discussion note

Fallacies Of Practical Reasoning

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In recent years there has been increasing interest in the traditional topic of logical fallacies, both in the research literature in philosophical logic and in discussions of the teaching of informal logic. To my knowledge, however, no proposals have been made for a taxonomy of fallacies of **practical** reasoning, reasoning concerning what to **do** as opposed to reasoning concerning what to **believe**. This paper presents a preliminary list of fallacies of practical reasoning which I have found useful in teaching a segment on decision making of an introductory logic course. The list should also be of interest for the normative study of decision making, since that study can legitimately include instructions concerning what **not** to do as well as what **to** do. I construe the term "fallacy" very loosely, to encompass typical mistakes made in the process of reasoning.

Before presenting a list of fallacies, it is necessary to have some idea of the normatively correct reasoning from which fallacious reasoning is to be said to deviate. Elsewhere I have argued for a model of decision making intended to bring out more of the structure of actual decision making than standard utility theory.[1] On that model, the basic structure of practical arguments is:

1 My goals are $G_1 \ldots G_n$.
The possible actions are $A_1 \ldots A_m$.
A_i is the **best means** of accomplishing the goals.
Therefore, I should do Aj.[2]

In order to select the best means, we need some method for assessing the value of each action, $V(A_i)$.

To get this measure, I assume that the goals can somehow be ranked so that we can assign to each a weight, $W(G_i)$. We also need to consider the degree to which an action A satisfies a goal G_i in a possible situation S_j: $D(G_j, A\&S_j)$. We can then define the **expected value** of an action A with respect to a set of goals G_n and a set of situations S_r:

$$V(A) = \sum_{i,j=1}^{i=n,j=r} P(S_j) \times W(G_i) \times D(G_i, A\&S_j)$$

The calculation requires taking each pair of goals and situations, multiplying the probability of the situation times the product of the weight of the goals and the degree to which it is estimated the goal will be satisfied by doing A if the situation arises, then taking the sum of all these calculations. The action which gets the highest V(A) is then the **best means.**

There are numerous problems with this proposal as a model for how decisions ought to be made, but it will serve to highlight the typical mistakes or fallacies committed by decision makers. Fallacies can readily be seen on the above model as falling under three general headings:

A. Neglect of relevant alternative actions.
B. Neglect of relevant goals.
C. Miscalculation of best means.

I shall consider these in turn. The concern of the classification is not to present a highly analytical and exhaustive list of errors in practical reasoning, but to profide a useful and intuitive selection of typical errors. I hope that the readers will have the same response as many of my students, who spontaneously offered examples from their own experience of commission of these fallacies.

Under the heading of neglect of alternative actions, I include the following:

F1. Decidophobia. Many people put off making decisions to the point when a decision is implicitly made, since the alternative actions have narrowed to one. In contrast to theoretical inference, in practical inference **not** making a decision can be tantamount to making one. The opposite of decidophobia is **hyperdecisiveness,** the compulsion to make decisions as quickly as possible, which can lead in a different way to neglect of alternative actions and goals.

F2. Conservatism. This is choosing an action just because you have always done things that way, rather than considering new possible actions.

F3. Novelty. This is choosing an action primarily because it is one you have **not** tried before.

F4. Flip flop. This is choosing an action primarily because it is very different from what failed to work last time. It is commonly committed by economic advisors and people on the emotional rebound.

F5. Sunk costs. This consists in sticking with a given course of actions just because you have invested so much in it in the past, despite its having poorer future prospects than alternative actions you do not consider. Fallacies F1–5 have in common that they lead people to violate the normative standards of decision making by unduly restricting the range of alternative actions to be considered seriously.

People also frequently fall short in their decision making by neglecting relevant goals. Under this general heading, I offer two very informal fallacies:

F6. Monomania. This fallacy is committed when a decision is made on the basis of only one goal or a very

narrow set of goals. For example, students today are often making career decisions exclusively base on monetary considerations, neglecting social and emotional goals.

F7. Individualism. Here I am making the audacious suggestion that it can be illogical to be unethical. Ethically, and I think logically, the goals which a decision maker takes into account should include the interests of others.

