ANALYSING POLICY ARGUMENTS

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Abstract The complexity and distinctiveness of policy discourse bring a need for methods and advice in both specifying and assessing policy arguments. The paper reviews, links and systematizes work in three areas: (1) general advice from 'informal logic' on the exploration and analysis of sets of propositions that make up broad arguments; (2) commentaries on important elements and tactics in policy argumentation in particular, with special attention to aspects of 'framing'; and (3) proposed methods to specify and appraise whole positions in policy argument, including the 'logical framework approach' and Fischer's 'Logic of Policy Questions'.

1. Argumentation and policy analysis

While training in systematic practical argumentation is valuable for almost any subject, it may be especially important for policy-oriented work. Public policy discourse is notably complex, and further has important distinctive features, including the need to incorporate value inputs, considerations of legitimacy, and assessments of the constraints on public action. I propose that we should not only stress any distinctive components and structures, but emphasize some themes that reflect the field's complexity. These themes include the underdefinition of problems and criteria, and the resulting importance of activities of problem formulation and closure.

There is a temptation in discourse analysis to plunge deep into philosophy and linguistic and literary theory. Yet the test does not lie in the elegance of an abstracted case, but in our ability to provide new insights in particular instances, and to develop and convey to others some means by which they can generate insights themselves. Much current discourse theory seems of limited use to students of public policy. Its distinctions do not reflect the specifics of our field, require specialist background and become inaccessible to nearly all policy analysis readers and practitioners. Further, while the complexity of policy argumentation calls for systematic methods of examination, it limits the value of any generic format for analysing all arguments or even all policy arguments. We have partly to develop our own variants of argument analysis.

The paper is a brief overview of some tools for analysing and assessing policy arguments. I will suggest that the following - overlapping, complementary, and non-exhaustive - contributions are useful in analysing and teaching policy argumentation: (i) some general tools of so-called 'informal logic' that have been systematized in the past
generation; (ii) work that identifies and discusses important elements of specifically policy argumentation, and associated tactics, dangers, and stylistic devices; and (iii) methods to try to firstly, specify, and secondly appraise, overall systems or structures of policy argument.

We need to increase sensitivity, to the definition and handling of concepts, and to patterns and types of inference, but also in less familiar areas: firstly, `formulation', the overall shaping of extended arguments in complex fields, which involves issues such as the specification of boundaries and alternatives; and secondly, `colligation' and synthesis, the pulling together of available elements towards a conclusion.

2. Elements of argument analysis

Toulmin (1958) and Scriven (1976) suggested that when we try to upgrade practical argumentation we must largely look outside formal logic, for that subject has been concerned with laws, not maxims or tentative assessments. It rarely analyses multi-part real arguments, but instead generally restricts itself to assessing given, isolated parts or artificial arguments; in other words, to quite limited or already clearly ordered sets of propositions, a far cry from real wide-ranging policy arguments. In contrast, Scriven noted that practical argument analysis (also known as `informal logic') has two phases: firstly, specifying the content and structure of a real, untidy position, and only secondly assessing them. The first phase is neither trivial nor already given to us. In analysing policy arguments we normally have to spend considerable time identifying their components and linkages, before deciding which parts should be appraised in detail.

Scriven's own format for analysis reflects direct experience in the tangled argumentative world of programme evaluation, and deserves attention. He indicated the following steps (which can be iterative) in the process of specification of arguments and positions. A careful, even plodding, approach proves justified here. The steps help us to look for components and structures, but do not pre-empt our findings.
1. Clarification of meanings (not total definitions but distinctions sufficient to the use-in-context).
2. Identification of conclusions (including unstated implications).
3. Portrayal of structure (the precise connection of premises, inferences and conclusions).
4. Identification of unstated assumptions (the most defensible premises needed to make the argument complete and consistent).

Typically it will be worth first enumerating significant propositions and terms (e.g. concepts like `efficient' or `fair' may need examination). One can then construct a diagram or set of diagrams to show interconnections in the overall argument (see e.g. Dubnick, 1978).

Argument assessment involves criticism of the premises and inferences that have been identified. Criteria here include: (a) (sufficient) clarity; (b) consistency - both logically and with accepted facts; (c) scope - i.e. the range of the consistency; (d) simplicity - including absence of special pleading; (e) applicability and refutability; (f) comparison with other relevant arguments. This final criterion might appear to unduly extend the scope of assessment; in fact it keeps matters more manageable and relevant, by setting practical parameters, and making assessment relative not absolute. It is easier to defend or attack
things if they are considered in isolation; but to reject one argument may mean having none or implicitly accepting another, and should be assessed in the light of that.

Figure 1 - Scriven's schema for argument analysis

1. Clarify meaning of components
2. Identify conclusions
   - stated
   - unstated
3. Clarify meaning of overall argument
4. Portray structure
5. Extract unstated assumptions
6. Evaluate premises and inferences
7. Consider other relevant arguments
8. Overall evaluation of the argument

In Figure 1 I summarize Scriven's procedure for specifying arguments, as a flow-diagram. We should distinguish his procedure from the use of flow-diagrams for summarizing already specified arguments, as Dubnick suggested and as is increasingly practised (e.g. Cole, 1995; Cole, Cameron and Edwards, 1983; Edwards, 1985). That sort of summary helps in clear presentation of a case, but may not force one to study the logic of the connections or whether the summary is a good one. Scriven's procedure emphasises painstaking specification, with stages of feedback and iteration, and formalized assessment as well as description.

So to assess arguments we must first work out what they say and how. Even prior to that we need to find and identify them. Stakeholder analysis helps in spotting different parties and viewpoints involved in an issue. Similarly, unless one identifies the positions which are being responded to, one may miss the meaning of an argument. One's initial listing of viewpoints may of course be refined during later analysis.

3. Specification of policy arguments

Many authors list types of element or component in policy arguments. Pen (1985) noted these: (1) Proposed observations - though these may be defective, and are bound to be selective; (2) Logical statements; (3) Empirical statements, on relations between observables; (4) Methodological statements; (5) Images and metaphors - used for the integration or `colligation' of the above elements into `stories'; (6) Value judgements - which could be expressions of taste, or truly judgements; (7) Policy recommendations - which are produced by a further stage that Pen calls super-colligation, pulling together values and facts towards normative conclusions.

