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The issue of generality in ethics

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1. Introduction

Generality has long been regarded as one of the most important criteria which scientific theories must satisfy. Likewise for philosophical theories. Awareness is increasing that possibilities for general theories in science are limited. For example, biology[1] and medicine,[2] unlike physics, have few general theories and laws. Their subject matter can be characterized to a large extent as "natural history," that is, as non-general "theory." Indeed, philosophers of science today are unlikely to promote the ideals of pervasive generality *for science* which Logical Positivism fostered in the past. However, many of them endorse generality as an ideal for philosophy itself.[3] Why philosophy should be different from science in this respect is unclear to us. Concerning generality we would endorse an ideal of pervasive modesty.[4]

Within philosophy, ethics has a separate position since its representatives do not always accept the ideal of generality as a matter of course. To the contrary, many researchers nowadays argue that general theories are of no use in ethics. Some even argue that ethics cannot have theories at all.[5]

Criticism of generality in ethics takes many forms. We will pay special attention to the view that casuistry rather than general theory is the proper basis of ethical reasoning. Unlike some ethicists who give casuistry a central position, we do not regard lack of generality as a feature that distinguishes ethics from science. The subject matter of science does not simply consist of general theory.

We argue that the distinction of general theories and casuistry has been misconstrued since "generality" is a composite notion. To deal with the distinction we need methodological tools which do not get the attention they deserve in ethics. We outline an elementary methodology, which partly

agrees with R.M. Hare's views.[6] Hare is a typical proponent of abstract ethical theorizing which casuistry opposes. Casuistry has been re-defended in a recent book by Albert Jonsen and Stephen Toulmin.[7] By an appraisal of their views in terms of our methodology we can indicate why their approach need not be at odds with attempts to develop "general" theories.

Our methodology can be fruitful in science and in ethics alike. We hope that it will help to put correspondences and differences between science and ethics in a better perspective.

2. Generality from a methodological perspective

The term "generality" has been a source of much confusion since it is used for various concepts. First, it may stand for *universality* of form. A statement is universal if it contains a universal quantifier and does not mention particular individuals, times, or places. Second, *generality* is the opposite of specificity. We will not elaborate a full-fledged definition of this notion. The following example will suffice to show that we need to distinguish it from generality in the sense of universality. The statement that organisms are killed under extreme environmental conditions is more general than the statement that they are killed under extreme temperatures. With respect to universality, the two statements are on equal footing. Third, the term "generality" may stand for general *validity* of statements. The statement that all organisms contain carbon is generally valid, for it is true of all organisms (as far as we know). The statement that all philosophers are wise has a restricted validity. Without qualification it is false.

To avoid confusion, we will use the term "generality" only in the second sense, for the opposite of specificity. The notions of universality and generality can be used to characterize both descriptive discourse (as in empirical science) and normative discourse (as in normative ethics). In the context of ethics, Hare has pointed out that universality must not be confounded with generality.[8] As an example, he mentions the two principles "Never kill people" and "Never kill people except in self-defence or in cases of adultery of judicial execution." Both principles are equally universal, but the first is more general than the second.

The way we informally defined "validity" is appropriate for the characterization of descriptive discourse. For normative discourse we need a different notion of validity if we are unwilling to apply the predicates of truth and falsity to normative statements. We assume that any specific meaning of "validity" in the context of ethics is sufficiently clear for ordinary discourse. In Hare's terminology, (general) validity in ethics is a matter of being universally binding.

The notion of validity bearing on statements must be distinguished from another notion which applies to arguments; unfortunately, the same word is used for both notions. The validity of arguments is a matter of relationships among the statements they contain. Specifically, a deductive argument is said to be valid, or formally correct, if the conclusion cannot be false while the premises are true. In the present essay the term "validity," if used without qualification, always stands for statement validity.

