Sapiocracy Overview

http://www.sapiocracy.com/
sapioplex@sapiocracy.com
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1 Introduction

Sapiocracy is a group decision-making system that significantly refines democracy, eliminating damage caused by ignorance and systemic corruption.

1.1 Thought Evoking Quotes

"Tricks and Treachery are the practice of fools that don't have brains enough to be honest."
– *Benjamin Franklin*

"The fundamental cause of the trouble is that in the modern world the stupid are cocksure while the intelligent are full of doubt."
– *Bertrand Russell*

1.2 The Root Problems

There are several reasons decision-making systems do not operate better than they should. On paper, every decision-making system appears that it would work better than it does in practice.

Sapiocracy focuses on the root problem of decision quality and overcoming the destructive effects of corruption and ignorance. This may seem narrow, but it is actually the opposite. Once the decision-making process is refined, all other decisions are made using this new protocol. This means that *all* other decisions enjoy the benefits and those better decisions would likely not be possible without such a fundamental refinement.

The concept is analogous to the scientific method. The method is merely a protocol which, if followed, distinguishes truth from non-truth. Sapiocracy extends this to produce the wisest possible group decisions.

Humans are generally good. Put simply, most humans will behave *badly* only when they believe it is in their best interests. In fact, *nearly all* people are good *nearly all* of the time. This is very important in understanding corruption. If human good can be amplified while bad suppressed, much better decisions will result.

The three problems focused on here are corruption, naiveté and incompetence.

1.2.1 #1: Corruption

The biggest problem in existing large-scale decision-making systems is corruption – *gaming the system*. We define *corruption* here as the willful act of dishonestly advocating something which benefits one set of people over another, driven by the acquisition of wealth or status. Another way to think about it is

being unfair. To be corrupt in advocating a certain decision, one must know they are lying or omitting information about the expected outcome of a decision. With full, honest disclosure, there can be no corruption. Note that being mistaken and honestly advocating something is not corrupt; it is either naive or incompetent (see below.)

Corrupt behavior is biologically natural and common. Individual corruption cannot be - and likely should not be - eliminated. The corruption at issue is widespread corruption; also called systemic corruption. It can be overcome by a decision-making protocol that naturally suppresses it, just as the scientific method naturally suppresses non-truth. To accomplish this, the rules and function of the system must be initially set up to frustrate the mechanics of corruption so it cannot survive. Since widespread corruption depends on making false truth claims (lying) and truth claims are testable, it is therefore possible to construct a system which both detects and suppresses corruption.

In ancient hunter-gatherer groups, widespread corruption was practically impossible except through the direct threat of violence. In other words, a warlord threatening to kill anyone who opposes him cannot be stopped simply by having rules – the population must collectively use violence to stop him in this case. We ignore this because it cannot be prevented by any decision-making system. Every existing form of decision-making system also ignores such violence in its structure and instead deals with violence through rules.

Since everyone in a hunter-gatherer group knew everyone else in the group, anyone who lied to gain advantage would be quickly discovered and punished. Their reputation in the group could easily be destroyed and their life would be negatively impacted. This significant cost effectively eliminated corruption as a strategy.

As technology enabled societies to grow, the cost of corruption went down significantly because discovering corruption becomes exponentially more difficult as the population increases. It is now impossible for anyone to be personally acquainted with more than a tiny fraction of the people in a modern population. Anyone can lie, cheat and steal from many people in a given population without more than a tiny fraction of the population finding out. With a sufficiently large population, the cost of corruption rapidly approaches zero. This makes the relative benefits skyrocket in comparison. In very large, dense populations, corruption is an almost cost-free strategy. Understanding this is the key to suppressing corruption in large decision-making systems. Widespread corruption is enabled by large structures that do not adequately suppress it.

There is no way to avoid the human tendency to employ corruption as a strategy. Instead, we should seek a system which works to eliminate widespread corruption.

1.2.2 #2: Naïveté

Naïveté (ignorance) is the state of not understanding something that would otherwise be valuable to understand in a given situation. This is the default state for humans. Babies are born naïve of everything and adults have to learn everything that would otherwise result in naiveté. Consider this carefully: All people are naïve about *approximately all information known to mankind*. Leading a productive life

requires a small amount of knowledge compared to what humans have learned. Approximately all information known to mankind seems useless to most people.

Human brain function is such that everyone believes they are correct about and know more about things than they actually do. The Dunning/Kruger effect demonstrates that all people believe they are more competent at most things than half of the population. Worse, those who are most competent estimate that they are not as competent as they actually are. The smartest person in the room believes they are not the smartest.

The state of having an incorrect belief *feels* exactly the same as having a correct belief – holding a belief intrinsically means believing it to be correct. Incorrect beliefs *feel* just as good, and *often better* than correct beliefs. Humans believe things because they *feel* correct rather than because they *are* correct. Humans also tend to retain incorrect beliefs because they want the beliefs to be true, even when presented with hard evidence disproving them.

Amplifying this profound self-deception, the brain does not naturally seek truth. Instead, it seeks the minimization of disagreement with existing beliefs. This causes the rejection of evidence which threatens existing beliefs.

Our brains trick us into believing we are correct when we are not. Our brains encourage us to disregard valuable evidence when incorrect beliefs are challenged by conflicting beliefs. Wise individuals learn to question everything, including their own closely held beliefs. Every proper scientist knows this is required to practice science correctly.

This self-deception leads most people to advocate naïve decisions simply because they know no better. They often think they do know better when they don't. There is no way to avoid this behavior – it is hard-wired into human brains.

Changing how the human brain works is not practical. Education can help partially reduce naiveté, so a system which amplifies education helps, but education alone is not a viable solution to naiveté. Instead, we should seek a system which works to eliminate damage caused by naiveté.

1.2.3 #3: Incompetence

Beyond naïveté, many people do not have the mental capacity or desire to master certain subjects. Specialists spend their lives learning vast amounts about their fields. Unskilled observers find it nearly impossible to determine the difference between an accurate specialist and an imposter. If one is incapable or unwilling to master a subject, they are likely to make unwise decisions in that field. They can easily be fooled with false claims, especially when the promises make them *feel* good.

Whether through incapacity or lack of effort, incompetence undermines decision-making because people tend to vote for what *feels* best instead of what *is* best. As specialization and population increases, this problem grows exponentially.

Unlike naiveté, incompetence cannot be overcome with any amount of education – there will always be subjects that some cannot master. Instead, we should seek a system which works to eliminate damage resulting from incompetence.

1.3 Goals

Sapiocracy endeavors to accomplish the following to any sufficiently large group of people:

- Direct democracy
- Equal Opportunity – A Fair System
- Full Transparency
- Elimination of Widespread Corruption
- Will Not Break Down Over Time
- Wisest Possible Decisions

Sapiocracy solves the above problems and brings a surprising list of benefits described below.

2 Functional Description

This section describes the functionality of Sapiocracy in practical terms.

