of splicing and factoring issues in Figure . If the issues are factored, then 2 out of 3 voters (conservatives and moderates) vote for low expenditures on schools, so factoring results in low expenditures on schools. Furthermore, 2 out of 3 voters (liberals and moderates) also vote for low expenditures on police, so factoring results in low expenditures on police. Thus factoring results in low expenditures on schools and police.

If issues are spliced, the voters must choose among 4 combinations of public goods depicted in the columns of Figure . The net benefits to voters depicted in Figure are calculated from the numbers in Figure . For example, (low,high) indicates low expenditure on schools and high expenditure on police, which results in a payoff of 0 for liberals, 12 for conservatives, and 2 for moderates.

Figure 6: Voter Net Benefits from Combinations of Public Goods

Expenditures on Schools and Police, Respectively

	(1) (high,high)	(2) (low,low)	(3) (high,low)	(4) (low,high)
liberal	11	1	12	0
conservative	11	1	0	12
moderate	0	5	3	2
total	22	7	15	14

The numbers in Figure 6 can be used to deduce the winner in a vote between any two alternatives. If voters simply vote their preferences in Figure , without bargaining or trading, then an intransitive cycle results. Specifically, 2 of 3 voters (liberal and conservative) prefer (high,high) rather than (low,low). 2 of 3 voters (conservative and moderate) prefer (high,low) rather than (high,low). 2 of 3 voters (liberal and moderate) prefer (high,low) rather than (low,high). And, finally, 2 of 3 voters (conservative and moderate) prefer (low,high) rather than (high,high). As explained, column (1) beats (2), (2) beats (3), (3) beats (4), and (4) beats (1). Thus voting in Figure results in an intransitive cycle.

Figure 5 and Figure 6 illustrate the general principle that splicing dimensions of choice can cause intransitivity where none exists on any single dimension of choice. Instead of simply voting their preferences, however, splicing may cause the voters to bargain with each other and cooperate. Since liberals care more about schools than police, whereas conservatives care more about police than schools, they have complementary tastes and they could profitably trade votes. A platform calling for high expenditure on schools and police allows the liberals and conservatives to get what they want on the issue that each one cares the most about, as required for efficiency.xxvii

Stabilizing such an agreement requires the parties to abandon the majority rule game of distribution, which has no core,xxviii and cooperate with each other.

Whether comprehensive government or single-purpose governments satisfy the preferences of political factions better depends on the ability of politicians to cooperate. In general, splicing increases the gains from cooperation and factoring issues decreases the losses from conflict. Finding the optimal number of governments requires balancing these considerations. These facts suggest the prescription, "Splice when cooperation is likely and factor when conflict is likely."

V. Two Party Competition and Duverger's Law

(section to be completed)

VI. Conclusion

In the new century, democracy has no adequate enemy except itself. In much of the world democracy has failed to provide stability and efficiency at politically acceptable levels. To improve the quality of democracy, public debate should focus on relevant analytical categories. I have argued that the key concept is median democracy, which is implemented by referenda, special districts, and two-party competition. If this argument is correct, the gradual substitution of median democracy for bargain democracy might secure democracy against itself.

[ii] North makes the point concisely: "A state is an organization with a comparative advantage in violence, extending over a geographic area whose boundaries are determined by its power to tax constituents."(North 1981) at page 21, as quoted in (Voigt).
[iii] Freedom house…
[iv] Rawls discusses this point in his defense of the liberal state.   See Theory of Justice…
[v] Daniel Lubowa (Makerere University), THE CIVIL-MILITARY HISTORY OF UGANDA, Presented at the Conference on Civil-Military Relations, Nairobi, Kenya.

April, 1999 posted at
http://www.ploughshares.ca/content/BUILD%20PEACE/Lubowa99.html. Also see Govt
of Uganda's web site: http://www.government.go.ug/.

[vi] A useful precise for Uganda and other countries is found in CIA World Fact Book, at
http://www.cia.gov/cia/publications/factbook/geos/ug.html.

[vii] A thumbail history is in the Lonely Planet guide book, which I read during my visit to Ecuador.
[viii] insert cites.

> ### A. [ix] I rely on the Oxford English Dictionary for dates. A similar history applies to "coup" and "diphtheria" The name "croup" apparently originated in Scotland and referred to an inflammation of the larynx and trachea, marked by a sharp, ringing cough. The most fatal form of croup was identified and named "diphtheria" in the mid 19th century, and the baccillus causing it was also identified.

