Outline of the Meta-Algorithm Concept

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Originally Prepared January 2020
Revised November 2025

Part I. Introduction

This essay is meant to illustrate how the usage of the proposed WikiPraxis software platform will resemble a computer algorithm, although not one executed with the precision of machines. Independent of the actual computer algorithms governing the platform, the coordinated efforts of the platforms' users in the real world should become more efficient in a systematic way. The term we will use for this process is a 'meta-algorithm', because while it is executed by people, the political process in a democracy is (theoretically) about taking input from voters/citizens and weighing that input (based on certain parameters) to execute a series of yes/no decisions- very much like a computer. As we will discuss in part II, this process does not currently operate with machine-like efficiency (and the suggestion that it does would be comical to say the least), but it is our hope that with sufficient, deliberate use of modern communications technology, it is possible for the public to assert its will more effectively, leading to a closer alignment between public opinion and public policy. Thus, our hypothesis is that the 'algorithm' of the political process will increasingly produce outcomes more closely matching the supposed input than previous efforts.

Part II. The Breakdown of Communication in 21st Century Representative Democracies

Let us begin with the theoretical foundations of a representative democracy. Supposedly, voters are too busy to weigh in on every topic, and so every few years we select someone to make decisions on our behalf. In a 'pure' representative democracy, a candidate would campaign on a clearly-defined platform of issue positions, and voters would logically weigh those positions against their own values, and input their choice for the best representative. But as we can see in figure (1) on the next page, this process is not perfect. Here we have a hypothetical matchup with two candidates (A), each offering a platform with five issues/questions for each voter to consider. Since the relative framing of each issue is essentially arbitrary, we can say that Candidate Jones has a platform of five 'yes' answers, and Candidate Smith has a platform of five 'no' answers- perfect opposites. Each of the five voters compares their positions to the candidate's position, and votes for the one with the most matches to their own positions (B), resulting in a 3-2 victory for Candidate Jones. But if we look at the totals for individual questions (C), we see that Candidate Jones only represents the voters on 4/5 issues- a 20% failure rate. In fact, with five positions it is possible to win such an election with matches in only 13/25 boxes- meaning the output of an election result in (B) can potentially result in just under half of the voter input being lost/dropped in the process. Of course real elections are more complex than adding up numbers, but this example illustrates the problem of how using candidates as a proxy for policies (as is typical in a representative democracy) can make it difficult to clearly communicate a message using the input/output systems currently offered by voting- one does not always have the option to vote for exactly what one wants.

A. Candidate Positions

Candidate	Q1	Q2	Q3	Q4	Q5
Bob Jones	Y	Y	Y	Y	Y
Jane Smith	N	N	N	N	N

C. Question Totals

Q#	Total Y	Total N	Result
Q1	4	1	Y
Q2	1	4	N
Q3	3	2	Y
Q4	3	2	Y
Q5	3	2	Y

B. Voter Positions and Election Results

Voter	Q1	Q2	Q3	Q4	Q5	Total Y	Total N	Vote
Alice	Y	Y	Y	Y	N	4	1	Jones
Bob	Y	N	Y	N	Y	3	2	Jones
Carol	Y	N	N	Y	Y	3	2	Jones
David	Y	N	Y	N	N	2	3	Smith
Eleanor	N	N	N	Y	Y	2	3	Smith

Figure 1. The limitations of the input/output system in a ‘pure’ representative democracy.

However, there is no such thing as a ‘pure’ representative democracy. Voters are not adding machines, and modern technology allows representatives to communicate with constituents between elections and update their actions accordingly. So if we wish to see how well the input/output system of the political process is functioning, let us take a look at the present conditions in the United States:

-Members of Congress spend most of their time raising money to run for re-election (Note 1). They interact with and raise money from donors to (theoretically) help them better get their message out to voters, but in practice that means that most of the money is spent on TV, radio, and social media ads. These ads, more often than not, are designed to provoke an emotional response, rather than to provide voters with meaningful information.

-Voter turnout fluctuates around 60 percent (Note 2), resulting in significant citizen input not being captured.

-For-profit social media platforms, while useful for making information more accessible to the masses, have business models based on ‘engagement’, not education, resulting in users of those platforms being shown content that they are pre-determined to ‘like’. These mechanisms have pushed millions into curated online ‘bubbles’ that merely reinforce their existing views and exacerbate existing polarization. (Note 3)

- Less than 40 percent of Americans know the name of their Representative in the U.S. House (Note 4), which is the chamber often called ‘the people’s house’.