2.1 Overview

This subsection is a brief overview of the terms and sections in Sapiocracy. This section assumes a functioning Sapiocracy that has been started properly (see below.)

The following is a very short (*elevator*) description of Sapiocracy:

> Sapiocracy is a group decision-making system that significantly refines democracy, eliminating damage caused by ignorance and systemic corruption.

2.1.1 Definition

Sapiocracy is a refinement of direct democracy. Each individual has the right to suggest ideas for propositions, interact with the processing of propositions and to cast their vote for any proposition. Additionally, voting requires voters to predict the outcome of each proposition as part of the voting process.

Sapiocracy could be declared an *autohistomeritocracy*. "Auto" refers to the automated system that creates the interface and functional structure of the Sapiocracy protocol. "Histo" refers to a historical record – individual voting weight is based on that individual's proven ability to correctly predict the outcome of propositions. "Merit" refers to this ability – it is a heuristic for *wisdom*. The suffix "-ocracy" refers to the codification of a collective decision-making protocol.

2.1.2 Voting Weight

In Sapiocracy, each person does not have an equal vote. Instead, the ability to correctly predict the outcome of propositions modifies each individual's *voting weight.* Over time, correct individuals gain power and incorrect individuals lose power. Voting weight is a heuristic for *wisdom*.

No individual or organization can affect the voting weight of any other individual. Voting weight is determined solely by the predictions each individual makes.

2.1.3 Wisdom

W*isdom* is the ability to correctly predict the outcome of a proposition (a decision which changes the rules – see below.) If one accurately predicts an outcome, voting weight increases. Voting weight is a multiplier which amplifies or reduces the amount of power one receives in the voting process compared to other individuals. Individuals with different predictive success rates have more or less power in voting. Very correct voters have extremely high amounts of voting weight and very incorrect voters have extremely low voting weight. Average voters fall somewhere in between. Voting weight is continually refined as each voter is proven correct or incorrect in each voting cycle.

The feedback of correctness into voting weight simultaneously suppresses ignorance, naiveté and corruption while offering great power to those who prove to be *wise*.

2.1.4 Feedback Transfer Functions

Wisdom is computed over successive voting/prediction cycles using a feedback transfer function. This function can be very simple. When one is correct about a prediction, they gain voting weight. When one is incorrect, they lose voting weight. The form of the feedback transfer function is not as important as the fact that it performs better than random chance (or no feedback at all – a direct democracy.) In practice, the feedback transfer function will assign a diminishing weight to past prediction events. For example, the last prediction might be worth ½, the next one back might be worth ¼, etc. Once again, the exact implementation is unimportant compared to the overall empowerment of the wise and the marginalization of the ignorant, naïve and corrupt.

As described below, *credibility* is also computed using a feedback transfer function. It is used in the *proposition deliberation* process, also described below.

In this document, we refer to *voting weight* as a single measure of wisdom. In practice, multiple voting weights are defined by the populace, one for each category of issue. For example, health care issues would likely be separate from voting weight for policing, traffic, zoning, taxation, monetary issues, etc. Voting weight categories are defined as part of the rules and may be added or removed as the population decides.

2.1.5 Required Technology

Without modern technology, Sapiocracy would be extremely inefficient and likely to be corrupt. With modern technology such as hand-held, touch screen, wireless devices and networks, Sapiocracy can be far more efficient than any historically prevalent group decision-making system.

Sapiocracy requires a distributed computing system (see Appendix A) which is both attack resistant and fault tolerant. This is not impossible to produce, but requires careful expertise to properly specify and implement. It has been said that the successful production of such a system would be a first in world history. This may be true, but this statement alone does not make the task impossible. Achieving this feat is quite possible.

> Note: Ethereum exhibits some characteristics of such a system which could be used in part to build a functional Sapiocracy. (See http://www.ethereum.org/ for more information.) There are many ways to build such systems and Ethereum could provide certain pieces to a larger system.

2.1.6 Rules, Enforcement and Justice

The long-standing notion of collective rules is deeply understood in human societies. Sapiocracy is a decision-making system that enables its participants to directly produce and modify rules. How these rules are administered must be embodied in the rules themself and is not part of the Sapiocracy protocol. In other words, Sapiocracy provides the mechanisms to manage rules but does not *and cannot* enforce them. Only people can enforce rules by following rules. The people determine the rules that describe how the rules are enforced and how any system of enforcement and justice is implemented.

2.1.7 Full Transparency

With very specific exceptions*, all information in Sapiocracy is open for inspection by every individual. If anyone sees a problem, they can interact with the system to cause action. There are no secrets.

> ** One exception is voter identity. It is very important to prevent bad actors from gaming the system. Certain sets of data must be kept out of public view and it is likely that anyone caught collecting this information without explicit consent of the people and for an agreed purpose will be severely punished under the rules. If criminals collect this information, they could use targeted bribery to gain advantage in the voting process – "throwing votes." Even in this case, Sapiocracy's logic would react decisively against the corruption, but not until after a delay necessary to determine outcomes. Anti-hacking primitives in the computing system help to prevent this.*
>
> *Another exception is partial voting results during voting periods. It is very important that nobody is able to see the results of a voting process before the voting process is complete. This prevents people being able to "front-run" decisions and gain unfair advantage over the rest of the population.*

2.1.8 Ideas, Propositions

Any participant can suggest an idea. Initially, each idea is visible to a relatively narrow set of people. As an idea gains support, the idea becomes visible to more people. Once an idea gains enough support, the idea becomes a proposition under deliberation (described below.)

Ideas consist of the same elements as a proposition, but are considered separately to indicate that they're not considered *in deliberation*. (See *Elements of Propositions* below.)

Any individual looking at a given idea can specify whether or not they feel the idea should become a proposition. If they agree or disagree, then that individual's voting weight and credibility is added to support or object to the idea. The more support an idea gains, the more people it is visible to and the more voting weight and credibility it can attract (both for and against.) A constant threshold controls how much support is necessary to promote the idea into a proposition. Another constant controls what ratio of objection defeats an idea. Ideas suggested by those with low *credibility* (described below) will initially be visible to those with similar credibility and become visible to those with more credibility as the idea gains support. Ideas can be suggested by anyone, but most ideas do not become visible to most people until they've gained enough support. This prevents a large problem of direct democracy – information overload.

Each idea is either supported by others or discarded due to lack of support or overwhelming objection. Discarding is easy, so we will not discuss it further. Acceptance as a proposition promotes the idea to the next stage, which is the deliberation (described below.)

2.1.8.1 Elements of Propositions

Each proposition is composed of a set of information elements. Below is a (possibly incomplete) list of elements in a proposition.

- Short (line-item) description
- Full description
- Case(s) for the idea
- Case(s) against the idea
- Statements of fact
- Reference material
- Wisdom category list
- Outcomes if proposition passes a vote
- Outcomes if proposition fails a vote
- Estimated costs (automatic)
- Voting process rules/parameters

The short description is used as a quick one-line description that makes it easy to list the proposition as part of a list of ideas or propositions. The full description is a potentially lengthy description with all detail necessary to explain the idea completely. These descriptions are worded such that they state what should be done in order to make the change embodied by the idea. These descriptions include estimated costs (marked as such) and are automatically totaled in the *estimated costs* element.

