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The Method of Relevant Variables, Objectivity, and Bias

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Abstract: Cohen's method of relevant variables applies to assessing defeasible argument strength. It explicates how a body of information may back a warrant and allows ranking strength of different bodies of evidence and of arguments. It further constitutes a way to back inductive and *a priori* moral warrants objectively The method also suggests where arguments employing these warrants may be vulnerable to bias but need not be infected by it.

Keywords: *a priori* moral arguments, backing, bias, inductive arguments, L. J. Cohen, method of relevant variables, objectivity, warrants

1. Introduction

What is objectivity? According to the *Oxford English Dictionary*, it is "the ability to consider or represent facts, information, ... without being influenced by personal feelings or opinions, impartiality, detachment." What then is bias? Again according to the *Oxford English Dictionary*, in one of its meanings, it is "an inclination leaning, tendency, bent; a preponderating disposition or propensity; predisposition towards; predilection; prejudice, a swaying influence, impulse, or weight." Where do the questions of objectivity and bias arise for arguments? Clearly they are intimately connected with the issues of premise acceptability and connection adequacy. One would expect that acceptable premises would ~~be~~ represent facts or information. To the extent that one came to accept a premise out of some predisposition or prejudice and not on the basis of facts or information, the acceptability of the premises is jeopardized. To the extent that the warrant of one's step from premises to conclusion reflects one's predisposition or prejudice to reason according to that warrant, the adequacy of one's reasoning at this point in the argument becomes questionable. The question of bias is especially acute in connection with warrants. As Toulmin (2003) has taught us, premises (for him data) are explicit, warrants implicit. One may be aware of certain evidence which has led one to accept a certain premise, especially if that premise asserts some description. One may also recognize that one has no evidence that in forming this acceptance one was influenced in some undue way. That is, one may recognize that one has not been confronted with defeaters in the experience on which one's acceptance of the premise is based. By contrast, warrants, being implicit, might seem more prone to harbor predispositions towards accepting some conclusion on the basis of some premises, when the habit of moving from premises of the sort appearing in the argument to a conclusion of the sort in the argument results from some entrenched bias of which one is unaware. One may not be aware of the leading principle of the inferential move. *A fortiori* one may not be aware of the bias which corrupts it.

Although warrants may be implicit in the reasoning of an argument, they may nonetheless be identified. Once identified, they may be subjected to critical evaluation. Again, as

Toulmin (2003) has taught us, a challenger may ask not only the warrant-generating question "How to you get there?" but also why getting there that way "has authority and currency," i.e., the challenger may ask for the backing of the warrant. The central question of this paper is whether warrants can be backed objectively, in a way certifiably free from bias. We shall argue for the objectivity of two specific types of warrant. This can be done by applying L. J. Cohen's method of relevant variables. (See Cohen, 1970; 1977.) To begin, we must note several points for which we have argued, but where repeating the argument is beyond the scope of this paper. First, we may distinguish warrants backed *a priori* from those backed *a posteriori*. The paradigm case of warrants backed *a posteriori* are those which correspond to generalizations based on observed evidence. We may call them inductive warrants. Instances observed (better reports of those instances) constitute the backing for the warrant. Besides conclusive warrants expressing logical or semantic principles, a paradigm case for a warrant backed *a priori* is an instance of a moral principle licensing moving from premises attributing some non-moral but morally relevant property to a moral assertion that some duty (or some other moral or evaluative property) holds. For example, from the premise that John has made a promise to repay a debt by the end of the month, we may infer that John has a moral obligation to repay that debt within the given time. In this paper, we shall confine ourselves just to inductive and moral warrants. How may Cohen's method of relevant variables let us show that these types of warrants may be backed objectively and where bias may threaten that objectivity?