-Congressional approval ratings hover slightly above 20 percent (Note 5) while, paradoxically, approval of one's own individual representative remains generally high, with correspondingly high rates of incumbency.
-Three-fifths of Americans do not feel represented by either major party (Note 6).
-A 2014 Princeton study concluded that the United States is an oligarchy, not a democracy (Note 7).

Suddenly, the 20% failure rate in figure 1 doesn't look so bad. How did this happen? There are probably many factors contributing to it, such as the tendency of first-past-the-post voting systems to produce two major parties, the tendency of two-party systems to consolidate their power through strict ballot access laws that stifle competition, and the tendency for ruling parties to consolidate their power through gerrymandering.

Another argument frequently made to explain the inherent inefficiency of governments is that they are structurally too slow to respond to the public's concerns, because elections happen too infrequently for lawmakers to receive input on how to proceed. In other words, the 'refresh rate', where new input triggers an update to the system's functioning, is once every few years- too slow to properly synchronize with the fast-moving modern world.

Let's conduct a thought experiment, retaining the assumption that voters are too busy to make meaningful decisions directly, and that we must maintain the representative model. Imagine, thanks to a time machine or magic spell, that it was possible to know in advance every issue that would come up for a vote in the U.S. House of Representatives during the upcoming 120th Congress (from January 2027 to December 2028)- perhaps 250 items. This would eliminate the problem of too much time elapsing between elections, because voters can provide input on everything before it happens. But instead of designing a ballot allowing voters to answer each question themselves, each candidate again advertises how they intend to vote (yes/no) on each question. Voters would be able to choose from one of two slates of 250 yes/no positions along with their candidate, but we would still encounter the same problems in figure 1- likely worse with 250 questions.

Another option to collect better input would be to place 10-12 advisory (or if possible, binding) referenda on the ballot every election cycle. Adding an extra page to a ballot would increase the cost of printing ballots, but that is a miniscule part of the overall public expense incurred while conducting elections. Unfortunately, getting a single question on the ballot (let alone 10) is currently difficult and costly in many jurisdictions, because the lawmakers who write ballot access laws resist efforts to encroach on their power, so that idea can be set aside for the moment.

The frequency of federal elections has been fixed since the Constitution was ratified in 1789. Notably, the framers all died before the development of Morse code, which allowed information to be transmitted (via telegraph) much faster than the slow-moving paper mail of the 18th century. Over the past two centuries, the evolution of communications and transportation technology has resulted in a world where information, commerce, and every other facet of

society moves orders of magnitude more quickly. But because these changes happened gradually, there was never a specific point where we collectively decided to abandon the primitive practice of using the election of candidates as a proxy for the people's will. The media continues to frame things in terms of a horse race, where every couple of years the people get to swap out game pieces on a board. The interests of the vast majority of the population are reduced to their role as 'voters', their opinions framed solely in terms of how it will affect their vote next election day- the relatively narrow windows where the only 'legitimate' input is collected- and we still have the same problem as in figure 1. If the 'wrong' candidate wins, the supporters of the other candidates are crushed, for they have failed to successfully input their demands into the system, and can only try again in a few years.

In light of the system's current deficits, and the wealth of information voters now have at their fingertips thanks to the internet, maybe it is time to treat voter input as having value independent of how those opinions factor into their voting behavior? Unfortunately, transitioning to a direct democracy with online voting is not feasible in the short-term, for reasons that include fears of hacking, the fact that not everyone has internet access, and the reservations many would have with the state administering a system that keeps digital records of its citizens' private political views, no matter how well encrypted they might be. The public's current level of distrust toward existing for-profit social media platforms, as well as their aforementioned business focus on positive reinforcement, precludes them from being reliably used for this purpose. Therefore, the best way to fully utilize information technology and improve communication in the political process would be through an independent, non-profit platform that is accountable to its users. The Wiki-Praxis Institute is a non-profit organization established for this purpose.