The case(s) for and against the idea are arguments about why the proposition should or should not be adopted. Any assertions of fact used in these arguments must be included as separate *statements of fact*.

Statements of fact are assertions used to support the cases for and against the idea.

Reference material elements are used to justify statements of fact. These include articles, research studies and other information drawn from various sources. These can even be statements of opinion by experts.

The wisdom category list determines how voting weights are operated on after outcomes are determined. Each item consists of a wisdom category and a multiplier which is used to scale the effect on voting weight.

Outcomes for both pass and fail are descriptions of expected conditions which could occur if the proposition passes or fails. Outcomes include methods to test the outcomes including exactly how testing is to be done and the time(s) at which such testing must be done. These methods also include estimated costs, which are automatically totaled in the *estimated costs* element. During the voting process, outcomes ideally appear as multiple choice options of the most common expected outcomes. (See *Voting* below for more detail.)

Estimated costs are automatically totaled based on all costs cited in the other elements.

The *voting process rules* element is used to specify how voting will happen. Voting normally happens using a standard set of rules. Sometimes, the voting process is modified because of specific characteristics of a proposition which should modify how it is voted on. For example, some types of

votes cannot be tested with empirical tests. An example of this might be some change which is only expected to be measurable using a democratic vote at some time after the change. This is not directly scientific since data collected outside of the opinions of the population is not used. This would be a change to the normal process, so it must be specified as a change to the voting process rules.

2.1.8.2 Proposition Deliberation

Deliberation is the process by which an idea has become a proposition and is refined to the point where it will be voted upon.

Initially, an individual submits an idea to the system. This idea will often be incomplete without most of the data associated with a full proposition. The proposition's content must be decided upon and many individuals add their input and deliberate over how it the idea should be implemented and what information should be included in the proposition. This includes wording changes, content changes, references, cost estimates and all other information necessary to complete the proposition so it has all required elements.

Any individual can add elements to a pending proposition and can post their input on any element. Each change starts in a state of having only the *credibility* (described below) of the submitting individual. As others offer their support or objection, the change becomes more or less likely. Objections may include alternative suggestions which are essentially changes to changes.

This process creates a hierarchy of suggestions starting at each top-level element and working toward more detail. As each suggestion gains support, it is elevated such that the most supported changes are automatically implemented. The suggestions overcome by more credibility are eventually discarded because of lack of support. Defeated suggestions never become top-level changes.

There are a finite number of actions that control what happens to a given element of a proposition. A (possibly incomplete) list follows:

- Agree
- Abstain
- Objection: complete disagreement
- Objection: additional point
- Objection: wording change

Individuals can suggest these actions against any element in the proposition element hierarchy. Each action often includes a more detailed description of why the suggestion is being made. Others can then add suggestions to suggestions, etc. This ends up looking much like a message thread in an online discussion. The top level of each hierarchical tree is an individual element of the proposition.

The benefit of this structure is that individuals are essentially voting for their change and offering their *credibility* behind their vote. As these credibility values increase and decrease for each suggestion, some suggestions *win* by replacing their target and some *lose* by being discarded.

As this process progresses, the proposition either fails to gain enough *credibility* or survives, refined into a votable state. Propositions become votable when sufficient *credibility* for the proposition is accumulated compared to the *credibility* against the proposition.

Once all necessary elements in a proposition gain enough credibility, the proposition itself becomes a candidate to be *votable*. At this point, enough people must vote to make the proposition votable in order to move the proposition into the state of being voted on. This includes setting the dates/times between which the votes will be taken.

2.1.8.3 Credibility

Credibility is similar to *voting weight* and may even be multiplied by voting weight depending on which part of the deliberation it is being used in. *Credibility* is a measure of how much an individual should be *listened to* in the deliberation process. Each individual starts with a default amount of *credibility* (perhaps 1.) Credibility is earned when an individual's suggestion prevails against any other suggestion at any point in the deliberation process. Credibility drops when a suggestion is defeated by being objected to.

This credibility index creates an automatic way to suppress the procedural waste caused by the unwise and mischief-makers. It allows the system to more quickly show people suggestions that are suggested by those with higher credibility. It allows the system to hide most suggestions from most of the people until they gain enough credibility to be reasonably considered. This prevents information overload.

Consider these two scenarios:

a) A person with a very high voting weight and very high credibility proposes an idea for a change to the rules. The system should very quickly show a large number of people this new suggestion and prioritize it highly. There is little risk of wasting people's time because the individual has been shown to make good suggestions and also be very correct about predicting outcomes.
b) A person with very low voting weight or very low credibility proposes an idea for a change to the rules. This is the common case. The system should not show the suggestion to very many people in order to prevent information overload. The system can severely limit the number of people who see the suggestion and can also prioritize the suggestion below others. This avoids wasting people's time because there is a high risk that the individual making the suggestion has shown that they do not make good suggestions or they are not correct about their prediction of outcomes. As a suggestion gains credibility, the number of people who see the suggestion increases rapidly.

The credibility index will tend to make good suggestions become visible to everyone quickly (rapid adoption) while defeating bad suggestions without bothering most of the population.

To be specific about how credibility is computed: If an individual suggests a change and the change is adopted (or changes to that change are adopted), then the individual gains credibility. An additional multiplier for credibility could be applied if the proposition survives to being voted on. Additional

credibility could be added if the overall proposition is passed (rather than defeated.) Further, additional credibility could be added if the proposition's outcomes related to the individual's suggestion was proven correct. Similarly, the inverse could be true – as the proposition works its way through the system, the individual could lose more and more credibility depending on how incorrect they are proven to be.

Credibility between individuals will vary wildly. Very wise, educated individuals who take Sapiocracy seriously and have good ideas to contribute will gain very high credibility. Unwise, uneducated individuals and individuals who do not take the process seriously will suffer very low credibility indexes.

Low credibility is used to optimize the process of deliberation. One can imagine that with a large population, the number of suggestions becomes overwhelming if every person must see everyone else's suggestions. Most suggestions will be easily defeated by better suggestions. It is important that every suggestion be seen by enough individuals so that if worthy, it will survive deliberation. What this required number of people is remains as a matter of research. Most of the population can be shielded from seeing most suggestions until the suggestions gain sufficient credibility.

2.1.8.4 Votable Propositions

Once all necessary elements in a proposition exist and have enough credibility, the voting start/stop times have been set and enough people have supported the overall proposition with their credibility, the proposition itself becomes *votable*.

The system notifies people of upcoming voting periods for each proposition and which propositions can be voted on at that moment.

At this point, each individual can cast their vote and make their predictions.