[x] There are many demonstrations of this proposition. See Black (1958), or, more recently, see Chapter 2 of Robert Cooter, The Strategic Constitution.(2000).
[xi] The crucial condition for this result is that each voter has single-peaked preferences. With single-peaked preferences, a voter's satisfaction always increases when moving towards the voter's most preferred point along the single dimension of choice. With multiple-peaked preferences, a voter's satisfaction increases at some point when moving *away* from the voter's most preferred point. To illustrate, some voters -- call them YUPPIES -- prefer a high level of expenditure on public schools, in which case they will send their children to public school, but, if the level is not high, they would prefer it to be low so they send their children to private school and save on taxes. The worst alternative for the YUPPIES is a moderate level of expenditure on public schools. I review these results in Chapter 2 of *The Strategic Constitution* (Princeton, New Jersey: Princeton University Press, 2000).
[xii] add references
[xiii] An independent judiciary plays an essential role in guaranteeing the bargain's integrity. See Landes and Posner, ….
xiv See the explanation of the core of a game in Chapter 1.
xv A member's marginal contribution to the coalition may be computed as the fall in the coalition's total value caused by the member quitting. (I apply the *Shapely value* of a coalition member. See (Luce and Raiffa 1967) at page 249.) With *increasing returns to scale (* super-additivity), however, cooperation does not create enough value for each member to receive the marginal product of membership, so paying the marginal product of membership to everyone is *infeasible*. To illustrate concretely, consider a coalition formed by A and B that distributes the surplus equally between them: (A,B,C)=($50,$50,$0). If either member of the coalition were to leave it, the payoff to the coalition would fall from $100 to $0. By this logic, the marginal product of each of the two members of the coalition equals $100, but the total product of the coalition also equals $100. Consequently, paying $100 to each member of the coalition is infeasible.
[xvi] A threat by a member of a majority coalition is credible, according to one definition, if another coalition could satisfy the demand without worsening its own position. To illustrate by the preceding example, consider the coalition formed by A and B that distributes the surplus equally between them: (A,B,C)=($50,$50,$0). If B were to withdraw from the coalition, the coalition's payoff would fall from $100 to $0.   Noting this fact, assume that B demands a payoff of $75 to

remain in the coalition. The threat is credible because B could leave the coalition and form a new coalition with C, distributing the surplus (A,B,C)=($0,$75,$25), which makes B and C better off. A, however, can also make the same demand as B. So A and B can each make a credible demand for $75. Both demands cannot be satisfied, because there is only $100 to distribute. So each demand is credible and both demands are infeasible.

xvii Aristotle wrote: "where democracies have no middle class, and the poor are greatly superior in number, trouble ensures, and they are speedily ruined." See (Aristotle 1962) at Book IV,. chapter 9, section 14. Madison's concerns are discussed in Federalist 10 (Madison 1981a).

[xviii] Majority rule counts voters, whereas cost-benefit analysis adds individual values. Counting voters gives the same result as adding individual values under the assumption of "strong symmetry." Under strong symmetry, each non-median voter who gains from a change away the median can be matched with at least one voter who loses, and the loser loses no less than the winner wins.   In notation, let $x_m{}^*$ denote the point most preferred by the median voter. Consider any alternative x^*. Let J denote the set of individuals who (strongly) prefer $x_m{}^*$ to x^*, and let K denote the set of individuals who (weakly) prefer x^* to $x_m{}^*$. By strong symmetry, for each k in K there exists a j in J such that $u_j(x_m{}^*)-u_j(x^*) \geq u_k(x^*)-u_k(x_m{}^*)$. This fact implies

$$\sum_{i\in J\cup K} u_i(x_m{}^*) \geq \sum_{i\in J\cup K} u_i(x^*).$$

[xix] Tarr….

[xx] See California Constitution, art. II sec. 8(d)).

[xxi] Alan Tarr…

[xxii] complete cites and thank Alois Stutzer.

[xxiii] Saul Levmore, "Bicameralism: When Are Two Decisions Better Than One? *International Review of Law and Economics* 12:145-162 (1992).

[xxiv] Also note that people accused of crimes in the U.S. must post bail to escape jail while awaiting trail. The person who appears for trial recovers the bail, whereas the person who fails to appear for trial forfeits the bail. In reality, most people borrow money for bail from a professional bail-bondsman, who charges a rate based on his assessment of the risk. Similarly, with ballot initiatives a market should develop allowing supporters to borrow the bond. Lenders would charge low rates for promising ballot initiatives that carry low risk, and lenders would charge high rates for unpromising initiatives that carry high risk.

[xxv] Since William Riker, *The Theory of Political Coalitions* (1962), the economic theory of political coalition formation focuses on the "minimal winning set" or a similar idea. Another possibility is to focus on the most complementary coalition. The most complementary coalition maximizes the gains from trading votes. See Chapter 3 of Robert Cooter, *The Strategic Constitution* (Princeton, New Jersey: Princeton University Press, 2000).

[xxvi]I implicitly assume additively separable utility functions for each group, so any group's total utility equals the sum of its utility on each of the two issues.

[xxvii] Cost-benefit efficiency requires choosing the level of expenditures that maximizes the sum of net benefits, which occurs with high expenditures on schools and high expenditures on police.

[xxviii]Since the voters' preferences form an intransitive cycle, any coalition formed simply by trading votes in **Figure** is dominated by another coalition (empty core). For example, a liberal-conservative coalition to obtain (high,high) is dominated by a liberal-moderate coalition to obtain (high,low); a liberal-moderate coalition to obtain (high,low) is dominated by a conservative-moderate coalition to obtain (low,low); and so on. Thus the liberal-conservative coalition might not prove stable. To guarantee its stability, the parties would need the ability to make side-payments. With side-payments, the liberal-conservative coalition dominates other possible coalitions, and no possible coalition dominates the liberal-conservative coalition.