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A FORMAL SOLUTION TO A PARADOX OF DEMOCRACY

ABSTRACT: Richard Wollheim pointed out a paradox which he claims relates to democracy. We argue that this paradox is not exclusively related to democracy but actually arises whenever there is a conflict between personal preferences and preferences of accepted authorities. Furthermore, we provide a formal explanation of how one can rationally “accept” or “switch to” the preference of the authority she personally accepts and still have different preferences than the authority in question. Our formal solution is based on dynamic epistemic logic, while our philosophical explanation is inspired by Kant’s practical philosophy. On the other hand, we point out to what we believe to be the real exclusive restriction in democratic elections and we argue that, unlike Wollheim’s paradox, this restriction is a special feature of democracy.

KEY WORDS: democracy, paradox of democracy, dynamic epistemic logic.


Nowadays, as well as in the classical age, democracy is understood as the rule of the people.1 Nevertheless, in Ancient Greece, demoi [people] represented only a subset of the whole population, while the notion people in the contemporary democracy means the population as a whole. Is a population as a whole capable of efficient decision making and ruling? This question is not problematic for the ancient notion of democracy, because demoi was only one social layer in the small polis [city-state] and therefore more or less unified about its interests. On the other hand, there is a legitimate question how an outcome of modern democratic elections can be rational. The modern democracy takes into account the whole population. Even if each individual is rational, how can a group as a whole be rational. There are some legitimate assumptions that the group as a whole might be more rational than each member, based on the phenomenon called the wisdom of

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crowds. Still, for such a phenomenon to arise, a whole array of preconditions needs to be satisfied and it is questionable how they can be imposed in practice.

It is important to observe that in the modern democracy, the state is not understood as an entity above individuals, but only as a set of them. The purpose of the state is to make its citizens happy, and not the other way around. For this reason preferences of individuals influence the preferences of the whole state.

In practice, we tend to say that one policy is democratically elected in the modern sense, if it represents ‘the will of the majority’ of the population. Still, it is not simple to establish ‘the will of the majority’. Consider a simple example. Suppose that we need to choose one of three different policies: A, B and C. After the elections, policy A gets 40 percent of the votes, policy B gets 35 and policy C gets 25 percent of all votes.

As a theoretic solution for this problem, Richard Wollheim in (Wollheim, 1969) states that a machine that would count all the preferences of the voters is conceivable. This machine would take into account full preference orders of all the voters. Let us assume that in this manner the real will of the majority can be established, as an ideal of democracy. Now the question arises, why a democrat who voted for a different policy from the one calculated by the machine would accept the elected policy.

In practice it is questionable whether it would be too complicated for people to vote listing all their preferences in order. As a solution to this they could give points to each policy similarly to the Eurovision model of voting. Another question is whether the majority would agree that their decision is being calculated based on some algorithm that the majority does not understand. As a response to this remark, it can be said that already many democratic countries have complex ways of calculating the voting results.

The most problematic conceptual objection asks where the limit of precision of expressing one’s preferences is. If we allow for voting in accordance to the preference orders of each individual voter, why do we stop there? Why not take into account strictness of one’s preferences, measuring what exactly a voter feels? In this manner our calculations would come closer to those of Jeremy Bentham’s utilitarianism. The point is not what you feel, but what your decision is and how many points your decision should have.

2. The Formulation of the Paradox

Wollheim in (Wollheim, 1969) pointed out a paradox of democracy that can be summarised as follows. A voter who is a democrat, i.e. thinks that democracy is the

best political system, should choose whether to vote for policy A or for policy B at
democratically conducted elections. Now the voter believes: “Policy A should be
conducted”. On the other hand, policy B gets elected by means of calculating the
results of democratic elections in a manner that the voter believes to be the right
one. In this situation, as a true democrat, she should believe “Policy B should be
conducted”. Obviously, if policy B is conducted, then policy A is not conducted.
Still the voter might keep her previous belief that policy A is the best one, and that
“Policy A should be conducted”. Now, her beliefs seem inconsistent, because she
believes the conjunction “Policy A should be conducted and policy B should be
conducted”. The main question is, whether it is coherent that a democrat has
preferences at the elections, and then later accepts the results that oppose her
previously made choice.

As a step in overcoming this paradox, the following analysis has been proposed in
(Clark, 2007). The real preference order of a democrat should be the following:
I. Democratically conducted policy A.
II. Democratically conducted policy B.
III. Non-democratically conducted policy A.
IV. Non-democratically conducted policy B.

The reasons for this preference order are external, i.e. why one wants to be a
democrat is still not answered. We agree with this analysis. Still it does not give us
an explanation of what happens after the elections.

3. Will versus Desire

The solution that we want to propose is inspired by Kant’s distinction between
will and desire. Kant’s hypothetical imperative is an instrument of practical
rationality that determines our actions.3 What it says can be summarised in the
following way: If you want the goal then you also want the necessary means that
are in your power to achieve that goal.