What we need besides such lists is a way to look at how elements function and connect within an argument as a whole. Toulmin's "The Uses of Argument" (1958) gave something
more helpful here than the classical syllogism, and has been applied in later policy analysis theory and cases (e.g. Mason & Mitroff, 1981). Classical logic's focus on determinate inference mean that it is less relevant for us than jurisprudence, which has non-definitive conclusions, exceptions to rules, and so on. Toulmin thus spoke of "warrants", which support a belief but do not deductively oblige it. He also added to the standard syllogism the categories of "qualifier" and "rebuttal", and distinguished between "grounds" and "warrants" as types of premise. Grounds are (purportedly) factual statements, whereas warrants are the considerations used to move from these empirical particulars towards a conclusion. Warrants in turn require backing of some sort. Figure 2 shows a modified variant of the format adapted by Dunn (1981, 1993a) for policy analysis.

Figure 2 - Toulmin-Dunn schema for specifying policy arguments

The format illustrates that arguments have structures, and gives one generalized picture of structure. It is a tool for looking at any case presently at issue, but not a universally sufficient pattern.

Toulmin et al (1979) use it to show how the character of "grounds", "warrants" and so on vary between fields.\textsuperscript{ii} Even within one field there are various types of warrant. For policy analysis, Dunn (1981) illustrates the use of each of: i) authority; ii) insight, judgement and intuition; iii) established analytical methods; iv) standard general propositions; v) pragmatic comparisons with other cases; vi) ethics. An exercise for students is to look for the types of warrant, as well as of backings, grounds etc., in a selected study or report.

Goldstein (1984) confirms how eclectic are the warrants and backings used in arguments in planning. This reflects its inter-disciplinary history and tasks, and the need to combine empirical and normative considerations. In drawing inferences from grounds (data about current or projected situations, such as about needs and preferences), the warrants used can include positive theories, normative theories about appropriate allocations or procedures, and existing laws. Their proposed backing may include views on method, broad positive and normative conceptions of man and society, the legal constitution, established professional approaches, and so on.\textsuperscript{iii}
Toulmin and Dunn’s format remains too simple to be a complete layout for arguments. ‘Grounds’ may themselves need backing; there can be several types and layers of warrants and backing; and discourses contain whole sets of propositions. Nor is the format a full procedure for analysing arguments to identify their detailed structures. There is a danger that after students learn it they try to force everything into a single straitjacket, and become diverted from analysing the particular features of an argument. One must stress that it is just a starting point.

Toulmin-Dunn provide a way of looking at a particular proposition or well-knit set of propositions, that is more relevant than the standard syllogisms in logic texts, though those still offer us something important. One cannot however analyse complex policy positions or debates in the way one can dissect a single page or poem; one must be selective. From Scriven and others we have some advice for analyzing the more extended sets of propositions that make up broad arguments. What we require are approaches that combine the insights of Toulmin-Dunn and Scriven, and then more thoroughly connect them to key particulars of the policy analysis field.

One helpful proposal is Hambrick’s ‘Guide for the Analysis of Policy Arguments’ (1974), which probes further the nature of warrants, backings, rebuttals and qualifiers in policy arguments. It tries to identify the types of premise involved in any claim that a policy measure will lead to desired impacts and be worthy of support. Such a proposition involves a combination, explicit or implicit, of cause-effect claims and normative claims. This is obvious (though not highlighted in Dunn’s format, which simply re-labelled Toulmin’s format devised for any type of argument). Hambrick adds other categories: (a) ‘grounding propositions’, i.e. intellectual background (not the same as Toulmin-Dunn’s ‘grounds’); (b) ‘time-place propositions’, i.e. the context of application for the proposed claims; (c) ‘constraints propositions’, i.e. claims about feasibility; and (d) comparison with alternatives. We will look further at alternatives, constraints and ‘grounding’ in a subsequent section.

In Figure 3 I take Hambrick’s guide beyond a list of elements, by putting it in a diagrammatic sequence. In Stage 1 an initial if-then proposition draws on positive data and warrants, and on grounding warrants and backings from theory and methodology (as do other propositions). In Stage 2 normative warrants and backing turn the if-then proposition into a means-ends proposition, which in Stage 3 is tested by a number of possible rebuttals (e.g. whether there are better alternatives available), to see how far it is sustainable as an action proposal.
Hambrick’s main distinctive stress is thus on what I have called Stage 3, the testing of a means-ends proposition in various ways. Two other increasingly well-known approaches focus somewhat differently: the ‘logical framework’ approach elaborates the cause-effect chain in Stage 1; and Taylor’s model of normative argument, as applied by Fischer (1980) to policy arguments, goes deeper into the normative backing in Stage 2, and can be used similarly to examine grounding propositions. Both models however represent to some extent similar elements as in Hambrick’s guide. We can consider them in turn.

The ‘logical framework approach’ (LFA or ‘logframe’) in project analysis was developed around 1970 for USAID, and has since been adopted by most of the major official international aid agencies. It attempts: (i) to distinguish various levels of project objectives, starting with
inputs, through to those about eventual or broader development impacts; (ii) to specify and check the causal linkages between the different levels; (iii) to identify the assumptions about the other factors that are needed for the connections between the different levels to be valid; and (iv) to specify means of measuring the degrees of fulfilment of the various levels of objectives. Elements (i), (ii) and (iii) concern us here. They try to indicate the sequence and structure of argument implied in a project or project proposal.

The original USAID version has four levels of objectives (Inputs-Outputs-Purpose-Goal). The project's argument has to be put in the following form (see e.g. Coleman, 1987):

1. If the specified Inputs are provided and the specified Assumptions (notably about important conditions external to the project which could interfere with achievement of the Outputs) are fulfilled, then the specified Outputs will be achieved;
2. if the specified Outputs are present and a second set of specified Assumptions are fulfilled, then the specified Purpose will be achieved; and
3. if the specified Purpose is achieved and a third set of specified Assumptions are fulfilled, then the specified Goal will be achieved.

Assumptions analysis in LFA clearly corresponds to the 'Unless' clauses in Toulmin-Dunn, and to stage 3 in Hambrick's format, the testing of a means-ends proposition; but the logframe format does not include a built-in set of questions to support this analysis. Many authors observe how, for this and other reasons, the assumptions column is typically completed perfunctorily and unhelpfully. Similarly the objectives column is frequently confused and arbitrary. Many completed logframes thus have an appearance of logic but lack the substance. The increasingly popular GTZ (German) version, which rejoices in the acronym ZOPP, is more useful. It distinguishes five levels, while reducing the degree of stress on means of measurement; but the relevant difference here is that it specifies the project's chain of means-ends links by first undertaking a problem analysis to establish a chain (or branching 'tree'-diagram) of hypothesized cause-effect links. The problem analysis gives a reasoned, non-arbitrary basis for the logframe's means-ends hierarchy.

Compared to Hambrick's guide, the LFA gives a more concrete means-ends format, but often less advice on how then to proceed with the analysis. Hambrick offers more in the way of procedure, questions and categories. The two approaches are thus fairly complementary.