2. The method of relevant variables applied to inductive warrants

Suppose observation reveals a constant correlation between one condition, F, and another G. The instances observed constitute backing for the inference rule

From: x is F
To infer: x is G

When is that backing sufficient so that, to use Toulmin's (2003) words, the rule has "authority and currency," i.e., one is justified in inferring Ga from the premise Fa? The method of relevant variables involves a way of systematically collecting evidence to back a generalization–and its associated inference rule–in a way which increases the weight of support for the generalization or backing for the inference rule. Suppose the observed instances are flocks of chickens fed a diet of polished rice and subsequently developing polyneuritis and dying. Surely we have some justification for the inference rule

From: x is a member of a flock of chickens fed a diet of polished rice
To infer: x develops polyneuritis and dies

Does observance of the constant conjunction establish the authority of this rule? Is one justified in inferring from an instance of the premise to an instance of the conclusion? Our backing evidence covers a default situation. Diet—at least a diet containing no rice other than polished rice—is one possible causal factor for the flock's developing polyneuritis and dying. There may be others. Perhaps the flock was genetically predisposed, to the point of virtual determination, to develop fatal polyneuritis. Suppose there is an environmental contaminant which induces fatal

polyneuritis, perhaps in conjunction with some other variable. A little imagination should allow us to develop a whole list of such contaminants. Suppose there is some other toxic ingredient in the particular brands of polished rice one is feeding to the chickens. Presence or absence of polished rice in the diet, genetic predisposition, environmental factors, ingredients other than rice polishings in the diet are all variables in this situation. All of them are potential causal factors. Let's suppose that there are just these four. Employing the method of relevant variables, we may develop a series of canonical tests by cumulatively varying combinations of these variables. In the first test, we vary just whether polished rice is present. Our observation shows that the presence of polished rice is accompanied by fatal polyneuritis. But in this default situation, we are always working with the same type of chicken, in the same environment, with other dietary factors unvaried. According to the method of relevant variables, the weight of our backing evidence is now 1/4. Proceed to the second variable–type of chicken and thus the issue of genetic predisposition. Suppose we fed chickens of different types diets of polished rice and in every case the chickens develop polyneuritis and die, while those fed unpolished rice do not. Our inference rule has passed the second test and is now supported with weight 2/4. In the third canonical test, we vary environmental factors with respect to what our background knowledge indicates are possibly relevant to causing fatal polyneuritis. Suppose we find that no matter how we may vary the environmental factors, our generalization is confirmed and our inference rule remains reliable. Further, suppose we not only vary the environmental conditions but the types of chickens, and whether or not polished rice is present, i.e., all of the first three relevant variables. Our generalization is confirmed with weight 3/4 and likewise the reliability of our inference rule. Finally, we vary other factors in the diet besides the nutrient factors in the rice polishings. Our generalization remains confirmed. The weight of its support is 4/4 or 1. Cohen (1977) would call a generalization supported to this level a natural law. Surely the evidence collected in this canonical test establishes the authority and currency, i.e., the reliability of the inference rule from something's being a member of a flock of chickens fed a diet of polished rice, to that chicken's dying.

The question now arises: Suppose our canonical test confirms our inference rule only to level 3/4 or only 2/4 or only 1/4. Does the rule still have any authority to justify inferences? Recall that at level 4, we varied other factors in the nutrition besides rice polishings. Refer to this fourth variable as V_4. Suppose three values of this variable produce counterexamples for the generalization we are testing, V_4^1, V_4^2, V_4^3. According to Cohen's procedure, (1977) we may deal with these defeating values by modifying the inference rule. We conjoin to the antecedent the specification that these values do not hold, i.e., our inference rule becomes

From: x is a member of a flock of chickens fed a diet of polished rice &
       $\sim V_4^1 x$ & $\sim V_4^2 x$ & $\sim V_4^3 x$
To infer: x develops polyneuritis and dies

Note that *this* generalization passes the canonical test at level 4, i.e, at all levels of our canonical test. Surely *this* inference rule has authority and currency. One is justified in inferring an instance of the conclusion from an instance of the premise.