Besides taking into account a good range of actions of goals, decision makers need to integrate considerations about probabilities and expected satisfaction of goals in possible situations. People sometimes go wrong in the following ways.

F8. Excessive rationality. This tongue-in-cheek name refers to applying the whole complicated apparatus of decision making when the situation is not important enough to bother.

F9. Sour grapes. This consists in lowering your estimate of the desirability of an outcome just because it has low probability, i.e. undervaluing $D(G_i, A\&S_j)$ just because of low $P(S_j)$.

F10. Wishful thinking. In contrast to F9, this consists of raising your estimate of the desirability of an outcome just because it has high probability. For example, job candidates often find a job more and more attractive as the probability increases that they will be hired. After a job interview at Podunk U., a candidate will often start thinking about all the positive attributes of Podunk.

F11. Sure thing. This frequently-committed fallacy consists in choosing an action just because it gives a very high probability of some modest payoff, when another action has higher expected value. This might not be fallacious if the decision maker has a highly weighted goal of avoiding the stress associated with uncertainty. Commission of any of F8–11 can lead to a miscalculation of the best means and a less than optimal practical inference.

The above list of fallacies of practical reasoning is by no means exhaustive, and its analytical limitations are obvious. As with any discussion of fallacies, there is a need for detailed specification of when an argument pattern is fallacious, and when it is instead an approximation to another, more valid pattern. But I hope that this preliminary list will be useful to those interested in constructing a richer logic of decision and in teaching the rudiments of decision making to their students.

Notes

(1)Paul Thagard, "Beyond Utility Theory," in M. Bradie and K. Sayre, eds., **Reason and Decision,** Bowling Green, Ohio: Bowling Green State University, 1982, pp. 42–49.
(2)Cf. S. Darwall, "The Inference to the Best Means," **Canadian Journal of Philosophy** 6 (1976), pp 49–58. The analogous form of inductive inference is inference to the best explanation: see P. Thagard, "The Best Explanation: Criteria for Theory Choice," **Journal of Philosophy,** 75 (1978), pp. 76–92. ●

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announcement

Second International Symposium
On Informal Logic

June 20-23, 1983
University of Windsor

Chairpersons
J. Anthony Blair & Ralph H. Johnson

The program planning for **SISIL** is well underway. A number of speakers have been lined up, and several additional submissions have been received so far. The deadline for submitted papers is January 6, 1983. If you have a paper in preparation and will have trouble meeting that deadline, please contact one of the Symposium co-chairpersons. Offers to run workshops are still invited.

On the program to date are:

Robert Ennis
Robert Fogelin
Trudy Govier
Jaakko Hintikka
Merrill Hintikka
David Hitchcock
John McPeck
Richard Paul
Robert Pinto
Perry Weddle
Barrie Wilson
John Woods
George Yoos

The **Symposium** will begin after lunch on Monday, June 20th, and proceed through a program of morning, afternoon and evening sessions until Wednesday evening, June 22nd. Papers will be a half-hour read, followed by discussion. Ample time is planned for breaks and conversation between talks, as well as for leisurely meals. Thursday morning, June 23rd, will be devoted to workshops, and the Symposium will end at midday.

Slated so far are **workshops** on teaching reasoning skills in elementary and in high school. We would like to have other workshops on teaching methods used at college and university level courses. These could vary from outlining curricula to more specific topics such as: testing, the use of A/V tools, the use of the media, course segments such as teaching problem-solving or decision-making, tie-ins with rhetoric or politics, use of computers, how to increase enrolments, infiltrating other academic disciplines.... The list is as unlimited as your imagination. Space and time restrictions may force us to be selective, but all suggestions are welcome at this point.

For accomodations, as many air-conditioned rooms (with openable windows) as will be needed will be reserved in the University residences at modest rates. Inexpensive meals will be available as a package from the University cafateria, and a barbecue, a banquet and a reception are being planned. Baby-sitting can be provided. Private motels, hotels and restaurants are also plentiful in Windsor, a city of 200,000. Details about housing and meals, with a reservation form and travel information will be sent to all **Newsletter** subscribers, as well as to others