_Fischer's model_ involves 12 groups of questions implied in policy arguments (Box 1). The twelve are themselves grouped into four levels derived from Taylor (1961), moving up from (1) technical analysis in terms of given objectives, to (2) assessing the objectives in terms of available policy goals, to (3) assessing the goals in terms of accepted social ideals, and finally to (4) assessing the ideals. Some details of the model and the ways it is used are open to criticism (see e.g. Gasper, 1989); but those require a separate discussion. For our present purposes the model valuably suggests the scope for ordering and systematizing normative policy arguments, and is becoming quite widely used.
Box 1 - Fischer's model of the levels of policy evaluation

I have paraphrased Fischer (1980:206-12). The comments in brackets are Fischer's on how to tackle the questions.

Level 1 (Technical verification of program objectives):
1) Program Objectives - Is the program objective logically derived from the relevant policy goals? (Refer to logical rules.)
2) Empirical Consequences - Does the program empirically fulfil its stated objectives? (Refer to empirical knowledge of consequences.)
3) Unanticipated Effects - Does the empirical analysis uncover secondary effects that offset the program objectives? (Refer to knowledge of consequences.)
4) Alternative Means - Does the program fulfill the objectives more efficiently than alternative means available? (Refer to knowledge of alternative means.)

Level 2 (Situational validation of policy goals):
5) Relevance - Are the policy goals relevant? Can they be justified by appeal to higher principles or established causal knowledge? (Refer to knowledge of established norms and to causal conditions and laws.)
6) Situational Context - Are there any circumstances in the situation which require that an exception be made to the policy goal or criterion? (Refer to particular facts of the situation.)
7) Multiple goals - Are two or more goals equally relevant to the situation? (Refer to normative logic.)
8) Precedence - Does the decision-maker's value system place higher precedence on one of the conflicting criteria? Or does it lead to some contradictory prescriptions? (Refer to normative logic.)

Level 3 (Vindication of political choice):
9) System Consequences - Comparison of goal-system's consequences with accepted social ideals in the situation. (Refer to causal conditions and laws.)
10) Equity. (Refer to normative logic and accepted social ideals.)
11) Ideological conflict. (Ditto.)
For questions 10 & 11, there should be discussion of how far the policy's goals and the supporting social ideals are compatible with equitable resolution of conflicts.

Level 4 (Choice of Social Order):
12) Alternative Social Orders - Comparison with alternative social orders, if 10 & 11 so imply. (Refer to knowledge of fundamental needs and to normative logic.)
Fischer’s model was devised more for assessment than for description, and so we look at it further later. However, checklists of elements or issues that policy arguments should cover can help us also in description, for they give questions with which to probe what is covered in an argument and what not. (Hoppe has used Fischer’s model in this way.) They similarly help us in generating propositions. The Fischer-Taylor approach of distinguishing broad levels helps in describing the levels of normative backing to an argument, systems of grounding propositions, and the worldviews and ‘paradigms’ used in different policy stances.

The Fischer model provides more questions than does the LFA. It bears a superficial similarity to LFA, for the prevalent USAID version of LFA also contains four levels. However the top two USAID levels seem to roughly correspond to the bottom two Fischer levels:

<table>
<thead>
<tr>
<th>FISCHER</th>
<th>USAID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher principles</td>
<td>Goal</td>
</tr>
<tr>
<td>Predominant social ideals</td>
<td>Purpose</td>
</tr>
<tr>
<td>Policy goals</td>
<td>Outputs</td>
</tr>
<tr>
<td>Programme objective</td>
<td>Inputs</td>
</tr>
</tbody>
</table>

So Fischer’s model is stronger for probing the Goal level and beyond, and LFA for levels of Purpose and below. This is consistent with the acknowledged weakness around Goal level in the use of LFA (Cracknell & Rednall, 1986). The use of four levels in both cases probably reflects the attraction of four as a reasonable balance between on one hand (i) complexity and highlighting of layers and interconnections, and on the other hand (ii) simplicity and manageability, especially for large-scale use. Dividing a programme into four (or five) levels is usually a simplification; correspondingly in practice the dividing lines between levels are often left unclear.91

How can one counter the real danger that, once people have learnt an approach, they will insist on ‘finding’ examples of its categories in every argument, and only those categories? And for example, in use of the LFA, insist on identifying a project’s means-ends chain(s) as three (or four if they have been taught the German version), regardless of the specifics of the case; or, because only one slot is provided in a diagram, identify only one Purpose or Output when there are several.

I suggest that a picture of imputable sequences of argument in actual project and policy analyses makes a useful complement. The idea is to minimize leading people to preset answers, and to emphasize the creative and variable stages of formulation and final synthesis, which can produce a range of structures and tactics. Hopefully this picture balances specificity (and hence practical usefulness) with generality (and so a wide range of application).

Here is a set of activities into which one can analyze the contents, explicit and implicit, of appraisal and evaluation arguments:
1. Formulation and framing
   1a - definition of the exact type of assessment question asked
   1b - interpretation of key terms and categories
   1c - defining the scope of materials to which the question is put (this involves further questions about alternatives, constraints, boundaries)

2. Objectives and criteria
   2a - specification of objectives and criteria
   2b - justification of them (but the presence and form of this stage depend on 1a above)

3. Data collection: on outcomes, etc.

4. Data analysis and interpretation.

5. Synthesis
   5a - partial synthesis; as in making predictions, or interpreting what are costs and benefits; etc.
   5b - full synthesis: evaluation, prescription, conclusion.

The stress on formulation and synthesis is seen by the first and last stages, which we will examine in Sections 4 and 5 below. Much under Hambrick's propositions on grounding, constraints and alternatives corresponds to 'formulation'. There is little in his schema to match 'synthesis'. Yet policy conclusions generally do not follow simply or unequivocally from the materials mustered in their support; further stages of interpretation and judgement are required.

The set of stages above can be useful in both analysing and improving arguments. It is not a necessary sequence for actually constructing, specifying or assessing positions; those sequences could well be more complicated. It is more a format for grouping the multiple strands and clusters that argument analysis will reveal, or that brainstorming produces. (See Apthorpe & Gasper, 1982, with reference to evaluations of service cooperatives in developing countries). The stages cited are interactive; for instance, definition of scope and specification of objectives affect each other. Which stages are worth distinguishing depends on the case; for example, interpretation of what are costs and benefits can be sufficiently creative to deserve separate attention. (See Gasper, 1987, on project analyses.)