2.1.9 Voting

Voting starts with a voter choosing pass or fail for the proposition. In this way, Sapiocracy appears to the voter as identical to a direct democracy.

Sapiocracy differs from other democratic systems in that each individual must also predict the possible outcome(s) of both pass and failure cases for each proposition. For passage, the voter specifies which multiple-choice outcome they believe will occur. For failure, the voter specifies which multiple-choice outcome will occur.

If a voter feels that their prediction is not represented in the prescribed outcomes, they can specify a written outcome. These written outcomes will very rarely be used, but may be extremely helpful if the outcome is unexpected. Voters who are correct with a write-in prediction should gain a large amount of voting weight because they will have been shown to have more insight about the result than all of those involved in preparing the proposition for voting.

No results are given during the voting process. This is done to avoid the situation where individuals vote with the group and also to prevent some people from gaining advantage by "*front-running"* the vote's outcome.

Once the voting process is completed, the results are released and the proposition either takes full effect or is relegated to history. Testing outcomes is codified into the rules and must be carried out as dictated by the proposition.

Each voter will be able to see their voting history, but not their actual voting weight. Voting weight is only important to the operation of the system itself. It is important to hide individual voting weight because, if visible, the natural instinct is to compare and even compete for voting weight. This leads to people keeping track of each other's voting weight, which further leads to collections of voting weight information. If criminals collect voting weight information, they will use targeted bribery to bias votes. Access to voting weight information should be restricted such that it is only available to those given express permission to do so for a specified purpose or such that the information is sufficiently anonymized to prevent individual or group identification. The punishment for anyone disobeying this rule should be severe as the resulting corruption could be significant.

Corruption through voting weight information can only happen when individuals or groups with high voting weight can be found in such a way that they could be targeted for criminal bribery. It is trivial to provide ways to see aggregated and/or anonymized voting weight information such that individuals cannot be identified with the data offered. Anyone may be able to get information on voting weight, but without specific information about identities. Care must be taken so that even geographic isolation of groups is not reasonably possible. The rules for these restrictions can be refined using Sapiocracy itself over time.

Access to voting weight information can be very useful for figuring out ways to increase education and efficiency. It can also be useful for corruption through bribery. Sapiocracy should be used to find the delicate balance between these two extremes. Initially, Sapiocracy should be conservative to prevent corruption first and open up the access to data only under the careful approval of the wise.

2.1.10 Outcome Determination

As described by the proposition, the outcome is determined at some point after the proposition is passed. Once determined, the results are input into the system.

Sapiocracy modifies each voter's *voting weight* based on their predictions. If the voter predicted correctly, the voter enjoys an increase in voting weight for future votes. If the voter predicted incorrectly, future votes will be less powerful.

If the outcome is not included in the specified multiple choice possibilities and the proposition allowed for write-in outcomes, then all write-in outcomes are searched to determine if anyone correctly predicted the outcome. If so, those voters receive more voting weight while all others lose voting weight.

2.1.11 Outcome Triggers Individual Education

Once outcome is determined, everyone who was correct about the outcome can participate in a deliberation process similar to proposition deliberation. This process prepares educational material for those who predicted incorrectly. All who incorrectly predicted the outcome (or did not vote) is

presented with this educational material. These voters have lost voting weight and must choose to change their thinking or continue to lose voting weight on subsequent votes relating to the subject.

This should be a strong motivator for people to understand the reality in which they live as proven by the outcome determination process. If voters expect to have any power to change their environment, they must learn.

2.2 System Startup

This section covers some details about how Sapiocracy can be started.

2.2.1 Start-Up Voting Weight

Initially, Sapiocracy makes no assumptions about voting weight – all voters have equal weight. This is equivalent to a direct democracy. As outcomes are determined, voting weight is adjusted. A new Sapiocracy should be started by a group of *founding fathers* who guide the system until the system has enough wisdom information to produce results clearly superior to a direct democracy. Once this occurs, the founding fathers must cede control. This can be seen as similar to the process of writing and adopting the constitution in the United States in the late 1700's.

2.2.2 Start-Up Redundancy

This is a technical detail, but worth mentioning here. It is important that a Sapiocracy be started with more machines than necessary in order to avoid initial compromise. Once Sapiocracy is functional, propositions can be used to determine the best way to configure the system.

2.2.3 New Voter Startup

When new voters start voting, they initially have no weight. As they vote, their new-voter voting weight increases. Going from 0% valid voting weight to 100% valid voting weight might, for example, take 5 outcomes to be determined. This gives the system enough information to *feather* new voters into the system without causing problems caused by a wave of initial naiveté, incompetence or corruption.

This initial voting weight is implemented in the system with a separate multiplier that is used to ramp the voting weight up as the outcomes of a new voter are proven. Once this multiplier reaches 100%, it stays at 100% forever.

3 Expected Results

Sapiocracy will likely produce an environment differing radically from those produced by other systems.

3.1 Direct Democracy

Sapiocracy's voting system is a direct democracy where voting power varies based on ability to predict outcomes over time. Although no direct democracy has survived for long, Sapiocracy eliminates the problems that typically cause its failure. It is possible Sapiocracy has unforeseen problems and research will prove whether Sapiocracy will prove effective.

Every individual has equal *opportunity* to vote and interact in the decision-making process. This does *not* mean that every individual has an equal vote.

Direct democracies with equal voting fail partially because populations discover they can vote themselves benefits from the collective, resulting in financial collapse. Sapiocracy elegantly avoids this flaw as described herein.

3.2 Equal Opportunity – A Fair System

Sapiocracy uses weighted voting and still retains the notion of complete fairness. Each individual's voting weight is the result of that individual's free choices in an environment where the opportunity of all participants is equal.

Although tempting, it is impossible to construct a meaningful argument as to why Sapiocracy is unfair. Some express opinions along these lines but finally concede that this line of thought isn't coherent. *(Note: If you have such an argument, please propose it.)* Each individual is *solely* responsible for their own voting weight and opportunity is equal. Stated differently, each individual only has themselves to blame if they have lost voting power. No faction can remove voting weight from others without the other's consent.

3.3 Full Transparency

Nothing in the idea, deliberation, proposition, voting or outcome determination processes is hidden (with the few exceptions involving voter identity and voting results.) If any relevant information is lacking or incorrect, anyone may present a better idea to correct the problem.

3.4 Elimination of Widespread Corruption

The power of individuals whose predictions prove to be incorrect is suppressed. Simultaneously, the system empowers those whose predictions prove to be correct. Those who advocate incorrect corrupt ideas will be proven so because corruption requires a false truth claim (a lie) describing the outcome. Further, those convinced of such a lie will also be proven incorrect. In all cases, voting weight of those advocating or deceived by corruption is suppressed. It then follows that those who are correct enjoy increased voting weight. Those who are not corrupt continually gain power against those who are corrupt. The path to greater voting power is always through being correct about outcomes, which requires the absence of corruption to succeed.