It should be obvious, however, that this approach risks universal generalizations and corresponding inference rules which are unworkably complex. If to 'Fx" one has to add twenty-five additional conjuncts to produce an acceptable universal generalization, then to infer that

"Gx" holds of some element e, one has to be in a position that not only is there a presumption that Fx holds of e but that all the twenty-five other conjuncts hold of e, a daunting requirement in most cases. But are only those inference rules which are either logically necessary or pass all canonical tests up through the last level capable of reliably transferring a presumption for the premise to the conclusion? Can one make do with an inference rule which is confirmed up to some level $i < n$? This question raises the issue of ranking or ordering the sequence of relevant variables. How does one decide the order of testing relevant variables in setting up a canonical test? Intuitively, it would seem that ordering would matter, at least in some cases. Suppose we have two relevant variables, V′ and V″. Suppose, given our background knowledge, we recognize that the potentiality of V′ to include defeating values for our generalization

$$(\forall x)(Fx \supset Gx)$$

and for its associated inference rule is distinctly greater that the potentiality of V″. Should we not then want to test V′ before V″? Suppose we vary the values of V′ but defer varying the values of V″ and we find that none of these values is defeating, i.e., the generalization passes this level of the test. Would not the inference rule

From:	F*x*
To infer:	G*x*

be stronger than if we had varied the values of V″ and deferred varying the values of V′? Is it not intuitive that the more potential defeaters have been ruled out, the stronger the inference rule and its corresponding generalization?

How is one to appraise falsificatory efficiency? To answer that question, we compare two examples of relevant variables. Suppose polishings were restored to the diets of chickens who had been fed polished rice and developed polyneuritis and these chickens readily recovered. It looks like we have backing for the inference rule

From:	*x* is as flock of chickens fed polished rice, subsequently developed polyneuritis, then fed rice polishings
To infer:	*x* recovers

But the chickens observed all had the same genome. As is well known, genetic variation affects susceptibility to disease. Chickens with a different genome might react differently to a diet with polishings restored than those observed. Some genetically different chickens might not recover and thus provide a counterexample to the general claim that restoring polishings in the diet cures polyneuritis. Genetic make up is then a relevant variable to be taken into account in a canonical test of the inference rule or its associated generalization. Now since it is well known that genome affects reaction to environmental factors including diet, we might expect genome as a relevant variable to be addressed early in a canonical test of the generalization that a diet including rice polishings or unpolished rice remediates polyneuritis.

On the other hand, observation may also show that exposure to music of some sorts proves beneficial to some animals. Our chicken farmer likes Mozart. His music is frequently playing over the loudspeaker system where the chickens are located. So are the chickens

recovering from polyneuritis because rice husks have been reintroduced into their diet or because Mozart's music has made them resistant? Give them rice husks but shut off the music. Suppose they don't recover. Then we have a counterexample. But before taking the canonical step to this level, may we not ask whether it is plausible that music will have much of an effect on the chicken's ability to recover quickly from polyneuritis? That genetic makeup can affect resistance and sensitivity to disease accords will with scientific understanding. Is there any such scientific understanding for music? Uniformity with previous evidence and previously established scientific theory is one factor in determining plausibility. That genome affects sensitivity or resistance to disease at least for some creatures seems a well-established scientific understanding. That type of music can have a similar effect is far more speculative. The genome theory has much more plausibility than the music theory.

Suppose we constructed a canonical test in which we omitted the music variable. Suppose also that our generalization passed all levels of the canonical test. If we now reason according to the rule:

From: x is a flock of polyneuritic chickens which is now fed with unpolished rice and rice polishings
To infer: x will recover from polyneuritis

and there is a presumption for the premise, will that rule transfer acceptability to the conclusion? We admit that this rule is defeasible, especially since the test omitted the music variable, but does that omission undercut the rule's ability to transfer acceptability from the premises to the conclusion of an argument which is an instance of this rule? Although not including every variable scientifically recognized as possible, the test is sufficient to show the inference rule reliable to transfer plausibility from the premise to the conclusion.

We can also construct variants of this example. Suppose a canonical test has shown that some values of a relevant variable produce counterexamples to a generalization. But suppose that in a given application of the rule corresponding to that generalization, the plausibility of these defeating values occurring is quite low. Hence the burden of proof would be on the challenger to show that one or more of these values defeated the inference from premises to conclusion. Hence in this case, the inference rule transfers presumption from the premises to the conclusion.