One should look broadly at a position in and across its stages, not only at isolated statements. Specifications of positions can reflect an approach to their assessment, e.g. a predisposition to defend or condemn (see my paper on essentialism, later in this collection). Scriven argues that one should lean toward charitable interpretations and hence more defensible specifications. This gives priority to developing knowledge rather than to criticising as an end in itself. Attacks on weaker specifications of arguments are also more easily dismissed.

In this section I have argued that Toulmin's popular format is not enough to show the mechanics of policy argumentation. We need too the more open-ended exploratory methods of Scriven and others, to look at individual cases and patterns; and more reference to the specifics of policy, where Pen and others offer lists of typical components. I have extended
Hambrick's work into a sketch of how components fit into an overall policy argument; and compared this with the `logical framework' approach and Fischer's model. The three have different emphases and can be seen as complementary.

In all of these cases there remains the danger that approaches devised to help us think more carefully will lull us into not thinking. I have therefore added a complementary sketch of an imputable set of activities in evaluation arguments, with emphasis on how positions are framed and synthesized from available materials. It directs attention to key issues rather than relying on a fixed format that may be thoughtlessly imitated. The next two sections look further at this framing and synthesis.

4. Formulation and framing

Policy argument includes as intersecting activities the framing of techniques and the application of social philosophies (Braybrooke & Lindblom, 1963; MacIntyre, 1977). We see that clearly in Fischer's schema. Techniques can only operate within a frame of assumptions; and on the other hand, general principles only become operational through many technical steps. This intersection needs to be handled in an orderly consistent way. Policy argument analysis tries to unravel the linkages involved. Important issues can otherwise fall neglected between the disciplinary stools of the social scientist and the social philosopher, and sophisticated lower-level materials and higher-level philosophies can be sloppily combined.

Rein's influential discussions of `framing' in policy analysis take `frame' as a comprehensive category, like `paradigm' in its `disciplinary-matrix' sense, i.e. the core set of shared ideas on which the work of a group is based. While examining such paradigms has become common in universities, `the university environment and culture... has the tendency of driving [such] inquiry into a metalevel where the philosophical assumptions ... [are] examined... and runs the risk of deepening the separation between thought and action' (Rein, 1983:106).

I will therefore highlight aspects of argument framing which have an active and practical nature: matters of inclusion, exclusion and attention, including how the burden of proof is distributed, and the perception of alternatives and constraints. There is a case for limiting the word `framing' to these areas, to help differentiate terms. We earlier used `formulation' as label for a broader concept. The more limited meaning seems better fitted too to the root metaphor for framing that Rein employs -- that of visual perspective (1983:96-7) -- than is a sense that covers every aspect of one's approach.

Since choice of broad theoretical/policy paradigm does not settle all other choices, one can highlight these overlapping component areas in formulation: (a) the choice of purpose and standpoint of an argument; (b) the above sense of `framing'; (c) choice of terms and categories, and (d) the key images and metaphors used. The first concerns for example at what level of a `logical framework' one is presently arguing, and why; who is the client/audience, and what is the context. It is now relatively familiar, as are issues of paradigm choice. Choice of key images (such as `growth pole') has also been well treated (e.g. Rein & Schon, 1977; McCloskey, 1985). Here I will look instead at framing and the boundaries adopted in analysis.

Policy analysts do well to consider the following seven connected aspects of framing when they examine a policy position, more than how to fit it into the categories of say speech-act
theory or classical or modern rhetoric. The seven concern the sort of often unstated assumptions that were referred to in Scriven's checklist. Limits of space preclude extended examples.

(1) In tracing and weighing of effects, issues of *time horizons* and *discount rates* have become prominent, thanks to environmentalists' attack on the valuations in mainstream economics (see e.g. Goodin, 1982). The issues are vital because, to exaggerate only slightly, ‘any argument can be turned to any effect by juggling with the time scale’ (Elster, 1984:34). All institutions and movements argue for example that bad short-term effects will be outweighed by longterm improvements. In the extreme, a supposedly ‘infinitely’ better future justifies anything that furthers its eventual attainment. At the other extreme, use of a high discount rate may in effect render the longterm future of no importance.

(2) The overall issue of the proper *scope* of analyses has been considered in planning theory's debates about comprehensive versus bounded rationality, the range of factors to include in project analyses, and so on. Where in open systems should one draw the boundaries of analysis? Matters of scope in identifying *causes* link closely to choices of level of analysis and of broad policy paradigm. Some types of possible *effect* are often ignored if it is believed that all options can equally plausibly claim them, or that action on such matters is better assigned to other policies. On the other hand, Hirschman (1967) noted that while analysis cannot go on forever, it must consider those `side effects' of projects, such as impacts on self reliance, management capacity, commitment and adaptability, which are in fact vital in their future operation.

Also enlightening here is work by historians conscious of the necessity of selection in their accounts and analyses, and of corresponding criteria. Some connections are traced, not others; some contributory factors are highlighted as causes, not others. The issue is not that this is done - for neither causes nor effects can be traced in totality or without end - but how consistently and defensibly (Stretton, 1969). The convenience of an author, rather than his or her special insight, may underlie claims of necessary bounds to the argument, as signalled by 'in the final analysis' and similar phrases. These require probing to see if they have more content than just ‘where I want to stop (or happen to have stopped) the analysis'.

Critics of foreign aid from both Right and Left have insisted that aid be seen as contributing to a wider system, which they respectively identify as public sector socialism or dependent capitalism; and they then simply assess aid by assessing that system. Whereas liberals who have sought to identify precise project impacts are faced with problems such as that aid flows can release domestic resources for other uses which are very hard to identify. They sometimes concluded (e.g. Wood & Morton, 1977) that evaluation is an unending task, with rapidly diminishing returns. The greater the scope in any policy analysis, the greater often is the indeterminateness. The need then is for defensible principles of delimitation. These can be legal, political, ethical, administrative, economic, and procedural-methodological. And this is the heart of policy analysis (Self, 1975).

(3) Focussing includes distribution of the *burden of proof*. Has a policy or a danger to be sufficiently proved or sufficiently disproved? What is the balance adopted between the risks of Type I and Type II errors? (i.e. the risks of rejecting a true claim / good proposal, and of accepting a false claim / bad proposal; Gasper, 1987). Similarly, why are certain things taken as not needing explanation, as being ‘normal’ or ‘natural’ or so on?
These designations of a `base case' are of special interest in valuative argument: what is the baseline against which something is judged positive or negative, an improvement or a retrogression? It is a commonplace that revolutions are more likely after an earlier period of improvement, just as loneliness can become intolerable after a taste of contact. Conflicts often involve different views over how things would be in the absence of the feature that is in dispute, and these typically depend much on conceptions of how things could and should be. In investment analysis for example, the specification of the `without-project' case is generally more important for the results than are the refinements of cost-benefit analysis that have received so much attention from theorists (Stewart, 1978).