3.5 Will Not Break Down Over Time

The slow process of systems being corrupted over time is well documented and understood. It is caused by the lure of corruption overpowering a system in which the corruption is allowed to grow.

Sapiocracy naturally suppresses the ignorant, the naïve and the corrupt while empowering the wise. When systemic degeneracy can manifest at all in Sapiocracy, it is suppressed faster than it can grow. This characteristic sets a maximum level of systemic degeneracy at the lowest imaginable level.

3.6 Wisest Possible Decisions

Sapiocracy should produce the wisest possible decisions.

Since the wise (those proven to be most correct) have the most voting weight, it can be easily shown that the result will be the wisest possible decisions over time. It seems impossible to argue otherwise as to do so would be to claim those who have been shown to be incorrect must be better at predicting a correct outcome than those who have been shown to be correct. This cannot be the case.

There is a case where a historically incorrect individual will suddenly be correct, but there exists no way to detect this case. Accounting for this case would require the ability to know future events, which is impossible.

3.6.1 No Leaders

There are no *leaders,* per se. The leaders could be said to be the wisest people in the population, but they generally won't know who they are. This is because each individual can see their own voting record, but not the records of others. Sapiocracy should provide no way an individual can see their own voting weight or compare it to others. As noted above, this prevents the possibility of criminals using targeted bribery. The rules should severely punish individuals who collect voting record information for more than a few people.

3.6.2 Empowerment of the Wise

The wise being chosen as leaders worked so well in prehistoric times that it became the norm. Human brains evolved for hundreds of thousands of years in this environment – humans instinctively follow those demonstrating authority. Sapiocracy is intuitively similar, but Sapiocracy adapts magnitudes faster and without bias toward regard to age, popularity, race, religion, gender, physical appearance or attractive promises. Sapiocracy codifies the process so that the wise are empowered as a consequence of their actions rather than the tribe deciding on who should be the ruler(s). Stated another way, all factors other than predictive accuracy are removed from the system – the scientific method decides who is wise and who is not.

3.6.3 Instead of the Manipulative/Shrewd/Corrupt/Criminal

Historically, as population increased, so did the size of the decision-making structures they used. This enabled vast opportunities for corruption to be hidden from the population. This produced systems which become increasingly corrupt over time. Groups of people found themselves in such severely imbalanced environments where the only way to overcome corruption was through civil unrest and

violent revolutions. This has caused a cycle of revolutions over time instead of correcting the problems that cause these cycles.

Sapiocracy disarms the corrupt before corruption can cause serious damage. With each voting cycle, corruption is suppressed and wisdom is empowered.

3.6.4 Disempowerment of the Naïve and Incompetent

The power of individuals with insufficient understanding is suppressed. Simultaneously, the power of those who understand is amplified.

3.7 No Legislators or Lobbyists

Every individual is free to legislate through the deliberation process. Legislation as a public occupation is not just unnecessary, but would burden and corrupt the system. Without legislators, lobbyists are obsolete by definition. This refinement removes nearly all of the control the wealthy have historically enjoyed over legislation.

3.8 Other Changes

Many of these non-obvious changes may emerge gradually as the population found the wisest possible solutions to each proposition presented. Nothing in this document advocates any of these solutions. They are stated here merely to give a vision of social changes likely to occur should populations decide to use Sapiocracy.

3.8.1 Focus on Education

Sapiocracy allows the correct to write educational material and sends it to the incorrect. People should rapidly learn that being correct about future predictions matters. The choice is obvious: *"Learn to be correct or lose power."* There is no public announcement or humiliation – no one need know about an error except those who made the error. Each individual silently knows they will either learn or lose future influence. This will produce an environment where teaching correctness to children matters. It is very likely that honest education will quickly become a hallmark of good citizenship and the population will likely enact policies that refine honest education.

Honest, unabridged, relevant education will naturally saturate society as a trusted and unquestioned axiom. Correctness of predictions in Sapiocracy is an obvious goal. Increasing one's correctness is only attainable through empirical education. Most everyone will value being correct, because that is what causes benefit for the future. People will teach their young to focus on being correct as a path to success. Critical thinking will become the most important educational focus, likely taught first and continuously from a very young age forward. This is in direct contrast with virtually all historical large-scale education systems.

The attribute of wisdom will become the most revered attribute in the society. The manipulative, shrewd, corrupt or criminal will be despised. Is appears impossible to make a moral argument that the human experience should consist of anything else.

3.8.1.1 Critical Thinking Rewarded

Those who demonstrate powerful critical thinking skills are rewarded with voting weight and credibility, making them more powerful than those who cannot - or will not - think critically. This drives the decision-making process, producing environments where mistaken ideas are more easily defeated by refined ideas.

Even when a new decision is adopted with no possible foresight, the measured result quickly divides the population into two groups: those who correctly predicted the outcome and those who did not. This empowers the correct and disempowers the incorrect for the next iteration. Each cycle of the voting system increases the wisdom of the next vote.

3.8.1.2 Education Always Positive

Under Sapiocracy, there is no credible argument against educational feedback. The group always benefits as people increase their knowledge and understanding. It is logically impossible to make an argument claiming education is a destructive force in the system. (Note: Voter identity and partial voting results is an important exception.)

3.8.2 Elimination of Politics

Politics as a subject matter has no positive function under Sapiocracy. Worse, it is potentially dangerous and wasteful. The only conceivable reason to discuss politics is perhaps educationally. Even this is a difficult position to advocate. Convincing a peer that a given proposition is a good political stance is unproductive. Consider the following hypothetical scenario:

> *Bob and Joe disagree on whether or not a proposition should pass or fail. Bob believes it should pass and Joe believes it should fail. If Bob is correct, then convincing Joe to vote for passage would prevent Joe from learning about why it should have passed and Joe will end up with more voting weight, diluting the relative voting weight of Bob. Bob's best bet is to allow Joe to make the wrong choice in order to maximize Bob's voting weight and also maximize the education of Joe.*

It doesn't matter who is right or wrong – it only matters what is the best decision. Vote should be taken individually, voting weights should be adjusted appropriately and those who are incorrect are educated. Since Sapiocracy provides these things without politics, political discourse is likely to vanish.

3.8.2.1 Propaganda Eliminated

Propaganda produces little or no benefit and very likely causes harm. If a faction wants a vote to go a certain way, then there are two possibilities: (a) the idea is good and the propaganda helps everyone in a positive way, or (b) the idea is bad, everyone believing it loses voting weight and the poor decision damages the collective.

Sapiocracy destroys propaganda's effectiveness. The educational feedback in Sapiocracy will further reduce the effectiveness of propaganda as the population will become very aware of how important it is to think critically and not be persuaded by propaganda.

3.8.2.2 Political Discussion Vanishes

Just as the example above (Bob and Joe) illustrates, there is no advantage to having political discussions. Rather than arguing politics, the wisest choice may be to encourage everyone to vote as they may, make their predictions, see who prevails and receive education when incorrect. The incorrect will learn and if they don't, they become harmless over time.