We can construct variations of these cases to illustrate further our point about defeasible inference rules nonetheless transferring acceptability from premises to conclusion. What then is the moral of this story for the adequacy of presumptive or defeasible inferences when particular values of one or more relevant variables in the canonical test constituting the backing prove defeaters to arguments instancing the rule? If there is no presumption in a particular case that these values hold–if the burden of proof is on the challenger to show that indeed such a value does hold–then the inference rule transfers the presumption from the premises to the conclusion.

3. Objectivity for inductive warrants by applying the method of relevant variables

Recall our characterization of objectivity from the beginning of this paper: the ability to consider facts or information without being influenced by feelings or opinions. It should be obvious from what we have just said in the last section that objectivity may characterize someone who backs an inductive warrant through the method of relevant variables. Should this backing be carried out

with consistent adherence to the method, the result will be an objectively backed warrant able to convey presumption objectively from the premises of an argument to its conclusion. Consider: The method begins, at level 0, by noting a constant correlation. But this is a matter of observation, of seeing what is there to see. Likewise, whether values of the ith relevant variable falsify or confirm the associated generalization of the warrant is a matter of observation. Again, identifying the relevant variables to be considered in a canonical test may be objective. Whether a generalization might fail under certain conditions, that these conditions constitute values of some variable, is a matter of information which has been previously gathered. That a variable is relevant is a matter of observationally supported fact. The method of relevant variables gives us a way of certifying that a generalization is objectively supported to a certain level, i/n. where n is the number of recognized relevant variables, and likewise that the corresponding warrant is objectively backed to that level. This backing is not a matter of subjective opinion. The only place for bias to enter into this process is in the selection or recognition of relevant variables. One might have a biased commitment to some generalization leading one to avoid subjecting it to test at a certain level, overlooking that relevant variable. Alternatively, the judgment that a relevant variable had less falsificatory potential than it actually did have could be a matter of scientific prejudice. The point is, however, that such introductions of bias are not intrinsic to the method of relevant variables but a matter of misapplying the method. At least for inductive warrants, the method gives us a way of objective backing. If objectively backed and the objectively demonstrated restrictions respected, the method indicates when the acceptability of the premises of an argument with an inductive warrant objectively constitute at least a *prima facie* reason for the conclusion. But inductive warrants, backed by bodies of observationally obtained information, are not the only type of defeasible warrant. Cohen (1970) believed that the method could be applied to supporting ethical generalizations among a number of types of non-empirical generalizations. As anyone who has taught undergraduates knows, it is a matter of common belief that moral or ethical claims are a matter of subjective opinion, certainly not open to objective support. What would it mean then to apply the method of relevant variables to backing a moral warrant or its corresponding ethical generalization? Would the result yield objectively backed warrants and objectively supported ethical principles? We answer those questions successively in the next two sections.

4. The method of relevant variables applied to moral warrants

We hold that the evidence for ethical generalizations is *a priori* and likewise that moral warrants are backed *a priori*. We do not shy from affirming that there are synthetic *a priori* truths and regard ethical generalizations as a paradigm case. But we also regard them as defeasible. Consider:

> Jones promised to repay Smith the $5,000 he owed him in monthly installments beginning in January. Therefore Jones is morally obligated to make the first payment in January.

The step from premise to conclusion in the argument seems non-controversial. But suppose Jones' wife is seriously hurt in an automobile accident in December. The couple does not have health insurance and the medical bills will make $5,000 seem like a small sum. Does Jones still

have the moral obligation to repay Smith starting in January or has the warrant been defeated? The answer seems obvious. The paradigm arguments we shall be concerned with are those W. D. Ross (1930) classed as arguments to *prima facie* duties (or that certain states of affairs are *prima facie* good or bad). Rawls (1971) sees the properties Ross would cite as reasons for *prima facie* duties as *prima facie* reasons for actual duties. Rawls' (1971) characterization is illuminating for relating the evaluation of such arguments to the method of relevant variables:

