

Unpacking Public Discussion

– *developing an open forest of political argument*

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Introduction

Detailed argument about political issues tends to happen within relatively small groups: socially, within political parties, with lobby group committee meetings, councils, parliaments and assemblies. In contrast, public debate tends to be conducted on a coarser basis involving: scares, totemic cases, styles, directions, and pressure.

This paper calls for the development of ICT research, tools, infrastructure and approaches to allow politically active groups and individuals to view and contribute policy arguments in more accessible, transparent and comparable manner. This *might* be something like a local government argument wiki allowing the arguments of political actors to be viewed, commented upon and contributed in a structural manner. This would not replace existing political processes but rather add a rich, complementary process to them.

The Vision

Alongside the existing political structures, a forest of trees grows in cyberspace. Each cluster of trees is grown around a policy question. The base of each of these trees is a policy option – one particular possible answer to the policy question. The roots below are the arguments for each of these options – they are tangled below ground, competing with each other and connecting with each other. Some of these roots have their tips embedded in the rock of evidence, but many are half way starting in the open soil of reasonable (but contestable) assumption. The branches above are the possible consequences of the options, exploring the open sky of the future.

New copses of trees are opened up as the result of consultation exercises by government but also pressure groups. New trees, roots and branches are added by political actors of all kinds (official, on behalf of various groupings, individuals, companies etc.). Others can simply indicate their endorsement of existing parts of the forest, or enriching their description with references and tags. Using appropriate web-based software anyone can browse these woods, exploring the structure of the arguments according to their interests and assumptions, using a context-sensitive browser, using a variety of visualizations according to what they find most helpful, automatically integrating and filtering trees from various sources and across the world based on the issues that concern them and their expertise in the various areas.

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Whilst, like academic libraries, these forests are permanently inhabited by those with a permanent and deep interest in political argument, a wider public will access those particular areas that affect them or in which they develop and interest – taking their own walks among the trees, and occasionally adding a branch or root. Just as the academic literature has not been replaced by Wikipedia but that Wikipedia allows a public process of contribution, an entry point to the deeper literature and allows a very different emphasis and coverage to develop.

Whilst this forest starts by growing in parallel to the existing political processes it starts to impact upon it, forcing both official government bodies and political entities to make their arguments coherent and addressing the arguments of their opponents at the detailed level as well as “politically” in the unstructured public discourse.

Scientific Challenges

There are two principle challenges that face such a project, the *engineering* challenge and the *social science* challenge. In this project the social science should largely lead and proceed the engineering challenge, since the policy issues being addressed are “wicked” in the sense of (Rittel and Webber 1973). These are now discussed.

- The *social science* challenge is to find out how people might wish to express argument in this context, how they can be best facilitated to use such a system, how they use it in practice, and what emergent consequences engaging in public argument facilitated by such a system might be. Particular challenges under this include:
 - How people need and want to express their viewpoints and arguments
 - How people might express the often implicit context of their arguments in electronic form
 - Understanding how such structured arguments interact and impact upon each other
 - Understanding some of the emergent outcomes of any such system in practice
- The *engineering* challenge to computer science is to determine how to organize and design such a system so that it most meets the needs of its users (rather than any formal or general computer science goals), supporting the right balance between relevance to the users, ease of use, flexibility and capture/exploitation of argument structure. It is not a goal of this to constrain public argument to any set of acceptable schema or forms (Reed 1997) but rather facilitate those forms that are desired and developed as a part of the public discourse. Particular challenges under this include:
 - The infrastructure to support such a system in a distributed, extensible, yet accessible manner.
 - How to facilitate the rich expression (representation) of public argument, so that it is easy to contribute to (like a Wiki) but also to understand.
 - How to deal with and demark appropriate context for public argumentation

- How to deal with the unpredictable (and often implicit) context-dependency of public argument

Survey of some fields that could contribute to this project

There are several existing strands of work that approach, but do not quite reach what is needed to achieve the above vision. Whilst there *are* some highly relevant academic approaches to expressing argument, they are not lead and informed by the social and political scientists so as to truly facilitate the public access. What is needed is for the stakeholders and social science experts to determine the shape of the technology rather than it being led by abstract and general formal concerns. Tim Berners-Lee may have invented a scheme for linking documents but it gained its initial popularity in a cut-down and far more practical guise, that met the immediate needs of users (HTML), which did not correspond to his more powerful and general vision.

Some of these are briefly reviewed below, but part of what needs to be done is to flush out other fields that could contribute.

- ***Deliberative Democracy.*** The whole proposal obviously fits squarely under the label of Deliberative Democracy (Mendelberg 2002). It is predicated on the view that the idea of democracy should be expanded; that is, not be limited to traditional forms of political participation, but should also involve direct discussions between citizens about public affairs. There have been a few attempts to produce IT tools to aid deliberative processes (e.g. Davies et al 2004) but they are for small scale groups and does not exploit much of the structure of the discussion. The study of deliberative democracy should form the framework for the more technical parts of the project.
- ***Wikipedia.*** Wikipedia is the obvious example of a structured but open collaboration between many people who wish to make serious contributions to a public record. Wiki systems add a minimal but flexible structure on top of standard HTML that allows the free expression by a wide variety of non-academic people. What has turned out to more important is the way social norms exist and are maintained on how the system is used. Studies of the use of Wikipedia show how pages have “clusters” of guardians who reverse malicious edits on pages and promulgate the norms for impartial discussion and an encyclopedic style (Ggoldspink et al 2008). Although this may break down in a very few cases, the general result is a quality resource. A similarly flexible and user-oriented system will be needed for this project, as well as similar social studies of how people actually use it. Of note here is the “Semantic Wikipedia” (Völkel et al 2006).