3.8.2.3 Benefit of Debate – Education

The benefits of debate are arguable, but political debate is very difficult to justify. Since Sapiocracy determines outcomes, the only positive benefit of debate is to stimulate thinking about the issues at hand and what the outcomes might be. This eliminates political tug-of-wars about issues and converts them into productive discussions where everyone can learn.

3.8.2.4 No Political Advertisement

Since there will be few elections and only for time-critical agencies, political advertising will nearly cease. Advertisement for propaganda's sake will be ineffective for reasons already described.

3.8.3 Elimination of Legislators

Voters are responsible for originating and refining propositions. This leaves no function for legislators as everyone is a potential legislator. Elected officials will exist only if the population agrees to have elections for certain public officials such as police and fire chiefs, sheriffs, judges, etc. These positions fill jobs that require real-time decision-making.

3.8.4 Common Computing Platform

Sapiocracy requires a hardware and software platform on which to base the Sapiocracy software. There are several attributes to this system which are critical:

Open Specification: The system must be openly specified such that any individual or organization can create a new implementation of the system without input from anyone else. This separate entity must be able to test the system using its self-testing capabilities to see that both it and any other system with which it communicates operates properly.

Self-Testing: The system must be self-testing for various reasons. One reason is so that a new implementation can be tested for correct functionality. Another reason is to detect errors in systems in case of attack or failure.

Redundant: The system must be redundant so it persistently reliable and immune to attacks. This is most easily understood in terms of storage, but can also be applied to logic – each process is executed by different physical computers to make sure that no single computer has different logic or data to work with.

Secure: The system must be secure from hackers who could otherwise compromise the functionality of the system.

Private: The system must be able to keep information absolutely private when necessary to varying degrees.

Many of the above subjects are vast and are not covered in detail here. There is more related information in Appendix A.

3.8.4.1 Reliable Storage and Shared Computation

A byproduct of Sapiocracy's reliability and privacy systems, the system can immediately be used to offer persistent, reliable storage and computing functions to the population, should they so decide. This is essentially the definition of so called *cloud computing*, except in a corruption-free implementation.

Private corporations make *cloud computing* nearly impossible to standardize as they fight for market share. This keeps the corporations necessary and in a position to benefit from the population's dependence on their systems. This corporate control produces a remarkably dangerous situation in which a few people could have massive control over the population through breaches of their privacy. Cloud computing providers will be opposed to this as it would destroy their business model.

Most people would agree that standardized access to data storage and computing power must be regulated and heavily protected against abuse. It is obvious that such powerful tools should be treated as a highly regulated public utility.

Without a secure, standardized and fully transparent system like Sapiocracy, protecting these capabilities from corruption is practically impossible.

3.8.4.2 Banking

A byproduct of Sapiocracy's secure storage and computing is the possibility of offering secure basic banking functions to all voters. This includes a basic bank account (virtual store of wealth), management of money, payment transfers, etc.

This would eliminate all merchant service providers as these services would be provided in a standard way to all individuals. Banks will be opposed to this as it would destroy their business model.

If everyone has a standardized bank account integrated into Sapiocracy, tax can be payed automatically, at virtually no cost and with more flexibility than any other system.

3.8.4.2.1 Elimination of Most Banking

When presented with the question "What is banking?", most people say *banking* includes a checking account and the ability to pay for things via some sort of virtual payment facilities like ATM cards, credit cards and perhaps online payment services. This is how most people define *basic banking*.

If basic banking is implemented using Sapiocracy's secure platform, then most banking as we know it would vanish.

3.8.4.2.2 Honest Money

Since Sapiocracy's computing system is secure and private, it is highly likely that all basic banking, payment processing and taxation will be integrated into the system. Since everything about the system is transparent, it is virtually inconceivable that populations will agree to schemes like private central banks or fractional reserve banking. This results in *honest money* system rather than fiat money systems.

3.8.4.2.3 Budgets Can Be Automated

Since propositions describe costs, these costs can be integrated into the overall system and each individual can be shown exactly how much each proposition costs them. Additionally, an entire accounting of all costs can be available at any time to the population. This includes facilities for anyone to use powerful software to research how money is spent by the rules. It will be difficult to argue that money should be spent on anything that is not clearly visible by everyone.

Additionally, propositions can optionally be paid for using crowd-sourced payments, so that only those who volunteer to contribute to such a proposition pay for it. This provides another form of funding for public projects other than taxation – crowd funding.

3.8.4.2.3.1 Fully Transparent Accounting

All costs are visible to all individuals at all times. Of course, how this is done is controlled by the rules, and the population creates the rules. If something is missing or could be done better, the population can make suggestions to implement changes to address problems.

3.8.4.2.3.2 Open Bidding

When the population decides work should be done, contractors can produce bids and the population can decide which bid to use in the same way any other proposition is handled. This bidding system can be integrated into the proposition deliberation process. The predicted outcome can be used just as with any other proposition to determine which people are better or worse judges of which bid to use.

3.8.5 Anti-Trust Issues Likely Handled Real-Time Via Common Wisdom

Anti-trust a very successful notion that was first commonly used in the late 1800's. The basic principle is that overly powerful individuals or groups should be held to higher standards of conduct than those without such power. They can be fined and even forcibly broken up in order to prevent and correct monopoly behavior.

Rather than codify this into the rules, people can suggest ideas and propositions to prevent or remedy monopoly conditions. In this way, the population is very likely to be used for anti-trust action.

There may be other categories of rules which are more efficiently handled this way than through other mechanisms.

3.8.6 Other Topics Happen Via Common Wisdom

There are some topics that are currently known to top legislators but are generally unknown to the population. These issues would be handled by the population at large in response to problems. These end up causing suggestions destined to become propositions to be voted upon.

3.8.6.1 Subsidies

Sometimes it is in the interests of the population to subsidize an industry, group or individual. There does not appear to be a reason that the population should not have the ability to use rules to subsidize an entity for the benefit of the population.

3.8.6.2 Inter-Sapiocracy Cooperation

Local cultural and geographical differences will exist in the foreseeable future. It is very likely that Sapiocracy systems will be used on a very local level and integrated with each other to form hierarchies.

3.8.6.2.1 Peer Systems

When two adjacent Sapiocracies exist, the populations of each Sapiocracy act as a unit and can agree to cooperate to varying degrees. This is how Sapiocracies will form peers. It is very likely they will cluster together into a higher level Sapiocracy representing the collective of all of the peers.

3.8.6.2.2 Hierarchical

Humans naturally form hierarchical decision-making structures. For example, ten separate hobbyist clubs may have their own Sapiocracies to make decisions specific to their own hobbies, but a higher level Sapiocracy might be used to control common rules for all of them.

3.8.6.2.3 Conversion and Absorption of Neighboring Groups

When two Sapiocracies exist as geographical neighbors, they will tend to join into a single Sapiocracy as long as the differences between them are not severe enough to justify having separate rules. This benefits all joining Sapiocracies as they all enjoy the added benefit of the increased populations of wise decision-makers. The unwise members of the population are disarmed by Sapiocracy, so combining them does not cause nearly as much damage as the benefit provided by combining the wise populations.