The search for "general" theories, in science and in ethics, has been concerned with universality, generality, and validity at the same time. In the philosophy of science, the three species of "generality" have been regarded as methodological criteria which scientific theories must jointly satisfy. Concerning science and ethics alike, we argue that, in most cases, the criteria cannot be satisfied at the same time. Before that argument we need to introduce additional distinctions.

In principle, we can easily evaluate theories with respect to universality and generality. We only need straightforward logic (and linguistic analysis) for this purpose. With respect to validity the situation is more complex. In order to know that a statement is valid we need to justify it. Therefore, the criterion of validity must be coupled to matters of justification.

In science, the criterion of validity is embodied in the principle that theoretical statements (such as laws, theories) need to be be well-confirmed. This principle expresses the demand that attributions of validity must be justified. Two major kinds of justification exist in science. First, we can justify a statement by testing implications against data. Deriving implications is a matter of logic, though not a simple one. Additional assumptions are always needed for inferences. Second, justification occurs in the form of coherence. Statements which cohere with a body of theory have a stronger position than isolated ones. Coherence relations are again a matter of logic. We will use the expressions *data-justification* and *coherence-justification* as a convenient shorthand for the two kinds of justification. Obviously, we will normally combine the two forms of justification in evaluating statements of science. Justification involves inferential relationships among statements (compare the notion of argument validity).

In the past, philosophers of science have defended strong versions of either form of justification. Data-justification was associated with the ideal of verification, while coherence-justification was associated with the ideal of neat, deductively organized theories. Nowadays both ideals are regarded as obsolete. With respect to justification, we need much modesty in science.

Validity (of statements) in ethics will differ from validity in science. Nonetheless, the distinction of data-justification and coherence-justification is as useful in ethics as it is in science. "Data" in ethics will be covered by

specific normative statements that we accept *and* facts which are relevant in normative contexts. Justification in ethics, as in science, will largely be a matter of logic. That is, we will typically argue from accepted data and/or generalities, and the arguments will have to meet criteria of logic such as formal correctness.

We may need deontic logic besides ordinary extensional logic in ethics to account for normative statements in arguments. However, this does not warrant the conclusion that the logic of ethics is very different from that of science. Evaluation in science calls for the application of normative methodology, so extensional logic will not suffice there either.

Consider the thesis that, barring exceptions, the use of persistent pesticides is morally wrong. We would justify this statement by inferring it from the following higher-level statements: Persistent pesticides accumulate in food chains. This results in forms of environmental damage we cannot accept for moral reasons. Also, the process of accumulation represents unacceptable health hazards since food will be contaminated.

The inference represents coherence-justification, in the form of deduction, on the basis of factual and normative premises. The premises themselves need to be justified by appeal to data from biology, data in the form of moral intuitions concerning specific examples of damage, etc., and generalities we take for granted (the process of justification must stop somewhere to prevent infinite regress).

Some philosophers think that justification is impossible in ethics. We concentrate on two of the arguments to this effect.

First, it has been argued that justification of concrete moral rules by inferences from theories is unsatisfactory because theories are typically appealed to *after* we have decided which rule to adopt. This is taken to imply that theories do not have justificatory force. This argument is a blatant fallacy since it confounds temporal priority with logical priority. Henceforth we will refer to it as the *priority fallacy*.

A parallel with empirical science should explain why this is a fallacy. The justification of a moral rule by an argument with general principles in the premises is the analogue of a scientific explanation in which phenomena are connected with laws or other generalities. Phenomena we want to explain will mostly be known before explanatory premises are formulated. Science would become impossible if explanatory arguments were rejected for this reason.

Second, some thinkers oppose general theories because they do not permit the derivation of moral rules that we encounter in daily life. This argument calls for a digression on the concept of theory. Discussions about the impact of ethical theories become confused since "theory" is an ambiguous notion. Philosophers of science have shown that the concept of

(scientific) theory is tricky.[9] Unfortunately, their publications on the subject are totally disregarded in ethics.

