The democratic network
- An approach to unfold our democratic potential -

by ID3652009

This document describes an approach to reinvent democratic participation. The ideas presented are intended to be critically reviewed and further optimized where appropriate in the hope that their core principles will be respected during the process.

Reflections on the distribution of power

Autocratic systems without democratic characteristics, such as 'free' elections, may function to the sufficient satisfaction of the respective population. However, they depend mainly on the grace and foresight of those with the continuing decision-making power. The danger to the population posed by this circumstance is immense.

Representative democracies may also function to the sufficient satisfaction of the population. However, they bear the significant weakness that citizens can only very vaguely decide about the direction in which their society is steered. Voters can elect a person or group to represent their interests once every few years. However, there is no assurance that the appointed representatives will carry out the actions they are announcing during their campaign. Moreover, the citizens are only roughly represented by them. The representatives usually represent thousands to millions of people at the same time. Therefore, they are naturally not able to grasp and represent the needs of all their voters in such a way that these are pursued with the priority and consistency desired by them. Due to parliamentary power struggles, this problem may even be aggravated. In this context, compromises are often agreed upon without the consent of the voters. Those kinds of compromises are often even settled through negotiations under the exclusion of the public. During this process, it is common for decisions on largely unrelated social issues to be linked, which increases the danger of misrepresentation and inefficient decision-making even further.

Both autocracies and representative democracies are predestined to play off the interests of citizens against each other since decisions on concrete actions or laws are not exclusively subject to the direct opinion of the population on these issues. Often they are, at the same time, disproportionate pawns in the power struggle of the ruling elite. In some representative democracies, rare opportunities for direct popular decision-making on specific laws do exist. However, the bureaucratic hurdles for those to occur are relatively high, and their execution is usually rather sluggish.

Considering this, the individuals' allocation of financial resources may impose a preferable representation of societal needs and, therefore, an adequate means of power distribution. Unfortunately, a large group of humanity cannot use these resources at will. Often they are bound by external circumstances. The poorer people are, the more their consumption decisions are shaped by their urge to survive in the immediate future instead of their wish to develop a just and thriving society. The more financial resources individuals own, the less restricted they are in their consumption decisions and, thus, in the possibility to actively influence the direction of society. As the wealth of individuals increases, the possibility of investing their surplus capital provides them

with a lever to drive the distribution of power even further in their favor compared to less wealthy members of society. The inefficiency of this method of power distribution becomes apparent at the latest when individuals, in one way or another, obtain financial resources which are not in proportion to what they contributed to society, regardless of whether the heretofore listed aspects are considered morally justifiable or not. Moreover, with this type of power linkage, one wealthy individual may overrule millions to billions of less affluent individuals without them being able to peacefully and efficiently oppose him/her while simultaneously not endangering their lives and the lives of their loved ones.

Providing individuals a direct, equal, and anonymous opportunity to co-determine their fate at any time is evidence of equality, which plays a vital role in creating and maintaining peaceful coexistence.

The approach presented in the following is to give the individuals of society the prospect to transform their intentions into socially sustainable compromises without having to take detours. It is meant to be a more efficient option for this purpose than depending on autocrats, periodically elected representatives, or the 'free' market. However, where society instead prefers to continue to rely on those because it considers them useful, it may do so.

Realigning political systems

A scalable approach to low-threshold, flexible, direct democracy is needed.

- *Scalable* means that societies of different sizes can use the approach. For example, these can consist of 100 or 10 billion people.
- *Low-threshold* means that the barriers to participation for individual members of society should be as low as possible.
- *Flexible* means that the speed with which decisions can be made and the rules according to which this happens should always depend on the respective society and its needs.
- *Direct democracy* means people can vote on the rules of society without an intermediary representing their interests.

The approach that results from these core elements and their adherence could be described as **approach of radical-compromise-finding**.

Radical because it operates strictly according to established rules that members of society can trust as long as they apply. *Compromise* because the radical observance of those rules serves as a solid basis for finding compromises that are as undistorted as possible.