3.8.6.2.3.1 Larger Populations Yield Wiser Decisions

Assuming the percentage of wise people is similar across populations, there will always more wise people in two populations as there are in one. This will always yield better decisions as there will always be more wise people to draw from. Fewer mistakes will be made because more wise people will be available to make better decisions.

3.9 Things That Will Not Change

Some things will not change, usually due to the need to solve time-critical problems. Any decision requiring faster resolution than Sapiocracy can deliver will likely be assigned to agencies set up for their individual purposes.

Emergency-response systems will continue to be managed in real-time by individuals. It simply takes too long for participants to create an idea, refine it into a votable proposition and vote. Examples of time-critical problems are assaults, robberies, accidents, fires, ambulatory care, dangerous system malfunctions and disease control. Populations will need agencies run by people in order to efficiently solve these types of problems.

The rules for these organizations are determined by the voters just like any other legislation. They may choose to hold elections for such offices or use some other method to fill those positions. The Sapiocratic process is still a notable improvement over historical methods of determining those rules as Sapiocracy will produce more efficient ways of operating these organizations than would otherwise be found.

4 Appendix A – Computing Topics

The implementation of Sapiocracy requires an open specification, self-testing, secure, reliable software system.

This is a minimal essay to touch on some of the topics related to technical implementation. This topic is well beyond the scope of this document.

4.1 Specification-Based System

Open specification is very, very important.

An open specification enables any individual or organization to prove or disprove the functionality of the system, without outside influence. This is the only way to produce a system that does not have a possibility of corruption built into it. As each separate implementation is tested, validated and brought into the system, compromise becomes more difficult.

> **IMPORTANT: Without open specification, no large technological system can be implemented and known to be free of corruption.**

If anyone questions the integrity of the system, they can be directed to the open specification. If that faction can find a flaw in the specification, then the flaw can be corrected. Any argument against the integrity of the system can be said to be invalid unless the offering faction can show the flaw in the specification which enables the corruption. Finally, to prove that the specification matches the implementations, anyone is free to implement their own implementation according to the specification and use the self-testing abilities of the specification (described below) to prove that all implementations are correct.

Once again, open specification is very, very important.

4.1.1 Self-Testing Functionality

Sapiocracy's design implements self-testing functionality. This solves two problems: (a) any individual or organization can build a Sapiocracy system and test it against another Sapiocracy system to ensure that all implementations operate properly and (b) the specification can be audited for errors and vulnerabilities to corruption.

4.1.2 Anyone Can Challenge Sapiocracy

Anyone must be able to implement and test Sapiocracy. This encourages many implementations with compatible functionality. Attacking any system comprised of many implementations is more difficult than attacking a single implementation.

4.1.2.1 New Implementations Encouraged

The implementation of new Sapiocracy implementations is encouraged in order to maximize the number of implementations in use. The more implementations in use, the more difficult Sapiocracy is to attack.

4.1.2.2 University Programming Requirement

Perhaps college-level programming courses could require individuals to implement parts or all of Sapiocracy in order to pass. This would produce a constant stream of new implementations, increase security dramatically and teach in detail how Sapiocracy works to all programmers.

4.2 Hardware/Software/Platforms

The hardware and software platforms used to implement Sapiocracy are unimportant as long as all vulnerabilities are addressed. Unfortunately, most available hardware and software platforms contain very serious vulnerabilities. Fortunately, there are relatively easy ways around these vulnerabilities. Ongoing research will address all of these vulnerabilities.

4.2.1 Isolating Attack Vectors

There are two major types of attack vectors: Hardware and software.

Software attack vectors are widely known and include vulnerabilities such as stack corruption problems with languages like C and C++ and bugs allowing unintended functionality. Operating system vulnerabilities which allow attackers to gain privileges beyond what they should be allowed are common. Software vulnerabilities are well known and must be taken seriously in Sapiocracy's design. Many of these can be overcome through redundancy and multiple implementations.

Hardware attack vectors are much less well known, but they are the most dangerous when dealing with a highly capable attacker. Peripheral devices such as Ethernet controllers are capable of carrying out remote commands without the host CPU being aware. When present, an Ethernet controller attack is virtually impossible to defeat with software. It may be possible to detect some of these attacks with specialized hardware systems but this should not be relied on. In these cases, hardware solutions are easy to construct to eliminate the possibility of hardware attacks. It is possible to isolate hardware attack vectors using simpler interfaces such that hidden signals cannot be transmitted across nodes in a network. This is a very advanced topic and will not be covered in detail here.

There are hardware defenses like faraday shields and the use of noise which can be used to prevent TEMPEST attacks.

4.3 Computing Security Systems

There are many issues involved in securing a Sapiocracy system. The below is a limited set of primitives which can be used to secure such a system.

The goal is to create a system which is impossible to attack successfully. This doesn't mean that every computer must be 100.0% secure. It means instead that the entire distributed system must be impossible to attack successfully (a) within a timeframe which cannot be reacted to in order to suppress the attack and (b) at a cost that is attainable by any human faction. This means that attack detection and timely response can be a major part of the design.

In order to make Sapiocracy secure *in practice*, we must only increase the cost of the attack beyond what anyone can afford ***or*** reduce the odds of success down to something that is impossible *in practice*.

The combination of these two is the relevant factor to consider. For example, if the odds of success are one in one billion attempts and each attempt takes one hour, then it would take one billion hours (115,000 years) for a successful attack. Such a system is secure using any reasonable understanding of the term. (Human history spans perhaps 13,000 years.) How long a sustained attack can continue depends on the cost of the attack. As the attack increases in cost, the duration of the attack must necessarily be shorter.

Sapiocracy can relatively easily and cheaply be made to be secure for billions of years of attacks from advanced persistent threats.

4.3.1 Redundancy

Attacking one computer successfully is far easier than attacking multiple computers successfully. Sapiocracy will always be implemented across at least 10's of computers and likely hundreds of computers. A large Sapiocracy can be distributed across thousands and even tens of thousands of computers.

Redundancy has the following benefits: (a) Data is stored across multiple machines so a failure on one machine does not cause data loss or corruption. Healing (re-copying of lost data) can be automated. (b) Processes can be executed on multiple machines and their results compared at checkpoints. This detects situations where data is corrupted and also where a given machine or software implementation malfunctions. (c) If a machine has been attacked, points (a) or (b) will fail (see *Tripwire Alarms* below.)

4.3.2 Functional Segmentation

Sapiocracy will be designed such that high risk data and functions are spread across different machines running different software subsystems. For example, a person's name, street address and voting history might be handled by three separate software subsystems, none of which are allowed to exist on the same machine, location or even software implementation. This makes the notion of cross referencing a name to an address or a voting history quite difficult for an attacker.