> First principles single out relevant features of moral situations such that the exemplification of these features lends support to, provides a reason for making, a certain ethical judgment. The correct judgment depends upon all the relevant features as these are identified and tallied up by the complete conception of right. We claim to have surveyed each of these aspects of the case when we say that something is our duty all things considered; or else we imply that we know (or have reason for believing) how this broader inquiry would turn out. By contrast, in speaking of some requirement as a duty other things equal (a so called prima facie duty), we are indicating that we have so far only taken certain principles into account, that we are making a judgment based on only a subpart of the larger scheme of reasons. (p. 341)

How then may the method of relevant variables be applied to the question of when the premises of arguments with moral warrants transfer presumption from their premises to their conclusions? Consider the following argument concerning neighbors Smith and Jones:

> Smith destroyed the iris bed in Jones' yard. Therefore
> Smith acted in a morally wrong way towards Jones.

Extracting the warrant from this argument is easy. (We are generalizing the argument in an obvious way.)

> From: *x* destroyed a piece of *y*'s property of some value
> To infer: *x* acted in a morally wrong way toward *y*

Why should one regard this warrant as reliable? Remember that we are here considering defeasible warrants backed *a priori*. Surely, we can imagine ourselves in Jones' situation. Surely our sense of intrinsic value (one function of our moral sense, if you will) immediately tells us that this is a bad situation. Furthermore our moral intuition tells us that the wrongness of *x*'s act supervenes upon its causing this bad situation. From the perspective of the method of relevant variables, we are at the same level as someone who has observed a correlation between two phenomena. In both cases, the inference rule and its associated generalization have received 0 level support. For the empirical correlation, no other relevant variable has been manipulated. For the first-order moral inference rule we have imagined no defeater in the form of an exculpating factor. But we could imagine such factors. Suppose Smith has just purchased an additional piece of property abutting both his and Jones' back yards.

7
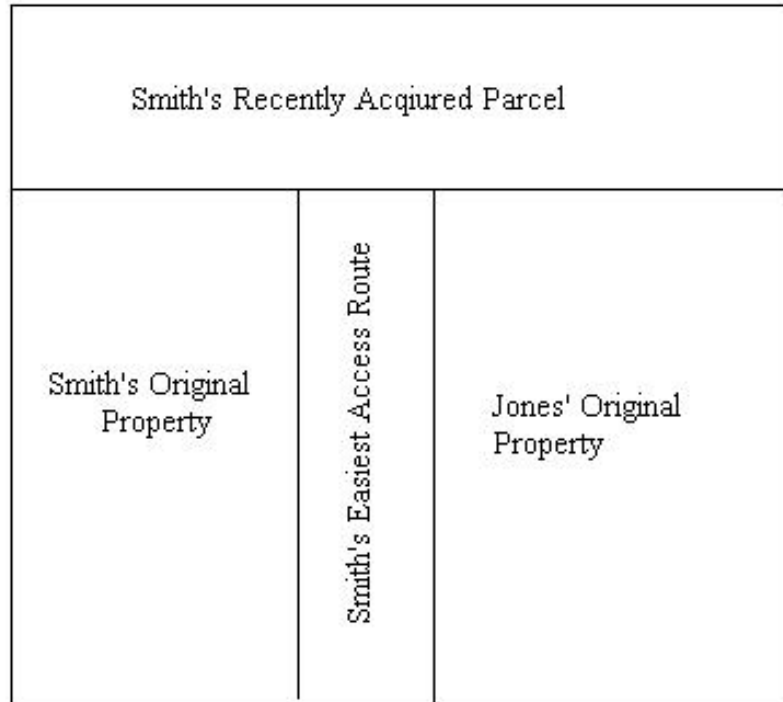
Suppose Smith's easiest access to his new piece of property is across Jones' property. Suppose Smith fairly compensates Jones for the access route and proceeds to construct it. Building this access route has destroyed something of value on Jones' property, but in this instance has Smith acted in a morally wrong way toward Jones? Given the additional facts, clearly he has not. Smith's fairly compensating Jones for value destroyed is a relevant variable. Imagining ourselves in Jones' place in this situation is like testing whether an empirical generalization withstands manipulating a relevant variable. Our generalization does not pass the test. But we could straightforwardly construct an inference rule and associated generalization which do. Add as a conjunct to the antecedent of the generalization the condition that x did not compensate y fairly for the value destroyed. Suppose Smith simply built a driveway across Jones' property without paying or even offering to pay Jones any compensation. Clearly Smith has acted in a morally wrong way towards Jones. As in the empirical case we can order the relevant variables according to their potential for generating a counterexample to a universal generalization or a defeater to the corresponding inference rule, so we may also at least enumerate relevant variables in the moral case. Paying some sum in compensation is a relevant variable. Paying fair value is one variant. Paying trivial token compensation is another value, one the generalization may easily survive.