Fifthly, we need to ask more generally what comparisons are made. The conceived alternatives often determine the evaluation of a situation. Thus Bienefeld (1982), when arguing how relatively casual some academic assessments of Tanzanian performance have been, drew out a variety of tacit or underargued optimistic assumptions used by critics from Left and Right on the feasible alternatives that supposedly were available.

Struggles to legitimate one base case and set of categories rather than another sometimes involve controlled comparisons of the performance of different systems, but with the control used to ensure certain conclusions. The alternative to the inherently efficient and enlightened system that the advocate favours is often depicted as a collage of its bad features, so that it can be ruled out from further consideration. The actual performance of one's preferred system can then be more easily defended. Rulers have a special fondness for TINA, the claim that 'There Is No Alternative' to their current policy. TINA is also an assertion about constraints, and leads to the Panglossian claim that one is in the best of all possible worlds.

A linked aspect of alternatives concerns the ideas used about the range of means that are available and legitimate, and how they work. In practice `policies in taxation, welfare, subsidization and so forth... [operate in ways that are] complex, unintended, hard to alter' (Schaffer & Lamb, 1981:75-6). Past disputes in cost-benefit theory thus often centred -- implicitly-- on what are the constraints in using the other policy tools: which variables are manipulable and which must be accepted as given (Fitzgerald, 1978).

Layard (1972) has suggested more generally that underlying most normative disputes is the question of which factors are to be taken as given, as constraints. Definition of constraints is thus the other crucial face of framing. The answers necessarily reflect both theories and values, for to call something a constraint means claiming that there is an unsatisfactory rate-of-return from trying to change it; and so they are often controversial. Compared to the project level, some argue that at broad policy levels the criteria of (economic) efficiency and optimization become more obscure and potentially misleading, and constraints more numerous, so that analysis can usefully center on them (Majone, 1975; Seers, 1983). Neo-liberals have instead believed they can define, and enforce, efficiency economy-wide, nation-wide, and world-wide (see Gore in this collection). x

One needs to be suspicious of alleged constraints; but assertions, or presumptions, of absence of constraint must be treated sceptically too (Goodin, 1977; Gasper, 1987). The allegations are likely to be emphatic, in an attempt to avoid debate. 'The government of India, for example, simply cannot command the resources that would guarantee each one of [the] inhabitants of India a standard of living adequate for the health and well-being of himself and his family [sic]' (Cranston, 1973:67; my emphasis). Yet the governments of Sri Lanka and
China can substantially do it. As Bentham noted, `the plea of impossibility offers itself at every step, in justification of injustice'.

Having noted in sections 3 and 4 some key structural elements, we can turn more to how they link up in arguments. Just as the scope of policy argumentation means we must study its framing, so when we look at extended discourses we must consider overall texturing and pattern, not just the strength of individual links.\textsuperscript{xii}

5. Style, story-telling, and colligation

BOX 2: PURPOSEFUL TALK - THE BOTSWANA TRIBAL GRAZING LAND POLICY
`Efforts will be made to develop means for the progressive restriction of TGLP herds to their ranches' - i.e. for enforcement of a longstanding legal condition in the ranch-leases - says the sixth National Plan for Botswana (1985: para.4.65). We can break this sentence into three parts:-
1. Efforts will be made
2. to develop means
3. for the progressive restriction of...

Each part contains words of action, and the overall effect is thus one of purposefulness. (Mention of the past non-implementation of legal requirements is left until later.)

But suppose we remove the first part of the sentence, to leave something like `Means will be developed for the progressive restriction of TGLP herds...' Interestingly, the result now seems more purposeful, not less. Alternatively we could remove the second part, which gives us `Efforts will be made to progressively restrict...' Finally, suppose we remove both the first and second parts, and just say `TGLP herds will be progressively restricted to their ranches [as required by law]...' There are now fewer purposeful words and yet a more powerful meaning.

One can investigate `style' in various ways. Sillince (1986) tries to identify language forms corresponding to different policy contexts. He discusses four language styles he sees in urban and regional planning: hortatory, administrative, legal, and bargaining. It is useful too to simply list various stylistic devices, for sensitization rather than memorization. McCloskey (1985) and others give illustrations, and government plans are a rich source. (See Box 2.) George (1990) shows some distorting devices used to present `Government as Intrusive Alien' and `Taxes as Burdensome Impositions' in many of the most used introductory American economics textbooks; the cases hinge on the `details' of choice of terms and choice of comparisons.

Of special interest are the devices by which authors rule out certain things as needing to be discussed or taken further. Exclusion can be tacit, or by invoking precedents, authority, `likeliness', `obviousness', or so on. Exclusion is part of framing, but is especially marked in the concluding stages of extended arguments, when authors may be in a hurry to arrive at
claims.

The project of McCloskey and others to identify the forms of ‘the rhetoric of the human sciences’ (Nelson et al, eds. 1987) has encountered some resistance, not least the belief that it is ‘merely looking at style’. But the way the components of an argument are selected and handled is both style and substance of the argument. If one does distinguish, then McCloskey suggests that we see style as ‘the details of substance’ rather than as surface ornament (1988:286). Until recently their research project has not given much attention to the organization of positions in policy-oriented argumentation (though see Throgmorton, 1991).xii So in the previous sections, especially that on formulation, I have highlighted some major ‘details’ of the substance of policy argumentation.

Two further important lines are the work on ‘colligation’ and ‘storytelling’. Practical argument often involves synthesis of judgements from a variety of experiences and of types of argument. The latter type of synthesis is especially common in policy, since one must relate disparate sets of ideas (economic, sociological, political, administrative). Colligation refers to the construction of overall arguments, where one has ‘to connect or link together, tie, join, to relate (isolated facts, observations etc.) by a general hypothesis’ (Collins Dictionary). It ‘is ubiquitous...because only [so] can one tie... research to the uses to which [social science] is put’ (Ward, 1972:181). In policy argument it involves further layers, with the use of ideas about purposes and values, as implied in Pen's ugly label, ‘normative super-colligation’.