Different subsystems can be self-checking using hash values created from ranges of data. This means two machines validating each other have no need to send actual data between machines. There are other ways of obfuscating the process such that outside observers cannot determine the data by observing normal communications. Indeed self-checking and normal functioning can be designed such that it is virtually impossible to determine which function is being watched.

4.3.3 One Time Pad Encryption

Instead of using algorithmic encryption, Sapiocracy can use one-time pads exchanged physically and in person. The pad data can easily be created using data collection based on natural quantum phenomenon such as turbulent gas flow or radiation. For example, a recording of air blowing across a microphone generates a waveform which has very random properties and is completely unpredictable. Similar noise production is possible using light, radiation and many other natural processes. Large volumes of data can be quickly and cheaply generated this way. It is trivial to overlay this data between two known endpoints of a network such that a third party observer finds it impossible to discover the underlying message without a copy of the original pad data from one of the endpoint machines.

Further, it is possible to securely destroy this pad data almost instantly after successful transmission on both hard disk and flash media. When this is done, it is impossible to decode recorded transmissions without having a copy of the pad data *before* it is used.

One-time pads have been used since the 1800's and are therefore not subject to patents. Experts commonly discredit one-time pads and claim they are less secure than algorithmic encryption. It could be that the reason they do this is because one-time pads are undefeatable. Those in power would not want large populations to have perfect privacy as it would reduce their control over people's actions.

4.3.4 Bogus Fill Data

Sometimes called *air cover*, most of the network traffic between Sapiocracy machines can be noise that is indistinguishable from valid encrypted data. A third party observer will find it impossible to determine which data is valid and which data is not. Increasing the quantity of bogus data greatly increases attack difficulty.

4.3.5 Tripwire Alarms

Sapiocracy constantly check each other to detect malfunctions and attacks. Any time one system determines that another system isn't responding to a challenge correctly, an alarm will be issued that a human will have to resolve. This is called a *tripwire alarm* after the tripwires soldiers used to hide in order to detonate an explosive near an invading army.

Most valid network traffic between Sapiocracy machines will be used for self-checking.

Tripwires increase the overhead in administrating a system, but they dramatically increase security and keep those involved with the operation of the system communicating with each other.

4.3.6 Overall Impact of the Above

The goal is to make a secure system in the context of the universe we live in. Experts will naively assert that it is impossible to make a secure system and they are technically correct – *in theory*. However, it is possible to create a carefully designed distributed system that is so difficult to attack that no human force can *successfully* attack it within billions of years, even with the entirety of human resources at their disposal. In such a case, there is no relevant difference between a system that cannot be attacked practically and a system that cannot be attacked at all.

5 Appendix B - Common Objections

Below are the most considerable objections that have been asserted against Sapiocracy with an explanation of each.

If you believe you have a new objection, please present it at **http://sapiocracy.com/**.

To date (since January 2013), no one has presented a credible argument as to why Sapiocracy would fail or why Sapiocracy would not function as described.

5.1 #1: Computer System Will Not Be Secure (I Don't Trust the Technology)

Anyone making this claim should be forgiven for their distrust for two reasons: First, adequate security is not very well known and very rare. Second, the entire computer industry has produced a computing landscape riddled with buggy, poorly designed and intentionally insecure systems. Anyone doubting this can be forgiven for their skepticism since the proofs of this are difficult to find.

However, the assumption that computing systems cannot be made secure is dangerous because it isn't correct. It is not impossible to produce a computing system that is secure against all practical attacks. It is possible, regardless of what experts say or what the industry currently offers. If you're not an expert, sit back and relax – experts skilled in this area will be eager to participate when it is demonstrated. Once Sapiocracy functions, one of the highest prizes will be to identify a security flaw.

One major difference between Sapiocracy and other so-called *open source* systems is that Sapiocracy starts with an open specification – not just open source code. This enables anyone to create their own implementation in a clean-room environment, proving the system completely without input from the outside world. If the transparent specification is correct and the implementation passes the self-testing against other correct systems, then the system works, period. This makes the system impossible to corrupt in a way that is not visible to everyone. Any corrupt primitives in the software would have to be visible in the specification or new implementations will detect the logical difference. This is a clever tripwire that is impossible to covertly defeat.

Even open source systems are vulnerable to Trojan compiler viruses and hardware exploits. Open specification systems can be constructed such that they are not.

Whether you're an expert or not, you're going to have to delay your judgment until you can see a full specification, create your own implementation of Sapiocracy and see for yourself. At that point, the system is open for suggestions and research. If you don't have a discrete reason Sapiocracy cannot be made secure, you have no argument at all. The assertion that "no computer system can be made 100% secure" is comparable to arguing that the sun may not rise tomorrow. It is technically true, but absurd in the practical sense.

An example of an existing secure, fault tolerant, transparent, institutionless, distributed system is Ethereum. Ethereum is not as efficient as a system could be made for the purposes of implementing a Sapiocracy, but it is functional for the stated purpose. (See http://www.ethereum.org/ for more.)

Until Sapiocracy is fully specified, implemented and demonstrated over time, this argument is considered incredible, but in fairness, time will tell.

5.2 #2: Different Voting Weight Is Somehow Unfair

It is understandable that some people intuitively feel that a system with different voting weight per person is somehow unfair. This may be partially caused by a lifetime of indoctrination that everyone should have an equal vote. This doesn't match how humans choose to form groups and choose to allocate power to each other.

In fact, the opposite of this assertion is true. Sapiocracy is actually *more* fair than any other system because it constantly corrects individuals' voting weights with their demonstrated decision-making aptitude. To deny this rationale is to claim that ability to predict outcomes of decisions is worthless or somehow unrelated to the quality of a decision.

In order to argue that Sapiocracy's vote weighting is unfair, one must simultaneously make the argument that it is more fair for a person who has been shown to be less correct in their predictions to have as much (or more) power than a person who has been shown to be more correct in their predictions. In more simple terms, one must argue that a less capable person should be given the same or more credibility than a more capable person. This simply doesn't make sense. This is tantamount to claiming wisdom has no value.

Imagine a group of 10 people stranded on a desert island agree they must elect a leader. Which person would be the best to lead? Intuitively, everyone answers this question by saying something like "the smartest person should lead." How do we assess who is the smartest? Thinking this through yields the intuitive response that the person who has been most correct in the past is most likely to be correct in the future. This person should be the best leader. Past performance is the only way humans have to make this kind of judgement. This is how the human brain intuitively works and is exactly how Sapiocracy works.

It is important to understand that Sapiocracy *forces* a system where every person is solely responsible for their own predictions. The only way to coerce someone's predictions is to do so outside of Sapiocracy – to convince them of something which changes their prediction. Even in this case, the person is still responsible for their own predictions because they can make whatever predictions they want regardless of how coercive you are. If you coerce them to be wrong, then it is ultimately *their* fault – not even yours.

Each individual is responsible for their own voting weight. Unless a more compelling argument can be made, this argument is considered incredible.