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- ***World Wide Argument Web.*** Recently proposals for a “World Wide Web” of argumentation has been discussed (Rahwan et al 2007), including some possible structures and protocols, e.g. AIF (Chesñevar et al 2007). However, these need substantial adaption or change if they are to be suitable for this project. Inferential power and generality of schema are not of concern here, rather flexibility and ease of expression are paramount. It might be useful to retain some compatibility with emerging standards and protocols, so that tools developed elsewhere can be used in this context, but these abstract formal schemes should not drive what needs to be a practical tool.
- ***Group Collaborative Systems.*** There are a number of tools and systems that are specifically designed as a medium for group discussion and decision making in a structured manner. However these tend to be for small groups, proprietary, specific to other contexts and difficult to scale. However the design, and more importantly, experience with these systems could make a valuable contribution to this project. (Fischer et al 2003) discusses a framework for considering the purposes and approaches for group collaborative learning that have some relevance here.
- ***Formal Argumentation and Logic.*** Although a lot of work in formal logic and argumentation is very abstract and normative in flavor, concerned with how people (or computers) *should* reason rather than how people *do* reason, there is some work studying practical reasoning. Some of the study of practical reasoning does posit formal systems that aim to “capture” some limited aspects of *in vivo* reasoning. Examples of these systems include Description Logics, Relevance Logic, and some of the variants of Modal Logic (see any standard text, e.g. Gabbay and Guenther 2002). Some of these could be used to enrich the narrower view of logic that computer scientists tend to use. (Carbogim 2000) discussed the promise but relative immaturity of argument based systems for use in real applications.
- ***Visualisation of Arguments.*** Public argument can become very complex with many strands, alternatives, levels of abstraction and viewpoints. Making this more easy to navigate is important if actors are to be able to find their way within the growing forests. There is some work on the visualization of argumentation, with the field of Computer Supported Cooperative Work, e.g. (Horn 2003).
- ***Context.*** Vitally important in any discourse is context. Context is implicit in any naturally occurring discourse, but is often not something that is recoverable from texts alone. A system that does not deal with the context-dependency of arguments – either by allowing their flexible indication in natural language or some other way of indicating the scope (e.g. combination of tags). Being able to choose the “view” that is relevant to an actor by filtering by many means, including topic, context, decision connectedness etc. is vital to making any subsection of the argumentation meaningful and comprehensible. There have been a series of International and Interdisciplinary Conference on Modelling and Using Context , discussing all aspects of applying and modeling using context-dependent techniques.

- ***Collaborative Policy Modeling.*** Allowing stakeholders to have input into the models upon which policy might be made could be seen as the stakeholders being able to contribute to the argument on policy issues (e.g. the Ocopomo project). However this is necessarily more indirect than the proposal outlined here, since models are complex and coherent models which are difficult to pick apart. This proposal is complementary to that approach.

Contributing Disciplines

There is no science of representing public argument, rather the expertise to achieve the vision described will have to be gathered from a number of disparate fields. Some of these are described below, but part of this project would be to discover some of the different fields of research that could contribute to this. The fields are indicated in the Survey above, but could include many within the disciplines of: Philosophical logic, Discourse Analysis, Political Science, Social Science, Computer Science and Psychology.

Activities Involved

Although the research needed to realize this vision would require a tight integration between the social/political sciences and the computer/formal sciences, the following activities can be distinguished in as contributing streams.

- Studying how political actors would wish to express public argument
- Determining the effects of various computational systems on how argument is expressed by political actors
- Finding out what sort of system will most effectively facilitate actors in expressing public argument
- Surveying the range of informal, formal and computational systems that might be useful as bases upon which to build public argument forests
- Studying the public effect of using trial argumentation systems in enquiries and consultations
- Building trial argument wiki systems to use in public or private trials
- Assessing the system against the views and needs of the various stakeholders and actors involved
- Determining the most helpful way to filter the total argument forest, using context, tags, types of argument, connectedness, policy issues addressed etc.
- Designing and implementing ways to browse the argument forest, including flexible filtering, context-dependent viewpoints and helpful visualisations
- Assessing the browser in use by political actors and other stakeholders
- Producing a Demonstrator Argument Wiki within a documented case-study
- Working on the systems made to make them as responsive to unpredicted and emergent needs of stakeholders

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- Designing and assessing methods of argument contribution that makes the process as easy, natural and context-sensitive as possible.
- Assessing and critiquing the whole approach from within the framework of the goals of Deliberative Democracy.

By 2020 it should be possible to have beta versions of the argument wikis available, having tested and assessed trial versions within a few enquiries and consultations. The software should include the server protocols, database, contribution interface, argumentation browser including various visualizations. This would prepare the ground for the next iteration of development where a more comprehensive study of the emergence impacts of such a system, its strengths, weaknesses and future directions. An associated application could simply be the displaying of the arguments of a pressure group or official body, resulting from an internal process of collaboration and discussion.

Anticipated Benefits

Whilst this might initially be a tool to aid official enquiries and consultations of greatest interest to a relatively small group of highly politically engaged actors, it is anticipated that the growth of such a “forest of public argumentation” might take on a life of its own. So just as Wikipedia was initially conceived of as an add-on to the more traditionally organized “Nupedia” but later grew so that many people feel “ownership” over the pages they care about, so might such a public forest of argument come to influence the existing political processes based around small groups.

If it does take off then there would be subtle but increasing pressure on official bodies, political parties and pressure groups to make their arguments open, transparent and criticisable by the public, rather than delivered as a “finished package” to them. In this way this would encourage the opening up of the public political discourse, but in a way that does not threaten existing systems.

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