The term ‘storytelling’ likewise conveys the need for selection and construction from what materials are actually available (rather than just hoped for). Unfortunately its connotations of narrative sequence, and of casualness or even deception, make it controversial as a general label. We refer here though to the sort of disciplined interpretive description practiced by the good historian. (In contrast, mathematical economists' `stories' are often fables.) Explaining actions requires relating them to contexts which can never be fully or non-interprettively described. These inevitably partial explanations are colligated into an overall account of behaviour. Story-telling is then not just one more phase or technique, but the purposeful knitting together and application of all the relevant phases and techniques, including resolving disputes between them. Besides being used to understand past events, and in scenarios of possible future implementation problems, narratives can help in coming to agreed policy proposals (Kaplan, 1986).xiii

Analysis of the available ‘stories’ in a particular case involves analysing arguments by means such as we mentioned earlier, and something more. Criticism and improvement of ‘story-telling’ require awareness that selections, and hence criteria of selection, are inevitable and may need to be clarified; and likewise for the stitching together of incomplete materials into conclusions.

‘Storytelling' is empirical, for without information there is little to select or stitch. Unfortunately the term has obscured this to some. Several commentators have been enraged into inattention, as are others by McCloskey’s use of the word ‘rhetoric’.xiv Many authors have presented ways ofcountering the dangers and for assessing ‘stories’ (e.g. Ward, 1972; Rein & Schon, 1977; Wilber, 1978; Kaplan, 1986). The criteria in their lists are largely familiar - for example Kaplan speaks of truth, richness, consistency, congruency and unity xv; though not all the criteria (e.g. fertility, elegance, consistency with felt convictions and expert belief) are part of older philosophy of science, and they are often overlooked in the enraged attacks that allege
rejection of all criteria. Kaplan and others instead propose to make our actual practice of argumentation more explicit and systematic.

6. Argument assessment

Aspects of assessment have emerged in earlier sections. Much follows directly from careful argument specification: e.g. seeing how far terms are used consistently, or what alternatives have been considered. Often one may take it as a compliment to be told one has `only' identified `simple' errors; for in reality, inconsistencies and failings can involve elements which are spread wide and deep within positions, amongst thousands of words, not already collated and displayed. All errors appear simple when broken into steps, but the identification may be far from simple; having some methods is important. Flawed policy arguments are not in general knowingly constructed and then defended; instead, appealing or convenient arguments are defended, and then need to be deconstructed.

Corresponding to universal criteria of assessment are standard lists of fallacies. Toulmin et al (1979:158-185), following Aristotle, distinguish `fallacies of ambiguity', which trade on obscurity in key terms; and `fallacies of unwarranted assumptions' or unwarranted inferences, which involve inconsistency with rules of logic or accepted facts or other premises. Thouless (1974) and others provide similar compilations. It is not sufficient, nor indispensable, to study such lists; much of the important pitfall orientation is subject-specific. But they help, as much to increase alertness as to provide specific tools. Toulmin for example lists 18 fallacies, with some sub-variants, and Thouless gives 38: these are practical lists, neither uselessly vague nor immensely academic. They should be combined with study of subject-specific pitfalls, as in Majone's proposal for `craft training' in policy analysis (1989).

We noted earlier that the content and character of `grounds' and `warrants' vary between fields. Toulmin concluded that: `all the canons for the criticism and assessment of arguments are in practice field-dependent' (1958:38), and illustrated this at length in a later textbook. It can be misplaced, for example, to criticize ethical or policy arguments for not being mathematical or natural science arguments. `Context determines criteria' (Toulmin et al, 1979:120).

Some authors argue that certain criteria are implicit in the (or a) particular context of policy argument. `Political evaluation, as a [specific] subuniverse of evaluative discourse, specifies a "point of view"' (Fischer, 1980:113). There are various interpretations of what this entails: for example, reference to `the public interest'; or, according to Anderson (1979), to efficiency, justice, and appropriate authority (though the meaning of each is of course open to debate).

MacRae (1993) offers five worthy though pedestrian criteria for assessing policy proposals relative to given goals and values, in other words within a group of like-minded people. Proposals should: (1) not omit reference to relevant valuative criteria; (2) not elevate means into ends; (3) compare alternative policies, including the status quo and doing nothing; (4) not omit relevant information; and (5) consider relative quantities. A multi-criteria matrix can ensure that the pros and cons of each relevant alternative are considered for each relevant criterion. He also offers a few points, equivalent to pieces of a professional ethics, concerning what tactics are unacceptable in debate between groups with different goals, and how to
constrain them.

The Fischer model (see Box 1 above) shows this layering of types of policy discourse in a deeper and clearer way, and much more. His 'A Logic of Policy Questions' (1980:206-212) provides a general heuristic for considering how particular families of questions correspond to certain levels of the evaluation of policy arguments. (See Box 1 above.) We noted that some of its questions match Hambrick's, but with more probing of normative and grounding propositions, and more on warrant-backing hierarchies than in the Toulmin-Dunn model. It gives one serviceable frame for looking at whole positions, not just the mechanics of single propositions or proposals. The 'Logic of Policy Questions' is now quite extensively used in teaching and research in the Netherlands (see e.g. de Graaf & Hoppe, 1989; Hoppe et al, 1990; Hoppe, 1993.)

Its emphasis on desirable elements of a policy argument still needs to be complemented by methods to identify actual tactics, links and structures, like the formats we saw earlier. In addition, full operational classifications of questions have to be specific to particular policy contexts. Finally, Fischer's framework reflects a certain philosophy of valuation, derived from Taylor (1961) and others. Thus he speaks of 'A' rather than 'The' logic of policy questions. By going in depth into one widely used philosophy he is able to give more precise, even if not universally binding, illustrations of how policy argumentation synthesizes positive and normative aspects.

After noting criteria of assessment, we must consider practical matters of strategy. Outside the closed worlds of mathematics and formal logic, and given the presence of multiple criteria which can pull in different directions, assessment is a matter of reasoned judgement and not always of decisive demonstration; and what is reasonable generally depends on the context.

Firstly, since it usually does not suffice to point out an individual fallacy here or there in a component argument of a position, Scriven's canons of assessment in section 2 above went beyond clarity and consistency, to matters like scope and comparison with other relevant arguments. The criteria for assessing wider story-telling come in here too. Some quantification and weighting of criteria may sometimes be useful as a check, since our unaided powers of aggregation tend to be unreliable. Assessment is not absolute, but can clarify differences and their sources, shift balances, and help sift out arguments.

Secondly, for real-world debates, where the strands of argument may spread virtually without limit, Scriven advised focusing one's energies. Concentrate on the parts of an argument which support the main conclusions, not necessarily on the weakest parts; and concentrate on strong variants of positions. Since positions are frequently underspecified, priority should usually go to encouraging their improvement rather than trying to totally tie them down for absolute judgement at one moment. In practice most positions will implicitly accept some criticism and an assessment of 'could do better', as is seen by their evolving after the criticism.