So when do these moral warrants transfer acceptability from premises to conclusion? The case is parallel to the empirical case. We have indicated that we may enumerate moral variables. So we may construct the levels of a canonical test, each level $i \geq 1$ consisting of the conjunction of values of the relevant variables up through level i. If our inference rule is never defeated, that our premise is acceptable gives us a conclusive reason to assert that the conclusion is acceptable also. By contrast, if a counterexample emerges at some level and there is a presumption that the

conjunction of values constituting the counterexample does not hold in the case described in the premise, i.e., the conjunction of the premise and the assertion that this counterexampling combination of variables does not hold, again we have acceptability transfer. If there is no presumption either way or where the burden of proof is on the challenger to show that this combination of values holds, acceptability transfer still holds until or unless the challenger successfully presents a defeater. Only if there is a presumption that the defeating combination of values does hold is acceptability transfer defeated.

The reader may have two objections at this point. First, we have gone from imaginatively considering a single case of property destruction to a general principle. Is this hasty? Following Cohen, (1977) we may argue that it is not. The argument is simplicity itself. Treat like cases like. Smith has destroyed the iris bed in Jones' yard. Our premise consists of this one morally relevant fact. No values of any exonerating relevant variables have been mentioned. So when we have a case of one person destroying something of value which belongs to someone else, and this is the one morally relevant fact presented, we may assent to the conclusion that the person acted in a morally wrong way, admitting that our case is defeasible. Empathetically entering into the case allows us to intuit a general connection. The second objection goes to the heart of our enterprise in this paper.

5. Objectivity versus bias in moral warrants

May we accord moral sense the same epistemic status as empirical observation? In the empirical case, we tell whether or not some value of a relevant variable or combination or values of relevant variables constitute a counterexample to a generalization by empirical observation. The antecedent of our generalization holds but not the consequent. But what serves the analogous role in the moral situation? We "see," i.e., empathetically appreciate, the wrongness of destroying an iris bed belonging to someone else. We "see" that the wrongness is defeated–at least in some cases of destroying value–by paying just compensation. But this seeing is a matter of moral sense. Our moral sense may indicate that some state of affairs, such as the destruction of an object of aesthetic value, is intrinsically bad. But when the object destroyed belongs to someone other than the one who destroyed the object, our moral sense may disclose that the act was wrong. Furthermore our moral intuition lets us "see" that the badness of the state of affairs supervenes on its being an instance of the destruction of some object of value and the wrongness of the act supervenes on its being a instance of harming someone else. These are basic beliefs, just as beliefs generated by observation of the external world are basic. But there is a presumption for such empirical beliefs unless one is aware of some defeater such as a perceptual malfunction or an environmental anomaly. Why then should there not also be a presumption for moral sense and moral intuition? Why should we not accord them the status of innocent until proven guilty–reliable unless defeated–as we would to sense perception?

But today's rampant relativism (especially among college students) would claim that moral sense and moral intuition are subjective. But are they? Is it simply an opinion that destroying something of beauty is a bad state of affairs and since what is destroyed is on someone else's property, the act of destruction without reparation has morally wronged the person who owned the object of beauty? Suppose someone says he thinks such a state of affairs is quite fine and the action quite permissible. May we show through argument that the burden of proof lies with him to justify such evaluations?