Part III. A Proposal for a New Platform

The new platform will be operated as a non-profit entity (public utility), to avoid the trappings of a system that encourages 'engagement' above all else. The platform will be free to use, but anyone who wishes to become a member of the organization can pay a $5 monthly fee, and be able to vote on matters pertaining to the non-profit's internal governance. Additional funding sources will include grants, donations, and revenue from (non-political) advertisements. The relatively low cost of membership, and the opportunity to have a voice in the direction of the platform, will hopefully lead to a very high membership rate among active users. But the funding and structure of the organization is not the main issue; the primary goal is using the vast potential of social media to provide more structure for all the subject matter in the political landscape.

To design a platform for the purpose of improving political communication, a number of factors must be considered. One important objective would be to ensure that each user can properly organize the seemingly endless amount of information online in ways that are relevant and actionable. A good starting point is to allow items on the platform to be tagged with various metadata, such as topic and date, in addition to two general criteria that can help users find the most relevant content:

-Size/magnitude- a general place to input some quantity representing how ‘big’ of an impact the item is describing, whether it is measured in dollars, jobs, casualties, or bushels of corn.
-Geographic scale/location- this describes how large an area is impacted by the item. It can be a radius of miles from a particular point, or a defined area on a map. This will help match users to content that impacts their community specifically. The activities of a state legislature affect everyone in that state, while the policies of a school district might only affect one small part of a large city.

Another important factor to consider is that not everyone will use a given platform, and the sampling problems of open online polls will prevent any such system from providing a complete snapshot of public opinion. This is why the Institute will need to conduct traditional polling, oversampling groups that are underrepresented in the platform’s native data, and publish that information in the appropriate contexts. Among those that will use the platform, we anticipate these users falling into two main categories: political ‘junkies’, meaning those who are most politically active on social media, and would welcome a specialized tool for that type of expression- these will be the ones that use our platform regularly. The second category is what we will call casual users, who, being familiar with and supporting the Institute’s information-gathering purpose, download the app on their smartphone, log in using their existing social media accounts, provide a small amount of initial input, and then opt-in to receive periodic invitations to fill out more surveys when needed. With 230 million smartphone users in the United States, it is possible to obtain a considerable amount of data from only a small fraction of them. Those who are registered to vote will have the option to input their voting address and securely verify that it matches the voter registration records, and then upon verifying that the user is accessing the platform from that address, we can sort input from users and deliver relevant data to their representatives at every level of government.

In order to collect meaningful input, users will be presented with an initial series of binary questions to determine their ‘values’, which can be divided into goals and principles. A ‘goal’ is a desired outcome in the world that can be empirically measured, and can move up or down (such as wanting a [higher/lower] unemployment rate). A ‘principle’ is a more abstract value that defies quantification, and is something one typically either believes or does not believe (such as ‘recreational use of marijuana [should/should not] be legal’). We can avoid overwhelming the user by limiting the initial round of questions to major topics, but create a system where users earn points for each response that can be developed into a fun game mechanic. Each user’s voting history will be private, with the option to select which answers are visible to others.

In addition to the kind of news feed that is a standard part of existing social media platforms, with a chronological listing of posts from every other user one follows, there will need to be other tools to provide more structure to the vast amounts of information, and help the user focus their attention toward meaningful actions. The first of these is the three-stage workflow tool (Figure 2).