Next, immanent criticism is often helpful, using the position's own terms, as opposed to transcendent criticism, which draws on clearly external criteria and intellectual resources. Immanent criticism works within a position, but does not imply acceptance of the whole position. Positions are layered; parts of them, like methodological criteria, can have priority and be used to rule against some other parts. Also the immanent/transcendent distinction is
not absolute, since positions are usually not sharply defined and bounded. The layered systems have fuzzy bounds. Positions exist as both (A), the stated representations, and (B), the representations' sources, which are somewhat vague, and neither totally stated nor perfectly represented by (A). Appeal to the quasi-internal resources in (B) is an important aspect of criticism which aims to persuade (Nussbaum & Sen, 1987; Walzer, 1987). Whether it is then called immanent or transcendent could vary with context. Scriven's advice was thus to give less priority to judging the current representations than to improving their portrayal of their sources. Rigorous criticism is still vital in this, but some of the emotions it arouses might thereby be reduced.

Fourthly, the debating aspect to assessments is fundamental, as it is for policy argumentation itself. Indeed we saw that debate, in the form of possible rebuttals and comparison with alternative views, is integral to all practical argumentation as elucidated by Toulmin and Scriven. Arguments attempt to persuade an audience; they respond, even if implicitly, to previously stated views; and their meanings always go beyond the conscious control of the author (Throgmorton, 1993). And assessments of the quality of arguments involve interchanges between parties, where 'face' can be as important as 'faiths'.

The selective interchange in debates is potentially a way of concentrating on matters that are more important in the given context; but it can also facilitate conflict. People usually cannot resist concentrating on others' peripheral apparent inconsistencies, to imply their own superiority, since that is often easier than demonstrating it.

Also common are crossed transactions, where responses are directed at implications it is feared others might draw from a statement, rather than directed (as in complementary transactions) to its actual content.

Examples of complementary transactions:

Stimulus - co-operatives aren't suitable in cases A to H.
Responses - (i) I agree; (ii) I don't agree; (iii) I agree for cases A to D, but not for cases E to H; (iv) for reasons x,y, and z, I think you should review your arguments and criteria.

Examples of crossed transactions:

Stimulus - co-operatives aren't suitable in cases A to H.
Responses - (i) co-operatives aren't to blame for lack of suitability; (ii) I deny that co-operatives are a flawed and inferior form of organization; (iii) so you reject co-operatives. (See Apthorpe & Gasper, 1982.)

Many a time, transactions reinforce differences rather than reduce them; so some policy analysis techniques keep parties out of direct contact, to reduce the peripheral conflicts. The above set of crossed responses is prone to be followed by 'you renegade', and more. Provoked by the tactics and tone of debates around evaluations of formal rural service co-operatives in India, Baviskar & George (1988) provided a thoughtful set of suggestions on controversy management. Debates around other policies and organizations are equally heated and in need of help.

Finally, assessors must not be surprised by the apparent persistence of identified fallacies, nor by the denial of change even if and when fallacies are abandoned. On one occasion one thing is said, on another something evidently inconsistent; but the two may have
a common inspiration: a belief in the essential desirability of the policy being discussed, and a common effect - namely, its vindication. Even a feeling of consistency may then be retained. In the short run, the `open texture' of concepts\textsuperscript{six} may help cover inconsistencies and defence of idealized essences; but in the longer run it can provide a yet more valuable service. For when adaptation is felt advisable, open texture eases an evolution under cover of claiming - indeed perhaps still comfortably feeling - that one's essential position has not changed, even though by operational tests one's effective position clearly has. `But of course we have always believed in [our new position].'

7. Conclusion

I have presented argumentation in policy analysis and planning as selective and creative. So I have tried to outline an active flexible approach in argument analysis: not a grand theory but some usable themes and methods that should help to draw forth skills, not depress them under a supposedly total map of policy argumentation. The approach aims to be flexible where there can be differences in structure and elements between cases; but to stress issues in `opening' and `closing' which arise in every case. I have tried too to present argument specification and assessment in a broader context, to help in identification, generation and improvement of arguments, not just the examination of given and fixed positions.

In a complex field, none of the methods mentioned, nor others, nor all put together, will guarantee correct or insightful analyses; and they may be misused. But in general they should help. Many can be viewed as like the aids one uses when learning a language or some other skill. Once one has mastered such aids, one can go on to more novel tasks and refer back only occasionally.

My concern has been to introduce modest but helpful tools. There is little point in asking most policy analysts to master the latest models from speech-act theory or wherever, elaborated without reference to the specifics of their field. We need instead to mobilize and complement their `trade'-skills. With students too, we should foster skills that will help them to grapple with cases by themselves, during their courses and later. While the literature on policy argumentation has more to offer (see e.g. Fischer & Forester, eds. 1993), I have considered that one priority is to present a practical approach to analysing arguments. The second priority has been to highlight a few important issue clusters that can be vividly conveyed in teaching. A kit of `watch-out-fors' and `think-carefully-about's should supplement the standard tools. Argument analysis must include sensitivity both to use of language and to wider structures. The issue cluster of framing was accordingly emphasized. There and elsewhere, policy argument analysis can and should give attention both to broad conceptions and precise details; and, vitally, show how those conceptions are realized through the mere `details' of argument.

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ii. Toulmin has said he would, if now rewriting 'The Uses of Argument', stress further how the very substance of the things at stake varies between fields, and hence how each field is distinctive (Toulmin, 1990).

iii. Goldstein suggests that in utilitarian arguments the grounds include individual preferences, market prices, etc.; the warrants are from orthodox welfare economics; and the backing is utilitarian social philosophy (with more or less liberal amendment). In systems arguments, grounds include estimated and/or projected system conditions; the warrants are the models used of the system, and the posited goals, usually for system maintenance; backed by the associated methodology. In procedural arguments, the grounds are facts about the procedure by which a conclusion was reached (e.g. majority voting held under certain conditions); the warrant is a purported principle of good procedure; and the backing is a supportive social philosophy. He noted too the prominence of qualifiers and rebuttals in policy and planning arguments, given our limited theories, orientation to an uncertain future, and typical need to act before research can fully mature.

iv. Figure 2 already refines the schema by noting that there can be a rebuttal not only to a warrant but also to a backing.

v. See e.g. Cracknell & Rednall, 1986; Wiggins & Shields, 1995. Location of the assumptions column at the far right of the logical framework diagram contributes to its neglect, at least in the USAID and related versions which place two other columns between the means-ends hierarchy and the associated assumptions. People obliged to fill in a logframe are in addition often exhausted by the time they reach this fourth column. A more sensible location would be directly adjacent to the means-ends hierarchy, on its left.