The issue of moral relativism and its critical appraisal is beyond the scope of this paper. But argumentation theory can offer something in response to our question and may let us strengthen our case that the burden of proof is on the objector to justify rejecting the reliability of moral sense and moral intuition. In the case of singular statements, in the simplest case statements predicating a property of some subject, there may be a presumption for a statement given the source which vouches for it. Moral sense and moral intuition are sources and there may, in some cases, be agreement among these and other sources. Now, as Rescher (1976) points out, if several sources vouch for a statement, we can regard them as one source, with probity enhanced over that of any of its individual members. Again, as Rescher (1976) points out, Aristotle in the *Topics* gave special importance to three sources: "all or the majority or the experts or the best and most reputable of among them" (p. 6, fn. 3). So we have precedent for granting a presumption for what is vouched for by these sources, where convergent judgments were generated by moral sense and moral intuition. Now would we expect the majority to agree that the destruction of objects of value, *ceteris paribus*, is a bad thing? Would those versed in aesthetic criticism (construing aesthetics broadly) say it is a bad thing, especially experts who could claim some special competence in appraisal? Would we expect that a majority of these persons would simply shrug their shoulders when asked whether the destruction of an object of aesthetic value belonging to someone other than the destroyer was wrong and simply say it was just a matter of subjective taste? So the argumentation theorist has a response to the relativist here. Given the source which vouches for that response, the burden of proof is on the relativist to show that there is a presumption for the claim that judging the destruction of something of value to be a bad thing and, if the object destroyed someone else's property, morally wrong is simply a matter of subjective opinion.

We may argue that the burden of proof for the relativist is even higher, even much higher. The claim that someone who has destroyed something of value which belongs to someone else has acted in a morally wrong way toward that person is a first-order moral generalization. But as Cohen (1970) points out, such moral generalizations may be organized into moral theories (p. 174). For example, a theory may indicate that one moral generalization takes precedence over another, as when the duty of paying for goods or services received is said to be more stringent that the duty of benevolence. A duty of reparation may very well have higher stringency than other duties. At a higher level yet may be what their advocates regard as moral first principles, such as Mill's principle of utilitarianism. Can the relativist simply say that all these moral claims. no matter what the level and no matter who or how many may vouch for them, are all matters of opinion, where one's opinion is as good as another's? Clearly that is a high burden of proof.

So how may one discern objectivity from bias in the case of moral warrants? Focusing just on warrants that license inferences from non-evaluative but evaluatively relevant properties to evaluative properties, without doubt, bias may enter here. One may be predisposed to accept a certain warrant or reason according to it. But as our argument has attempted to show, such bias need not be universal. Moral warrants may be vouched for, including both first-order warrants linking nonmoral but morally relevant properties with moral properties, and also higher level generalizations. The question now is whether we can link the fact that moral warrants can be vouched for with the method of canonical tests and increasing strength of support through the method of relevant variables. Can we argue that moral warrants can be supported by increasingly complex tests which are analogous to the canonical tests supporting empirical hypotheses? Cohen (1970) has suggested a way to proceed (pp. 172-74). Consider the warrant

From   *x* enslaves *y*
To infer: *x* acts in a morally wrong way towards *y*

Let us enter empathetically into the condition of a slave, where we imagine nothing further than that the person has been enslaved, in contrast to the person's being a slave of a certain gender, nationality, ethnicity, sexual orientation, or a slave endowed with certain talents or other gifts. That is, in accordance with the OED definition of objectivity, we are not allowing our feelings about any of these other conditions to influence our judgment of the case. Can there be any doubt that in the vast majority of cases, persons would judge that the enslaved person is being morally wronged by the person who is enslaving him? Should our expectation be correct, would not this consensus on the issue be evidence for the objectivity of our judgment? We may argue that this situation is analogous to the 0th level of an empirical canonical test. We have noted a correlation and have framed a hypothesis,

> Since the enslaving person has enslaved the victim, he has acted in a morally wrong way toward that victim.