The technical prerequisites for this approach are almost in place. They involve a mixture of scalable, transparent, decentralized network structures, digital identities, and so-called zero-knowledge proofs. Concrete technical instructions on integrating these, like the programming language and the hardware to be used, will not be specified in more detail in the context of this

document. It is primarily intended to define the terms and principles of the approach. These shall be strictly complied with while developing the necessary network infrastructure. The societal prerequisites are only sufficiently given when enough people are willing to implement and consistently maintain the approach. Therefore, the provision of the technical prerequisites and the education of society regarding the benefits of restructuring the political decision-making process must go hand in hand.

Approach of radical-compromise-finding

Why is a decentralized and transparent operating method of the approach important?

Without trust, the approach is worthless. The more trust there is in it, the more valuable its contribution to the peaceful coexistence of people in a society can be. Trust means credibility through verifiability. The people must be able to trust that the regulatory framework and the associated technical requirements will function properly. This can be achieved through a high degree of decentralization and transparency. On the other hand, they must be able to trust that their needs can be met within the framework of the approach. In the short term, in particular, past experiences with the previously existing political systems are to be regarded as its benchmark. The approach has been designed with these in mind.

Decentralization means distributing the structures of a society or network among as many participants as possible. Consistently implemented, it reduces the vulnerability of those to technical errors and abuse of power. *Transparency* means the verifiability of all processes that take place in the context of the approach to prevent manipulation. It should only be limited by the necessary protection of the individual's privacy.

The presented approach is intended to digitalize and optimize a portion of society in order to unleash the as-yet untapped democratic potential of humankind utilizing technological progress. Centralized and non-transparent approaches may seem easier to implement for this purpose, but they are less trustworthy and, therefore, less valuable. In the spirit of the approach presented here, it is therefore urgently advisable to avoid such solutions as vital components of its practical implementation.

What can be decided upon with the help of the approach?

Whatever society wishes to decide. For example, laws and rules of the network, but also, if necessary, rewards or sanctions for morally particularly reprehensible or praiseworthy actions of individuals or groups.

Each individual may anonymously contribute draft proposals. The eligible voters can then anonymously cast their votes on each of these. Thus, different proposals directly and openly compete with each other at the political decision-making level. Those with high enough approval

ratings get implemented. Non-transparent negotiations on socially relevant decisions, which are common in most political systems so far, are abolished. The individual is no longer excluded from the policy-making process, as is currently the case. It is empowered to make its own contributions at any time. The submitted draft proposals must contain as detailed specifications as possible on how they are to be implemented and how they are to be constrained. For instance, specific deadlines, exceptions, organizations responsible for the implementation, and funding budgets should be outlined.

Given the almost unlimited possibilities of items to be voted on, it is to be expected that no permanently homogeneous majority factions will exist. Participating individuals may be part of the majority or minority in each decision. Therefore, respectful treatment of minorities should be in the best interest of all members of society, even beyond its already moral appropriateness. Furthermore, society as a whole can vote directly on any further measures that may be necessary for the specific protection of certain minorities. The results of referendums reveal the character of the respective society in the present and for generations to come.

When a new draft to vote on is submitted, in addition to the actual content of the proposal and the respective voting hurdle it has to surpass, there could be the following options to categorize it:

1. Law
→   The referendum is intended to introduce a new law or to replace or modify an existing one.

2. Exception to already existing law (individual case/precedent)
→   The referendum shall allow an exception to an already existing law in a concretely specified case or certain exceptions to it in general.

3. Measure
→   The referendum is to decide on a concrete measure.

4. Declaration of intent
→   The referendum shall declare a non-binding, i.e., rather moral intention of society, which, with its compromise-strength, neither restricts laws nor measures. With this type of referendum, a society can align its moral compass. This compass can be referred to in subsequent referendums.

Who should be able to participate?

At least all members of society who reached the particular age of majority. This includes all individuals who currently have their center of life in it, regardless of their origin and other characteristics. Society ultimately decides on the definition of the 'center of life.'

Why is the anonymity of the individual crucial for the voting system?

During the registration and validation of digital identities, it is crucial to prevent unjustified preselections and, thus, distortions of the actual balance of power. During the voting process, it is crucial because anonymity enables uncensored, genuine participation and, thus, radical-compromise-finding at the network level. It aims to protect those voting from third-party interference in their decision-making.

What role can the indirect representation of individuals fulfill?