We will not try cover all the senses of "theory" in ethics. The admittedly simplistic distinction of *formal* and *substantive* theories will suffice in the present context. Likewise for formal versus substantive principles; theories are here conceived as collections of interrelated principles (relatively general statements).

Formal principles are methodological criteria, such as the ones we have introduced, for the appraisal of substantive principles. In science the distinction is straightforward. In ethics the situation is more complex. Statements such as "killing is wrong," in the terminology we adopt, are substantive principles of ethics. The thesis that such principles must satisfy criteria such as universality, or universalizability, is obviously in an entirely different category. It has a formal nature. Now, ethics also has principles which are not easily placed in one of the two categories. For example, the basic tenets of consequentialism and of deontology can be construed as high-level substantive principles, but also as formal constraints for the substantive principles we envisaged. We have no preference for any particular reconstruction. Either reconstruction might be sensible depending on the purpose the theorist has with an "over-arching" theory.

Those who oppose general theories in ethics[10] use the concept of theory in a narrow sense for highly abstract theories, especially formal ones. Such theories allegedly do not allow the derivation of "moral rules" we use in daily life. Yet such rules can be regarded as substantive principles at intermediate levels of generality. The thesis that theory has no use in ethics is therefore misleading. It typically presupposes the adequancy of lower-level generalities which are denied the status of theory for no obvious reason.

However, the critics of theory do have a point since theorizing in ethics often proceeds at an unduly abstract, formal level. We agree that substantive principles (such as "moral rules") cannot be derived from abstract, formal principles alone. For example, any *formal* thesis to the effect that ethics must aim at a "reflective equilibrium" does not imply much about substantive principles. Reflective equilibrium is a variant of coherence, a methodological criterion which constrains such principles but does not provide them with content.

Antitheorists are utterly mistaken if they conclude from his that ethics, unlike science, has no use for theories. In science we encounter the same situation. No scientist in her or his right mind would try to derive Newton's laws from methodological precepts, for example, the requirement that laws of nature must be universal.

We will not analyze in more detail here disputes concerning the role of

formal theories. Our aim is more modest. We want to provide tools for the improvement of concrete ethical discourse. We think, though, that problems with formal theories of ethics cannot be solved unless ethical discourse is clarified with mundane methodology.

3. Methodological trade-offs

In the sequel we will use the term "ethical principles" for substantive ones. The validity of ethical principles can be restricted in many different ways. We will use the term "condition" (symbol: C) to cover the general idea of restriction. The term may stand for items as diverse as cultures, historical periods, localities, and situations actors may find themselves in. In the analysis presented below we assume that contexts which differ in conditions, however specified, allow of rational comparison. That is, we will side-step problems associated with strong forms of relativism.[11]

From a formal point of view, conditions which restrict the validity of principles can be accommodated in several ways. Consider the principle "killing is wrong." Suppose, for the sake of argument, that we agree that the principle is valid, with the restriction that conditions C_i represent exceptions. In that case we can express our opinion in two ways. (1) We say that we accept the principle, though, if confronted with an exception, we will be explicit about C_i overruling it. (2) Right from the start we formulate "killing is wrong unless C_i" as our principle.

Notice that (1) and (2) are logically equivalent. The differences in formulation are nonetheless interesting. The principle in (1) is highly general though it is not (generally) valid. The principle in (2) valid because it accommodates the exceptions. Its validity is attained through a decrease in generality. This shows that methodological criteria can be at cross-purposes, so that trade-offs are needed. We are using the notion of trade-off for formal issues; substantive trade-offs we will have to face when principles conflict are an entirely different matter.

In the example, generality and validity cannot be maximized at the same time. So we are faced with a trade-off problem. Which criterion should we privilege? That is a question without a general answer. The context will determine which criterion is more important.