We have not imagined that any other potentially relevant variable has also been operating here which might affect the judgment that the enslaved person has been wronged. It is wrong to enslave this person *qua* person. But will there also be consensus that like cases should be treated like? If so, then the principle of universalizability is also objective. Hence our judgment is not that some particular hypothetical slave has been wronged by being enslaved, but that enslaving any person is wrong. So

> For any *x* and *y* if *x* enslaves *y*, *x* acts in a morally wrong way towards *y*

is an objective moral principle with 0 level inductive support. But we have abstracted from any other condition than that the person had been enslaved. But now, as with an empirical canonical test, we may consider these other factors, alone or in combination. Can we also expect moral consensus when the enslaved person is a woman, a homosexual, a migrant or refugee? Indeed, can we find any variable which is relevant constituting a counterexample to our universal judgment that one who enslaves has morally wronged the one who is enslaved? As factors are eliminated, the weight of support for our generalization increases, parallel to the increase in support for an empirical generalization as a canonical test which proceeds through empirical relevant variables finding them not yielding counterexamples. As an empirical generalization which is supported to level n/n achieves the status of a natural law, so a moral generalization supported to this level constitutes a moral law. Analogously to the empirical case, should there be a consensus that some condition justifiably permits enslaving a person, we could modify our principle to exclude such cases, making the modified principle immune to counterexampling at that level. We submit then that we can distinguish objectivity from bias in the case of moral warrants. If there is a consensus that treating someone qua a person is morally permissible, required, right, wrong, and a consensus for treating like cases like, and that the more potential exceptions ruled out, the more objectively stronger the principle, then there are objectively justifiable and objectively justified moral warrants. Surely if a moral generalization has achieved

a high level of support from such a canonical procedure and one dissents from the generalization without citing a potential relevant variable which has not yet been tested, the burden of proof would be on the dissenter to justify his or her dissent. Absent such justification, would we not have a *prima facie* case that the dissenter is biased?

6. Objectivity, bias, and the practice of argumentation

If the considerations in the paper are cogent, we have shown for two types of defeasible arguments at least that we may give objective justification for the warrants of arguments of that type. That is, the question of whether the warrant adequately connects the premises of an argument to its conclusion so that the acceptability of the premises is transferred to the conclusion and the strength or weight of that connection can be assessed through a method, that of relevant variables, which makes this assessment on the grounds of evidence. This evidence is objective in a sense that is within the bounds of meaning of "objectivity." Likewise the method of relevant variables gives us a way of challenging a step in an argument as being biased and gives us a way of showing just why it is biased. First identify the warrant, answer Toulmin's (1958/2003) warrant-generating question "How do you get there?" and then address his backing generating question, "Why does your warrant have authority and currency?" The authority and currency of the warrant is determined by the extent of the canonical tests it has passed. For a proponent to reason according to a warrant that is not properly supported is to open himself to the charge of bias, especially if one could show that personal feelings or attachments led the proponent to reason in that way.

Our discussion has covered two types of defeasible warrants. There are more we can easily identify. One comes to identify the warrants of legal arguments *a posteriori* through knowledge of the laws that have been enacted by properly authorized legislative bodies together with precedents established by judicial decisions. But legal warrants backed by legal provisions are defeasible. The law is an institution and so legal warrants are instances of institutional warrants and one can argue paradigm instances. They are also open to justification through the method of relevant variables as Cohen (1970, pp. 155-171) shows. There are many further institutions, games with defining rules for example, which supply us with defeasible *a posteriori* warrants. What then may we say of objectivity and bias in institutional arguments? One may argue that there are other classes of arguments with warrants known synthetic *a priori*, in particular those arguments by analogy which Govier (1999; 2010) has identified as *a priori*. Hence, there is much more we can say about distinguishing objectivity from bias in argumentation through the method of relevant variables. Sufficient to the purposes of this paper if we have shown the method to let us distinguish objectivity from bias in inductive and at least one kind of moral argument.

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