The network and the pending decisions shall be displayed in an easy-to-grasp manner, and the user should be able to modify how the information is presented to his/her own needs, interests, and abilities. It must be assumed that the individuals also have other matters to attend to in addition to their political participation. Therefore, delegating voting power to so-called representatives should be possible. The process of delegation must be straightforward, reversible, and anonymous.

Representatives can use entrusted votes to cast them on behalf of their delegators. They are service providers to them. However, the direct voting participation of their respective delegators in the same referendums always outweighs the representatives' decisions. It overrules them.

Representatives are individuals who have activated the network's so-called **representative-mode**. No permission from any central authority shall be needed to perform this action. The representative-mode unlocks a particular interface for the representatives, through which they can fulfill the duties of their role. Society as a whole decides on concrete duties, rewards, and sanctions to be incurred in the context of the representative's activities. It should ensure that there is always a good balance between these factors.

Due to possible conflicts of interest, representatives must refrain from using the votes delegated to them to participate in decisions that directly or indirectly affect the role of representatives within the system. This includes decisions about rival representatives. Representatives who violate this rule, even if they are otherwise doing a proper job, should have their power taken away by their delegators because their behavior threatens the integrity of the electoral system.

By activating the representative-mode, the representative gives up a large part of his/her anonymity for the time in which he/she acts as such. This is necessary to ensure a high degree of transparency and thus prevent the abuse of power. Society as a whole should determine how long a representative or former representative may be held accountable for his or her possible misdeeds in office, how long he or she should be rewarded, and whether there are any other rules to be considered in this context.

The delegation of power to the representative can be reversed at any time by the individuals delegating to him/her. Thus, the individual always remains in power and naturally still bears the responsibility that goes along with this.

Each individual must be able to view straightforwardly and at any time how a representative has voted in which referendums and whether this aligns with previously claimed pledges. In addition, it should always be possible to see how many individuals a representative currently represents, which organizations he/she has been part of, and what income he/she has. This provides transparency. A representative may voluntarily resign from his/her role as representative and the power granted to him/her at any time. The discontinuation of the representative-mode does not automatically relieve the former representative of outstanding rewards or sanctions that may have accrued in the context of his/her representative activity.

In addition to its benefits, the existence of representatives and their services also poses severe risks to the system. Alongside the risk of power abuse, particular attention must be paid to the risk of unintentionally strong centralization of power. The latter increases the danger posed by an abuse of power even further. Unintentional power centralization may occur when a vast number of individuals entrust their votes to specific representatives because, in their view, they have done an excellent job so far without actively wanting to increase the share of votes held by these representatives compared to others. This, for example, may occur when representatives quickly accumulate a significant number of delegations without the awareness of all individuals delegating to them. The risks associated with the centralization of power should be counteracted. Certain restrictions should apply to representatives, which should not apply to individuals.

Suppose, despite the precautions built into the system, the existence of representatives leads to a high degree of centralization and, thus, to a classic form of representative democracy. In that case, this is ultimately the wish of society. In principle, however, this might change at any time. If representatives manage to disempower the individuals, this is also ultimately in the individuals' interests since they could easily prevent such changes without fearing punishment. If they fail to do so, they provide proof of their sheepishness and deserve the reality this creates.

Those who wish to delegate to a representative should read and confirm the most important information regarding him/her. Furthermore, they must be informed about the risks of delegating their vote in the first place and that the act of delegation does not detach them from their responsibility towards society.

Representatives may be a helpful tool in implementing the will of society's members. However, the will of society can be represented the most undistorted without these intermediaries, which is why the power of representatives compared to individuals should be limited even further than explained so far. Individuals must be informed about all limitations before delegating their votes.

If it is technically feasible and socially requested, the system could be enhanced to allow individuals to delegate their vote to several representatives simultaneously. However, it is crucial to ensure that each individual may only be represented once per referendum via a prioritization defined by the individual delegators themselves. This would make the system more complex from a technical point of view but also allow a more sophisticated representation of the individuals' needs. Thus, it would be another means to support diversity and decentralization.

How does the voting process work?

To approve a draft proposal, at least the majority of the vote-entitled individuals in the respective society must vote for its implementation. This limit is referred to as the **50%-hurdle**. A referendum approved by the majority of society can be considered a compromise upon which it agrees. The minority which has lost a referendum must accept this particular outcome for the sake of the inner peace of society. However, there shall always exist the option of proposing other referendum drafts concerning the same issue. One of them may be perceived as an even better compromise by society and, therefore, may overrule the previously adopted decision by achieving an even higher approval rate than it.