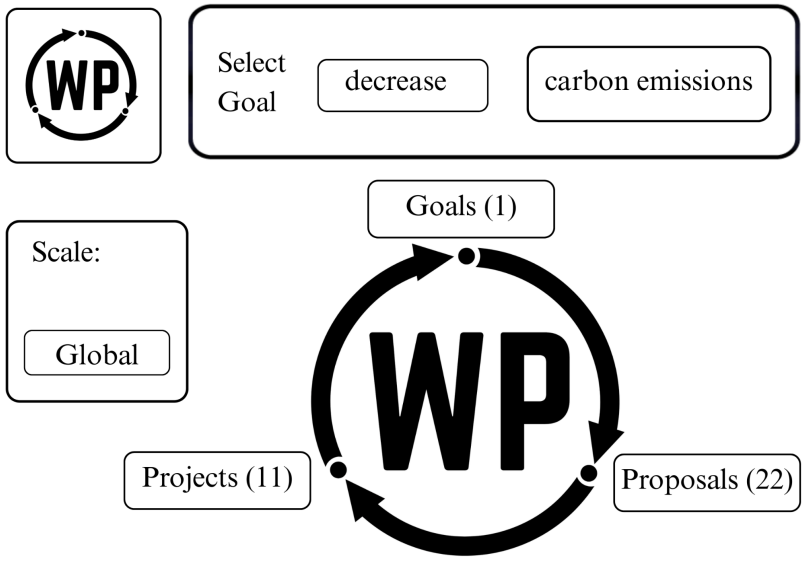

Figure 2: Three-stage Workflow interface

In contrast to the general-purpose platforms, which treat all content as essentially the same, the political process is a process, meaning it has multiple steps that must be distinguished from one another in order for the process to be understood. This feature allows users to organize items into three categories (using the logo as a visual aid):
-The aforementioned 'goals' that are part of the initial value input. To help narrow down the thousands of data points that voters might care about, a series of goal 'indexes' can be created, grouping 'lower unemployment' together with similar related goals under a heading such as the "Stronger Economy Index". While Americans may be bitterly divided over which candidates to support, when it comes to the actual issues at hand, we suspect that most people agree on the desired outcome, and by organizing information in this way we can help users focus on common ground.
- A 'proposal' item outlines a proposed action to be taken to achieve the desired goal. In addition to being sorted by geographic scale and size, editable fields on a proposal item will include: who is responsible for implementing it, what actions are to be taken, what resources will be required, the projected outcome (in terms of stated goals), as well as the mechanism of action (explaining how the action will supposedly result in the projected outcome)- all with links to sources. Arguments for and against each proposal will be organized using the Discourse tool, described on the next page.
-A 'project' item describes a proposal that has been approved and has either already been implemented, or is in the process of being implemented (including existing government programs). Users can monitor in-progress projects and see how well they achieve their stated goals, and restart the three-step process to make improvements, if necessary.

By breaking content into these three categories, our objective is to help users focus on finding the best possible solution to any given problem, in concert with the Discourse system (seen here in figure 3):

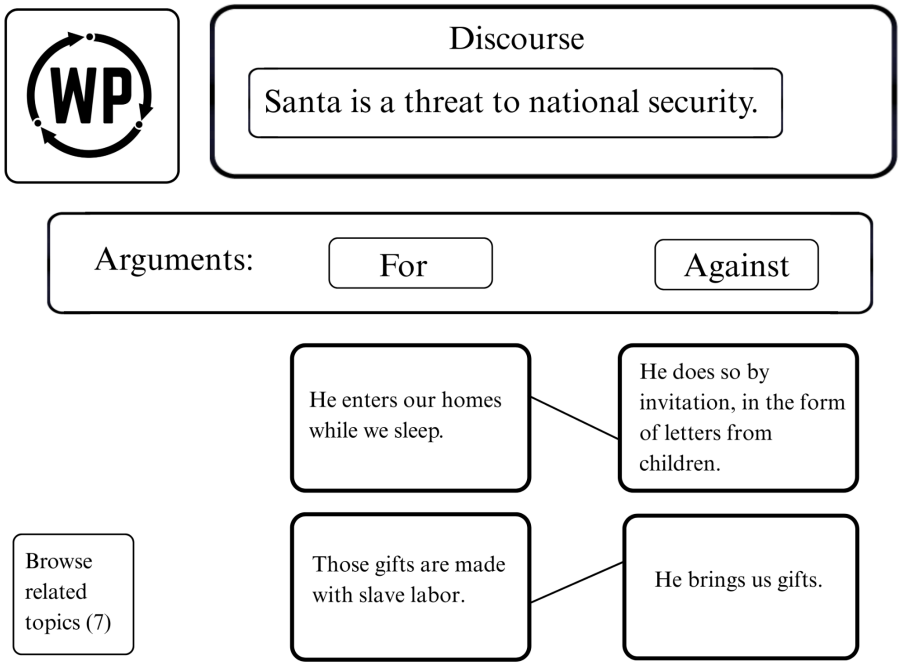

Figure 3: Discourse Interface

This function is designed to allow for discussions to be organized into shared reference guides, divided into two sections, representing the arguments for and against any principle or proposal. Each side of the argument is further divided into talking points, and each talking point can link to pertinent sources. If one argument presupposes agreement with another argument, a link to that argument's principle page will suffice.

The community of users on each side will collaboratively edit and maintain their talking points, to replace the repetitive arguments that currently take up so much time in online communities. The platform will mostly remain an impartial host for these discussions, with the Institute exercising editorial powers in only two ways:

1. Enforcing clearly defined community standards to prevent bigotry and other forms of discrimination/harassment. These standards shall be subject to amendment by the member community should they wish to tweak them.
2. Having an appeal process for when rogue moderators sabotage 'their' side of the argument table. It should be easy to distinguish between appeal requests made from differences of opinion between page editors, and actual cases of undermining the stated goal of that portion of the page (which is to make the best possible argument for/against the item under discussion).