If our desire is in accordance with Kant’s hypothetical imperative, our desire
becomes our will, or what we want. What one wants differs from what one desires
and it arises after application of the mind to one’s desires and preferences.4

For instance, a boy can desire an ice-cream, but at the same time he does not
want to gain weight. Therefore, at the end he decides not to eat the ice-cream. In
this case we can say that his initial desire to eat ice-cream did not become his will.

3 ‘Us’ should be understood as ‘every rational being’.
4 For more on the means-end reasoning in Kant see (Johnson, 2010) and for its applications in
logic (Roy, 2008).
According to Kant, it is impossible to want the final result and not want the aims. On the other hand, there are some desires that can never be actualised and therefore cannot become the will. For instance, I might desire to levitate on Earth, but since this is not in my power, this cannot be a representation of my will.

Now, we can say that our voter before the elections desired that policy A is conducted, but she wants any policy that is democratically elected. She only desired that policy A is conducted, because she did not want it to be conducted by all means. Therefore, this cannot be the hypothetical imperative for her. On the other hand, she wants whatever is democratically elected. This means that already before the voting she knew that she would accept any result. Furthermore, it is perfectly coherent that after the announcement of the voting results, she keeps her previous desire that policy A is conducted rather than policy B.

4. A Proposal of the Formal Solution

We model the agent's preferences by a preference order. We assume to work with a finite set of worlds. The models that we are considering are of the form (W, ≤, ~) where ≤ is a total preorder representing the agents preferences and ~ an equivalence relation which represents what is possible for the agent.

The desires of the agent are represented by the preference order ≤ on the set of all worlds W. The most desirable worlds are the ≤-maximal worlds. The will of the agent is represented by the ≤ order on the partition of ~ which contains the actual world. The will of the agent is given by the ≤-maximal worlds in the partition of the actual world. When the agent learns some true information then she restricts the partition of the actual world to all the worlds which are not reachable by any plausible actions given the information.

It should be noted that this setup is very similar to a presentation of DEL, as for example in (van Benthem, 2010) pp.149, where the beliefs of an agent are represented by the most plausible world in the current information partition. The learning of new information is very similar to an upgrade in the DEL setting.

In this manner, after the elections the voter will still be considering both policies and her preference order will only change with respect to what is possible in this new situation. Since democratically elected policy A is no longer possible, it would be eliminated from her preference order. Nevertheless, the rest of her preferences are untouched. This formal solution enables us to still claim that after the elections, in a different political system a democrat can retain her original preferences w.r.t. policies A and B. This formal solution is in line both with the standard preference logic and with Kant's famous distinction between will and desire.
5. Is this Paradox Exclusively Reserved for Democracy?

We will argue something controversial, that this paradox of democracy is not exclusively reserved for democracy. A person that advocates any political system should have the same preference order with respect to the political system that she advocates. Next, a paradox of the same type occurs. The explanation that solves it, is the one we proposed that draws a distinction between will and desire. In this way we argue that Wollheim’s paradox is not about democracy after all, but about having preferences with respect to any political system. The only assumption that we use is the possibility that a person has preferences between policy A and policy B regardless of her choice of a political system.

If a person that supports oligarchy, prefers policy A over policy B and if oligarchs nonetheless chose to conduct policy B, she can still consistently be someone who supports oligarchy. Her preference order would need to be the following:

1. Oligarchs conduct policy A.
2. Oligarchs conduct policy B.
3. Policy A is imposed against the will of oligarchs.
4. Policy B is imposed against the will of oligarchs.

Now, the same as in the case of democracy, the advocate of oligarchy would need to desire policy A, but want whatever oligarchs decide.

This paradox is not strictly related to democracy and can be expanded to any other political order. Furthermore, it is in fact about accepting the will of an authority even though it does not coincide with ones desires. For instance, a child prefers playing outside with her friends to going to visit her relatives. On the other hand, her parents planned to visit their relatives. Also they communicate to the child that they should visit their relatives (they might even have some rational explanation why this would be important). After learning this new information, i.e. her parents' preferences who want her to pay a visit instead of playing outside with friends, she changes her preference order and goes for a visit. Such behaviour is perfectly rational. For these reasons we believe that Wollheim pointed out a problem that arises whenever ones desire is in conflict with what is imposed by the authority she accepts. Furthermore, we gave a formal explanation of how one accepts what is imposed by authority, yet can still be rational and keep her original preference order. Such a person makes a so-called update in a DEL setting.

Note also that in the case where there is no conflict with the will of the authority the reasoning of the person with conflicting desires can be explained in the same way, by closely analysing the person’s preferences. For instance, in the example from Section 3 the preference order of the boy that desires ice-cream but still does not want to gain weight can be expressed as follows:
1. Eating ice-cream and not gaining weight.
2. Not eating ice-cream and not gaining weight.
3. Eating ice-cream and gaining weight.