The proportion of vote-entitled individuals voting in favor of a particular draft is a measure of consensus on the compromise in question. The greater it is, the stronger it reflects the common denominator of society. The percentage of votes in its favor can be described as **compromise-strength**. If, for example, 60% of eligible voters vote in favor of implementing a law, then the corresponding compromise-strength is 60.

The compromise-strength captures society's experiences, norms, and values at the time of voting and preserves them together with their intensity in the form of the referendum's outcome. Thus, voters simultaneously get the opportunity to overcome former standards and set new ones actively when voting. In each case, this happens in relation to how convinced society is of the corresponding resolutions at the time of voting. Vote-entitled individuals can push the compromise-strength higher to protect the current and prospective society from harmful decisions concerning the issue in question.

The concept of compromise-strength is intended to enable a balancing act between the stability and flexibility of society. To ensure this succeeds, however, society must refrain from trying to circumvent it by deliberately not creating a linkage between new referendums and already adopted decisions, with a high compromise-strength, to increase their immediate prospect of success. In the long run, this is not in its interest since it questions the legitimacy of the electoral system itself and, thus, the legitimacy of all decisions made within its framework. If in doubt, society must select the highest compromise-strength, which may be associated with a draft proposal as its benchmark and thus the minimum hurdle to overcome. If a referendum does not affect the interest of any previously adopted decision, the 50%-hurdle is considered the minimum hurdle to be exceeded by it.

An associated compromise-strength must be specified correctly during the creation of a referendum. If its data is incorrect, it should be possible to adjust it upward even during an ongoing vote if this is technically feasible. If not, society has to reject the vote and set it up properly.

In principle, the voting system could be implemented without the concept of compromise-strength. This would make it technically easier to implement but also deprive it of its valuable properties. If, for example, simple majorities were used instead, all decisions would be equally stable or unstable. The guiding effect of particularly strong compromises would be much less appropriately represented and manifested.

Ultimately, the decisive factor is how many votes there are in favor of a submitted referendum. Individuals may also actively vote against draft proposals. As a result, no representative can assert the vote of those individuals in favor of this particular referendum. The vote of the individual always outweighs that of its representative.

Each referendum must have a predefined maximum **voting-period**. Once this period expires, no further votes can be added or withdrawn. During this period, it is determined whether a referendum achieves the required result and which compromise-strength it ultimately bears. Each voting-period consists of **three phases** to minimize the dangers of abuse of power by representatives. Individuals are free to vote throughout all three phases.

- In **phase 1**, individuals and representatives can agree or disagree to a referendum by voting as they wish.
- In **phase 2**, the decisions made by the representatives can no longer be modified by them but can still be seen by anyone. However, they still need to be counted as valid votes. Individuals may use this information to estimate how high the approval rate might be at the end of this phase. They can still vote at will in this phase before the representatives' votes are counted as valid for decision-making in phase 3.
- In **phase 3**, all votes cast in the previous phases are accounted valid as soon as it begins. Individuals can continue to vote as they please in this phase. The highest approval rating ever measured during this phase is considered the final result of the referendum after the end of the voting-period. Thus, the final decision about its acceptance and compromise-strength is made during this phase.

The existence of all three phases is of great importance for the individuals of society. In phase 2, they can intervene the strongest against undesirable decisions made by powerful representatives in phase 1. Representatives are only allowed to actively participate in phase 1, as they manage multiple votes simultaneously and could otherwise manipulate election results, for example, by strategically voting in the very last moment of a referendum. The goal of the electoral system is to find the most appropriate compromise of a time, not the best time to vote. Since representatives are likely to be financially compensated for their work, it can be assumed that, unlike many individuals, they can deal with each referendum much more intensively and early. Therefore, voting exclusively in phase 1 should be manageable for them.

Since the compromise-strength is regarded as a precious instrument for expressing the will of society, it makes sense only to acknowledge the amount of delegated votes required to barely exceed the hurdle with which the respective referendum is associated. This ensures that delegated votes are respected for decision-making while preserving the compromise-strength as a direct scale of the consent of the individuals. The individuals are required to fulfill their responsibilities and actively vote on matters of particular importance to them personally. The higher degree of protection associated with a greater compromise-strength of a referendum must be earned by them.