The Discourse system would allow users to find out exactly what a yes or no answer means, to the extent that they want to spend the time. Since each side of the table has a known bias of for (+1) or against (-1), it can be said that the net bias of the system is as close to zero as possible. Thus, we can ensure that each user makes an informed input based on the best possible

information. Of course, not everyone will use the platform, which is why it will also be necessary to conduct traditional opinion polls, using the Discourse tables as templates, and cross reference that data with the results. Combined with the workflow model, the users of the platform will have the ability to view a rich combination of content that is relevant to their interests, and allow them to learn about what is happening in their communities.

We can also recommend a list of existing local organizations that have a significant overlap in the values that the user has entered, because it is not necessary to disclose the precise details of the private voting history in order to provide a percentage match in shared values. Users can then venture out into their community and join the ongoing efforts of these activists. This real-world networking component is critical because existing apps for users to log their feelings on legislation already exist, but provide no meaningful data for the same reason that polls on Twitter provide no meaningful data. But if the app serves another function, namely to establish connections with others in their community at a time when people are feeling increasingly alienated, we could achieve a critical mass of participation that would give us a large enough sample to extract meaningful data. Currently, the main way that people use the internet to meet others near them is through dating apps, but those same tools would be better applied to political networking, since (unlike dating) geographic grouping is essential to applying pressure to specific elected officials.

Part IV. Improving Communication Using the New Platform

In order to identify whether the new platform would be an improvement on the old input/output system (described in part 1), we must look at the aggregate: how well does public policy (output) reflect public opinion (input)? The new platform's various tools would allow both parts of the equation (actual current policy and public opinion data) to be indexed by subject matter, and the relevant comparisons made, in order for us to come up with a rough picture of how far apart the two are. Then, after the platform has been operating for a reasonable length of time, we can look again, and see if the two have converged at all. There is no point in attempting to make precise empirical predictions at this time (due to the complexity of the political system), but we can describe how this would play out in a broad narrative sense, emphasizing how the platform's functions would produce qualitative changes for the individual user/voter. (These individual-level changes, multiplied by the number of users, would subsequently produce a change in the aggregate results).

While for-profit entities have an entire free market economy dedicated to organizing their activities, our platform will provide a venue for organizing the activities of the entire non-profit sector. This means that all non-profit organizations, be they government agencies, NGOs, or political campaigns, will be invited to input their talking points and agenda items into the new platform during the closed beta phase. Once there is sufficient content for the general public to engage with, the open beta phase will begin, allowing these entities to establish scores of new data-rich contacts that they can tap into to help achieve their goals.

The combination of the workflow and discourse tools will organize the relevant information into a more structured data environment to better represent the complexity of our modern political system. With machine-readable fields separating content by geography and topic, each user can find what is most relevant to them, and follow this digital roadmap to specific, actionable items for which they can provide a clear yes/no input. This more refined/structured content on the platform can be easily distributed on the much larger general-use platforms (whether as links, screenshots, or easy-to-render infographics), filtering out into the bigger internet landscape and improving the overall quality of political messaging beyond the scope of our platform's use (users could even maintain communities/groups on other platforms for this purpose). Input from regular users, casual users (potentially numbering in the tens of millions) and traditional poll respondents, can all be aggregated in order to arrive at a more precise 'signal' than the current system, with its various flaws, can produce. That signal can then be amplified back out by its supporters, applying ever-increasing pressure when elections are too far away (whether it takes the form of a single afternoon protest/rally, sit-ins, and beyond)- until the collective pressure becomes impossible to ignore.