vi. The orthodox case for standardization, and associated simplification, holds that unless principles of analysis are incorporated into compulsory administrative routines, they are unlikely to have widespread and sustained impact (e.g. Cracknell & Rednall, 1986). Bureaucracy favours standardization, for large-scale use by ordinary staff, and for ease of comparison and central supervision; one's judgement on standardization may depend on how much faith one has in people's independent thinking. The LFA also seems more used in aid programmes than in domestically funded programmes in either rich or poor countries; the resolution (on paper) of objectives is easier to enforce when the players have such unequal power.

vii. Thomas (1972) presents a similar picture, and notes that it is a 'reconstructed logic'. He then contrasts it with a pragmatic 'logic-in-use' for actually making and testing value judgements.

viii. In fact Kuhn's other, neglected, sense of 'paradigm' is equally important here: 'exemplar' paradigms are concrete instances of exemplary practice, which embody ideas that can be recognized but are not easily or satisfactorily formalizable, including ways of 'seeing' situations or of deciding which formalizations should be applied and how. The meaning of exemplars is notably open-textured and open to evolution (Kuhn, 1977). Exemplar is not only the older meaning, but not prone to the potential danger with the other sense (i.e. a way-of-thinking or disciplinary matrix) of inducing lack of care when we examine others' ideas.

ix. The choice of base case can be vital in bids to define the term 'justice'. In the classic liberal view of Locke, a man has exclusive right to the products of his own labour, including land that he opens up, provided that there be 'enough and as good left in common for others'. Many enclosure movements in fact reduced the standard of life of those who had benefited from communal rights of access. Hence property holders and their advocates often seek a modified reading of Locke's proviso. The relevant baseline for those who are excluded by the privatization of common property is taken as their well-being in an original 'state-of-nature', in which resources were not scarce but where living standards were conveniently low. It is easier to defend privatization when 'the baseline for comparison is so low'.
Yet if one argues - as do many defenders of privatization - that the long-run position of the excluded be considered, and that short-term losses may be outweighed by longer-term gains, then the baseline for the comparison should not be static. It should be what others' standard of life would be over time without the privatization, e.g. with socialization when that has been an historically relevant alternative. The baseline then could well rise over time and not flatter private holding in the way that Nozick's argument does (Paul ed., 1982.)

While economists are trained to think of constraints, they can forget even economic constraints, e.g. the need for states to raise revenue on a scale beyond the scope of allocatively `neutral' methods. There are also numerous constraints of law and administrative procedure; and political, behavioural and administrative capacity limits. Some development economists find absurd the idea that a government could wish to pursue an objective (e.g. redistribution) but be effectively barred from using an available means (say taxation; Stewart, 1975); they read this as just a disguised statement of lack of concern, for they presume that government is like an individual. But existing tools may be so burdened with other tasks, or so inert and hard to change, that introduction of a new tool (like social cost-benefit analysis in investment choice) might enable those using it to advance the objective to some degree.

I have not discussed the social framing of argumentation, including selection and grouping of participants, a key aspect of argument generation. Mason & Mitroff (1981) and Fischer & Forester (1993) put argument analysis into this perspective.

For an example of `the new rhetoric' - i.e. an integration of classical rhetoric's study of style with analysis of other aspects of argumentation - applied to programme evaluations, see Appendix A of House (1980). Much of the early work on `rhetoric of economics' was on the Keynesian versus monetarist versus new classical controversies in macroeconomics (e.g. Klamer, 1984), but emphasised rather universally posed policy issues of intervention versus non-intervention and discretion versus fixed rules. Attention to more intricate and substantive policy argumentation becomes unavoidable in work on sectors such as health or roads; cf. Colvin (1985).

Although often consensus on objectives and criteria is unattainable, agreement on actions is sometimes still attainable through composing and scrutinizing a narrative that reviews past experience, explains current dilemmas, and presents corresponding proposals. Value criteria can be left partly implicit, just suggested by the account; for the proposals may be compatible with a range of values and objectives and hence acceptable to a range of people.

McCloskey (1994) gives a magisterial rejoinder to his critics.

Incongruency is when adjacent elements seem to conflict, without adequate explanation being given. Unity means that the sections of a story clearly show their relationship to each other.

Sillince (1986) gives examples from planning, for 18 types of fallacy, mostly based on Thouless. In some instances one might query whether the fallacy is well presented, distinct from others, and well exemplified, or even whether what is described is always a fallacy. This is partly inevitable when one comes to complex real cases; and it offers an opportunity to engage students, not spoonfeed them. They can also consider what type of fallacy each is: 1. conceptual, 2. inferential; or 3. failure to look at relevant factors, 4. introduction of irrelevant factors, or 5. a `Type III error' of addressing the wrong question. Dunn (1993b:261) contrasts `first-order errors.. the choice of the less valid of two or more causal inferences [e.g. Type I and Type II errors], and `second-order errors.. the selection of the less appropriate of two or more world-views, frames of reference, or problem definitions'.

Dunn (1981:232-9) has a similar list of criteria, but is non-committal on whether they are obligatory. He also presents extensive sets of more general criteria relevant to knowledge claims, covering (a) types
of possible warrant or backing, and (b) types of possible rebuttal (Dunn, 1993b:270-82). Similarly, Dunn (1990) collates a large number of possible weaknesses: the classical fallacies in deduction, plus the fallacies possible in asserting causality (standard in discussions of experimental design), plus the sorts of \textquotesingle practical\textquotesingle criteria (clarity, scope, etc.) we saw earlier from Scriven. He does not advance as clearly as Fischer does to substantive considerations of what a policy argument should have covered but did not.

xviii. Taylor's proposal was that testing a normative judgement requires four stages: \textquotesingle verification', \textquotesingle validation', \textquotesingle vindication', \textquotesingle rational choice'. Fischer valuably suggests which types of social science and philosophy correspond to the four levels. It is debatable though to take Taylor's model as a universal prescription (let alone description). It reflects the work in moral philosophy of Kurt Baier, Herbert Feigl, and R.M. Hare; and is consistent with a type of rule-consequentialism. This is why it gives four rather than more or less levels. It fits some socio-cultural-political set-ups and issue areas better than others; and \textquotesingle it is possible to have as many forms of policy analysis as there are systems of political thought\textquotesingle (Anderson, 1987:26). Even given its philosophy, the four levels in fact overlap and flow into each other, rather than being sharply distinct. See the appendix to Gasper (1989). Some applications mainly use just two aggregated levels (Hoppe et al, 1990): policy discourse that employs given normative beliefs concerning a policy, and discourse concerning those beliefs.

xix. This means our inability to specify a full and exact set of necessary conditions which together are the sufficient condition for use of a term; instead meanings develop in the process of use. See Gasper on essentialism, in this collection.
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