In this case we are dealing with the empirical impossibility of the first preference, but if the situation changes and the boy is able to eat the ice-cream without gaining weight this would be his preferred option.

6. Once a Democracy Always a Democracy

Now we will point out to a paradox that is in line with Wollheim’s, but is strictly reserved for a democracy. Obviously, it is empirically possible to convert from a democracy to another political system, but conducting democratic elections where people would consciously vote against democracy would be a paradoxical situation. We claim that this particular situation leads to a conceptual paradox. Let us consider an example.

Suppose a situation where in a democratic country people decide to vote for a change from a democracy to a monarchy and the majority votes in favour of this change. From the perspective of a supporter of monarchy the will of democratic elections is not binding, regardless of the results. On the other hand, from the perspective of a democrat if she accepts the results then she needs to stop being a democrat and therefore she can ignore the results. The formal reason for this is that after the update we end up in the same situation as in the first case. Alternatively, if she continues to be a democrat then she has to accept the results, but such results tell her not to be a democrat which is a contradiction. Therefore, if the majority votes for a monarchy then the minority of democrats is not obliged to accept the results. The option that the majority votes for a different political order is always present. Therefore, from the perspective of a democrat it is paradoxical to take part in any democratically conducted elections which test democracy as a principal.

To sum up, such a situation is paradoxical both from the point of view of the supporters of monarchy and from the point of view of the democrats. If the winning policy is democracy, such a decision will not influence the preference orders of the monarchists, because they do not accept the will of the majority as a principal. If the majority votes for a monarchy, then in order to accept these results a democrat would at the same time be willing to be a democrat and not a democrat, i.e. to want democracy and to want monarchy. For these reasons we believe that it is theoretically impossible to want a democratic way of negating democracy and still be rational. Therefore, from a theoretical point of view it is not rational to conduct such elections in the first place. In saying this, we do not mean that every method of switching from a democracy to another political order is paradoxical per se.
There have, of course, been many examples of non-democratic changes of political systems such as a coup d’état.

Also note that granting one person the power to represent the majority according to the principles of representative democracy does not lead to such a paradoxical situation. Voting on such elections for someone who is a supporter of representative democracy does not mean the change form one system to another.

7. Conclusions and Further Directions

7.1. Summary

We have analysed Wollheim’s paradox and we have shown that a democrat can perfectly rationally accept results of democratic elections, except in the case when these results negate democracy. Our formal solution is based on the careful analysis of the preference order and the reasoning employed in dynamic epistemic logic. We related such reasoning to Kant’s practical philosophy.

Furthermore, we argued that the problem Wollheim addresses is not specifically related to democracy but to any situation in which the preferences of an individual do not coincide with the will of the authority she accepts. On the other hand, we believe that the paradox we pointed out in Section 6 has something intrinsic with the democratic way of decision making.

7.2. Further directions in philosophical analysis

When it comes to the necessary conditions for a democracy, a democracy is required to:

1. represent the will of the majority;
2. be conducted because of the will of the majority.\(^5\)

When it comes to Wollheim’s paradox it is clear that because of clause 2. a real democrat has to have the proposed preference order and his rationality is justified by an update that we formally presented in Section 4.

As for the other paradox presented in the paper, one needs to think whether conditions 1. and 2. are not only necessary but also sufficient for a political order to be democratic. If we agree that every political order which

1. represents the will of the majority,
2. and is conducted because of the will of the majority

\(^5\) A similar definition can be given for other political orders, e.g. conditions for a monarchy are that it should represent the will of the monarch and that it is conducted because of this will.
is a democracy, then the monarchy elected by the majority at the elections has to be a democracy, which is clearly a paradoxical situation. This illustrates one of the problems that the paradox in Section 6 brings up when it comes to providing an adequate definition of democracy.

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References


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Formalno rešenje paradoxa demokratije

(Apstrakt)

Ričard Volhajm je ukazao na paradoks za koji tvrdi da se odnosi na demokratiju. Tvrđimo da ovaj paradoks nije specifična odlika demokratije, već nastaje uvek kada postoji sukob između ličnih preferencija i preferencija prihvaćenih autoriteta. Dalje, nuđimo formalno objašnjenje kako neko može racionalno prihvatiti ili preći na preferencije autoriteta koji lično prihvata, a ipak imati drugačije preferencije od njega. Naše formalno rešenje je zasnovano na dinamičkoj epistemičkoj logici, dok je naše filozofsko objašnjenje inspirisano Kantovom praktičnom filozofijom. Sa druge strane, istaći ćemo paradoks za koji verujemo da predstavlja specifično ograničenje demokratski sprovedenih izbora i tvrdićemo da se, za razliku od Volhajmovog paradoks, ovo ograničenje isključivo odnosi na demokratiju.

KLJUČNE REČI: demokratija, paradoks demokratije, dinamička epistemička logika.