There should exist a **time lag** between the end of a referendum and the implementation of its decision. During this period, the decision can still be modified, for instance, by utilizing a so-called **citizen-intervention** if society desires so.

A citizen-intervention is a particularly pure form of reaching a compromise in which the potential outcome distortion through representatives is prevented by requiring individuals to actively vote to participate. Hence, some safeguards can be waived, enabling a swift decision realization. This kind of referendum consists of a fixed voting-period, which is not composed of a series of phases. All votes cast during its voting-period are immediately counted as valid. The highest approval rating ever measured during the voting-period is deemed to be the final result of the referendum when it ends. Should the associated hurdle underlying, this vote be hit before the end of the voting-period, the vote shall already be deemed successful as of this point in time. By default, there is no fixed time lag between the approval of a citizen-intervention and its implementation. The ending of the voting-period only determines the final compromise-strength of a referendum.

Citizen-interventions enable society to act quickly in cases of emergencies. However, they can also be used to correct misguided decisions taken through regular referendums or to deal with decisions in which representatives should not have a say because of potential conflicts of interest.

The outcome of any referendum can be revised at any time through another referendum in reference to it, so long as the associated compromise-strength as the minimum hurdle is met. Through their empowerment, the individuals bear the responsibility for all decisions they influence through approval, rejection, and non-voting. They are not deprived of their participation rights by governments that rule over them. On the other hand, they cannot hide behind the lack of power which this would imply.

Before casting their vote, the participants must confirm that they are aware of the responsibility for their own decisions and the consequences resulting from them. A similar statement must also be confirmed before delegating a vote to representatives. Even then, individuals still have to take responsibility for what happens with their votes. In case of an abuse of power by representatives, they are responsible for undertaking whatever is necessary to repair the harm caused by this. Any individual who does not agree to these basic requirements should not be allowed to actively participate in any referendum because he/she does not recognize the principles of the system. Even in this way, he/she gives the system feedback because not voting is also a choice. The system is deliberately designed so that a large amount of non-participating individuals may paralyze it. This shall provide an incentive, especially for those actively participating in referendums, to introduce reform proposals encouraging non-voters to return to the negotiating table. Ultimately, societal stagnation puts all members of society in danger. It is up to society as a whole to prevent this.

The results of past referendums must be easily accessible. On the one hand, they have to be used as a benchmark for upcoming associated referendums. On the other hand, they record which decisions society has made at which time. They represent accomplishments, failures, and even cruelties of society. They can and should be subject to discussions. Accomplishments should be appreciated, and failures and cruelties should be criticized. A society that does not acknowledge and judge its

own decisions is incapable of actively determining the direction in which it is heading. It may be lucky and drift in a favorable direction, but obstacles may also shatter it. The world is complex, and obstacles are numerous.

How to decide on the interpretation of laws?

Institutions such as courts and police are not unimaginable in the context of the presented approach. However, their role depends on the powers and means upon which the electoral society can decide at any given time. The conventional attempt at separating powers into legislative, judicial, and executive, which has been the underlying principle of many democracies up to now, becomes obsolete within the outlined electoral system. Each individual can assert his/her power through voting at any time and concerning any matter. It always shares its power with other members of society. As in any social system, however, armed institutions always pose a particular threat. Society must monitor them especially closely and decide how to deal with renegade members of these institutions.

Equally important as the question of implementing laws and measures is their interpretation. Draft proposals should be formulated in as much detail as possible to avoid unnecessary conflicts. Relevant aspects include, for example, data on deadlines, budgets, and institutions, companies, or individuals responsible for their implementation. Even the designation of courts dealing with potential disputes and the sanctions they may impose can already be the subject of a draft. If a draft proposal is approved, and there exists a particular need for intervention regarding its interpretation or implementation, society can intervene at any time by creating and voting on a referendum associated with the matter. The benchmark for an intervention in this respect is the compromise-strength of the referendum in question. This procedure ensures that such a modification cannot be abused to amend resolutions retroactively with lower majorities than appropriate. Such changes would correspond to new compromises of lower quality and, therefore, would undermine the voting system.

How to participate on the local level?