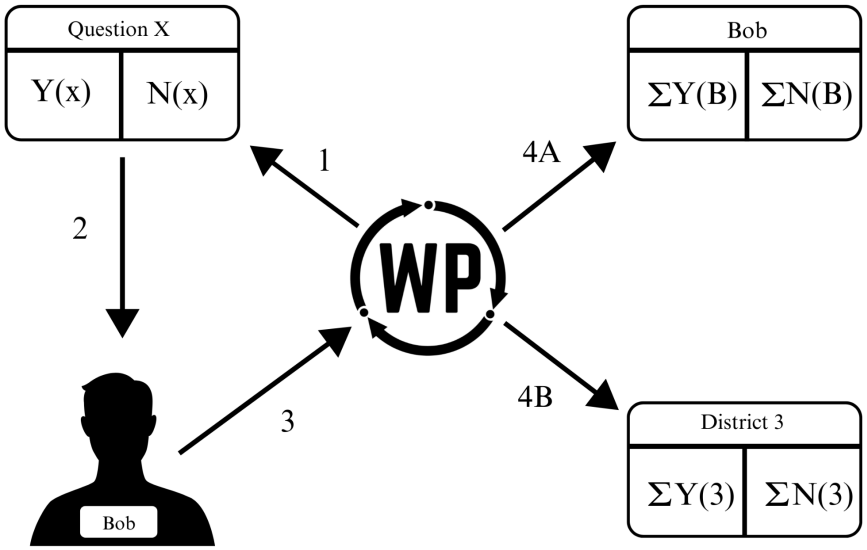

Figure 4: Enhanced Input-Output using the new platform

Here we have a diagram showing how the new platform will gather input from voters and organize it into easy-to-understand 'roadmaps' that provide much greater clarity than the existing, chaotic media landscape. The first stage of this process (1) involves the Discourse summary tables. After the initial input, during the pre-launch testing phase, most major issues and questions will have a summary of key talking points on each side of the issue (for or against, represented by Y(x) and N(x), respectively). As the community grows, and more users participate in the collaborative editing of these summaries, each Discourse table will approach

an ideal perfect summary of the question that is presented to each user. Here we have an arbitrary 'Question X' being presented for consideration.

Step (2) of the process is when the individual user/voter considers Question X (as well as a host of other questions, as they see fit). Since the comprehensive summaries in (1) will be used as the basis for polling of regular platform users, casual users, as well as non-users (through traditional polling), each respondent will, in theory, be providing as informed of a response as is possible, regardless of which user type or activity level they are. Here, the user 'Bob' considers Question X, and enters his yes/no position into the platform (step 3).

The inputs gathered from each user will be used to produce two types of roadmaps as output- individual (4A) and community (4B). An individual's roadmap matches them up with all the items they support or oppose- ΣY(B) and ΣN(B), in Bob's case. The current system requires each voter to keep track of their issue/position profile mentally, and if they wish to engage in activities (other than voting) to facilitate the change they seek, each voter must find their own way through the vast landscape of what counts as political activism. Here, a digital inventory of the user's positions can be matched up with other resources and organizations that share those values. All that is left for the user is to follow their roadmap and apply their energy and talents as they see fit. The community roadmaps (4B) provide aggregate data for all respondents in a particular geographic district- in this case, Bob lives in 'district 3', and the legislator representing that district will have access to a public page showing what percentage of their constituents support or oppose each item- ΣY(3) and ΣN(3). If each lawmaker follows their roadmap and legislates accordingly, they should end up with (mostly) happy constituents.

Of course, there is no guarantee that lawmakers will choose to act in the interests of their constituents- in Part II we discussed how this is frequently not the case. This is why the platform, consisting of an intangible database, is not meant to bring about tangible change on the ground by itself. The roadmaps are useless if people do not act on them, so it will be necessary to apply pressure on the ground in order to get results. Below, in figure 5, we have a diagram showing the platform interacting with the people (A) and with existing institutions (B), but the relationship between the two (C) is something that is outside the platform's control. The 'A' leg includes all of the changes (compared to the current system) on the voter/citizen side- each person with their own roadmap (4A from the previous figure), and the resulting benefits, plus the networks and relationships that are formed as a result. The 'B' leg represents the changes on the lawmaker side- having a credible, comprehensive summary of the citizens' attitudes (4B from the previous figure) would no doubt make their job (representing their constituents) easier.