Depending on how society is composed, only a limited number of decisions are necessarily relevant to society as a whole. For example, some decisions only affect certain regions, cities, or villages. In this sense, it is reasonable to allow the approach of radical-compromise-finding to take place at different levels. Society may specify which decision should be taken at which level. However, the decisions taken at the level of society as a whole must always have the most significant degree of priority and, in the event of direct contradiction, should not be able to be overturned by decisions taken at a lower level. In case of doubt, society as a whole determines how to deal with the contradicting decisions taken at lower levels.

How to manage access to local referendums?

The individuals' access can be enabled by linking their residences to their digital identities. The individuals can then participate in the corresponding local referendums in their areas of residence by providing zero-knowledge proofs of their voting eligibility. This procedure is only viable if an anonymity-preserving implementation of it is in place. If this is the case, society must decide how to ensure that the needs of an individual are not being weighed as more than one vote per referendum. This is all the more relevant as more individuals in society have multiple residences at the same time.

The most straightforward mechanism for this would be the individuals' mandatory choice of a primary residence. Based on this, individuals can participate in referendums affecting them. However, in this case, people with multiple residences may not be able to participate in an appropriately represented manner. After all, by choosing a single residence, they need to opt-out of representation in other places where they live and work.

Another option would be to register multiple residences simultaneously and allow individuals to weigh in on their representation according to their living circumstances. Self-determined re-balancing should be possible under the precondition that the individuals are currently not participating in any ongoing referendum to prevent abuse of power through this mechanism. Through this procedure, each individual still possesses a single voice, and the issue of inadequate representation is solved. However, it increases the complexity of the network.

Who could make use of the presented approach?

The approach must be realized within the ethos of open source. Therefore, it may be used by all sorts of actors for various purposes, for example, by companies, unions, neighborhoods, nation-states, and international non-profit organizations.

How could the transition of existing governments into the presented approach succeed?

The transition could occur gradually. For instance, the system could initially be applied only in parts of society and on certain occasions. As it gains acceptance, it could be applied to more areas if society chooses to do so. However, due to a strongly dissatisfied majority of society, it may also abruptly come into use. Whether this happens peacefully or in the context of violent protests then depends heavily on the respective ruling elites' claim to power.

In order to legitimize the approach, its implementation and the initial set of rules should be voted on. The majority of all eligible voters need to vote in favor of it. The initial set of rules could be structured in various ways. On the one hand, it may consist primarily of old laws of the particular society, supplemented by the new consensus rules. On the other hand, it may be drafted entirely unrelated to the previously existing laws.

The referendum on the first set of rules, which may also be considered a constitution, corresponds to an initial process of finding a compromise. The process can take as much time as society deems appropriate. At this point, it becomes apparent whether the respective society is ready for a system of this kind. After all, with its assistance, it is supposed to take even the most difficult decisions without breaking down.

Concluding thoughts

The members of society need to have a sufficient understanding of the approach and its premises, and the majority must prefer it over its alternatives. The approach should have been sufficiently tested. The society wishing to organize itself with its assistance determines what it considers sufficient.

A sufficiently transparent, decentralized, and secure network must be available to implement the approach. The network infrastructure has to be scalable in accordance with the number of individuals participating in it. Scalability, decentralization, and transparency should be the criteria given the highest emphasis. It is particularly crucial that any network errors and attacks can be detected reliably. Depending on their magnitude, society may decide before or after potential vulnerabilities are eliminated which way of dealing with their implications is appropriate.

All eligible voters must be provided the means to participate in the network. The respective society must provide the funding required to apply the approach consistently. In addition, transparency about the arising costs must be ensured so that the members of society can decide for themselves whether it is worth the cost.

Regarding its overall complexity and cost intensity, the approach is altogether less extensive and expensive compared to a lot of the currently existing alternatives to it. It focuses on identifying and serving society's needs as efficiently as possible. It cannot and should not replace other forms of social engagement, such as public debates and demonstrations. It thrives on discourse.

The digitization of society will continue to advance strongly over the coming years. Rejecting the presented approach due to its reliance on technology indicates short-sightedness. Instead, it should be insisted that the utilization of technological progress is performed according to socially desirable norms and values.

Initially, individuals and organizations who perceive the vision of the presented approach as worth striving for must take the initiative and work on creating the required technical and social conditions for its implementation.