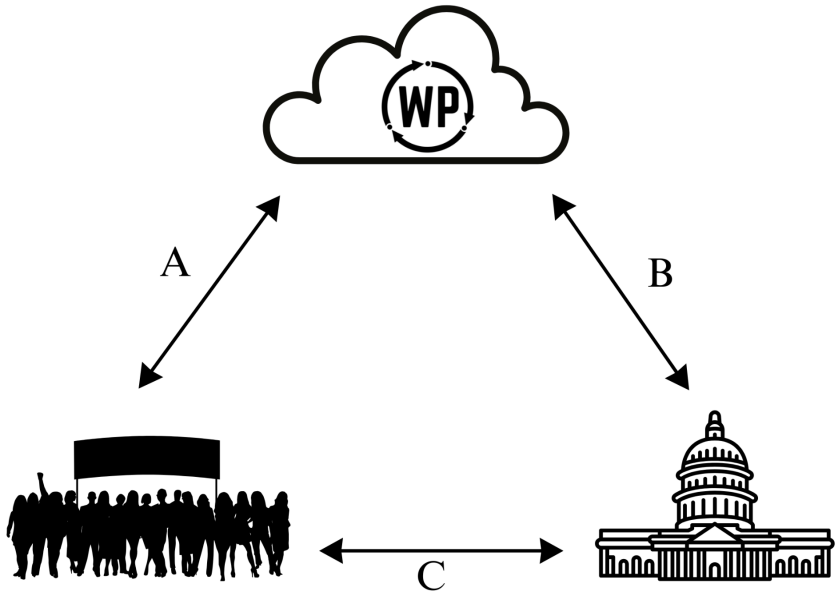

Figure 5: Change in the cloud vs. change on the ground

While the platform cannot force the state to better serve its constituents, both A and B should yield positive results (meaning each side is better equipped for its part of the conversation), translating to similar positive change on the 'C' leg. The platform can improve the quality of the signal being communicated between voters and their representatives, but lawmakers could choose to simply ignore the enhanced signal in favor of their own agenda. In this case, it would be necessary for people on the ground to apply additional pressure beyond simply articulating demands. If the 'B' leg of the triangle is underperforming (due to obstinate lawmakers), the people can apply additional energy to the 'C' leg to compensate.

Since many of the issues the public cares about- healthcare, education, jobs, the environment- can be empirically measured, each of those policy questions can be broadly reframed as 'what resources should we apply to which areas?'. Each person will have their own sense of what is a 'fair' package to address these issues, and a consensus view can be reached, somewhere near the mathematical average of each person's preferred package. Then, this consensus agenda can be a set of demands put forward at countless protests and other activities. In one extreme example of a 'bloodless' revolution, the people all take to the streets with homemade catapults, and (in cooperation with local sanitation workers) bombard the state capitol with bags of garbage, until their demands are met. Of course, if lawmakers simply act in accordance with data showing what their constituents want them to do, everything will run smoothly, and no protesting will be required. The actual outcome will probably fall somewhere in between.

Let us work through another example, using a goal that is likely to be popular: lowering the amount of carbon dioxide emissions. Users who share that goal will be able to access a wealth of pertinent information all in one place- including every proposal aimed at reducing carbon

emissions, sorted by size, scale, and location. One proposal to be considered would be a carbon tax. If everyone who supported a carbon tax were to indicate their position via the Discourse system, then they could be easily called upon to apply whatever pressure is needed until a carbon tax is implemented. Those who do not use our platform can still be included, with minimal effort, by using other communication tools to spread the word about the various activities that are meant to apply that pressure. Instead of waiting for another election cycle that will scramble our input, we can organize ourselves to assert our will more clearly and forcefully, thanks in part to the newly empowered activists that will use our platform to find the proper place to apply themselves.

Part V. Conclusion

Obviously people are not robots, so the political system can never be expected to produce 100% perfect democratic output, but that doesn't mean we should give up. Our platform aims to help users organize their public/political life in order to become a fully actualized citizen, just as people have used other forms of software to organize other aspects of their lives.

If we can simplify the process by which the people express their better vision for society, they can more effectively apply their collective energy to that goal. If you believe that people are good, then the combined, aggregate input of those people should translate to good outcomes. After launch, we will be able to measure participation along each part of the process, and we'll see if there is any quantitative improvement in the efficacy of the input/output system in line with our predictions. Our hope is that by improving the quality and clarity of communication, we can produce outcomes more in line with the public's shared goals. Our hypothesis is that over time, use of the platform will lead to an ever-increasing convergence between public opinion and public policy.

The extent to which these processes will effect change on a large scale is limited only by the extent of the public's participation. While it is easy to project scenarios with an insufficient participation level to produce good output, a more optimistic way of framing the participation question would be this: given the state of the world, and the many challenges facing our society, why *wouldn't* people participate in the enhanced political process in large numbers?

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