The example is an artificially simple one in which the issue of trade-offs is unexciting. In more realistic settings, however, trade-offs need to be faced which are by no means trivial. We should recognize that the search for a theory which satisfies sundry methodological criteria in a high degree is futile. Instead we should be content with theories which are adequate in some contexts, though inadequate in others, in view of the particular

limitations they have. In science, this is nowadays a commonly accepted way of looking at theories. Ethics lags behind in this respect.

Exceptions to ethical principles are seldom available in a fully articulate form. We will often come across new situations we had not thought of before, which call for the recognition of new exceptions. That is what makes ethics difficult and exciting at the same time. In this respect, ethics does not differ at all from science or any other intellectual endeavor. Theories, and any principle they contain, are always open-ended. Thus, if we would aim at a really valid principle concerning killing, we had better give it the form "killing is wrong except in conditions C_i," where C_i stands for conditions partly or wholly characterized in vague terms. That is what makes the principle open-ended.

While a principle of this kind would not be wholly clear and articulate, would this make it inappropriate? Being clear and articulate is another methodological criterion which principles ideally should satisfy, but here again we must be prepared to face trade-offs. We can opt for fully articulate principles (in this case by deleting C_i) which will turn out to have a restricted validity, or we can aim at general validity and pay the price of vagueness. The context will determine which option is better.

To illustrate the use of the methodological framework we have introduced, we will apply it to two theories which are quite different with respect to generality, that of Hare and that of Jonsen and Toulmin.

4. Hare's views of generality

Hare has defended the thesis that moral reasoning can take place at two levels, the intuitive one and the critical one.[12] At the intuitive level we are dealing with *prima facie* principles, at the critical level with critical principles. According to Hare, the function of *prima facie* principles is to help us reach decisions in concrete, practical situations, and they can only perform this function if they are simple. If conflicts occur, we must not try to improve on principles geared to the intuitive level by making them more complex, but turn instead to the critical level. Conflicts can only be solved by appeal to critical principles.

Hare maintains that both *prima facie* principles and critical principles are universal. The difference lies in the generality-specificity dimension. A *prima facie* principle has to be relatively simple and general (that is, unspecific), but a critical principle can be of unlimited specificity.

The following distinction concerning universality is important. Universality may be a matter of form, and it may involve issues which are universally binding. In our terminology, universality and validity should not be confounded. *Prima facie* principles are universal, but they need not be

(generally) valid. Critical principles are both universal and valid.

Though we are critical of Hare's category of critical principles, his analytical tools are quite useful. Consider the following well-known problem. Normative ethics has been said not to deal adequately with conflicts in which we are naturally partial. Is not a mother entitled to love her child more than other children? Yet, ethics calls for an attitude of impartiality. Altruism and love must be extended to people in general, otherwise we will violate universal and general principles.

Hare dismisses this kind of reasoning – rightly so we think – as follows.[13] At the intuitive level, the example involves partiality. But critical thinking may show that a universal statement to the effect that *every* mother should love her own child more than other children may be valid. At the critical level, partiality need not occur in this case. Those who have dealt with such cases in ethics have often confounded the issues for lack of an articulate methodology.

All this fits in with the methodological distinctions introduced above. However, we are not happy with the way Hare develops his theory. Hare does not give articulated examples of critical principles. His main concern is with defining features of critical principles, namely universalizability, prescriptivity, and overridingness. Indeed, in an earlier work[14] he explicitly stated that moral principles need to satisfy criteria such as universality, but they need not be formulatable.

Hare does not explain why he refrained from articulating critical principles. A possible reason is that only superhuman creatures would be able to elaborate them. If that is what he thinks, we would not be interested in critical principles since we are human. Alternatively, the principles could be person-relative. If that is what Hare means, he rightly gives no examples since Hare-relative principles would not be binding on his readers. We would not be interested since we are not Hare. Yet another interpretation is possible, which may be plausible in view of Hare's thesis that critical principles, unlike *prima facie* principles, can be of unlimited specificity. In many cases if not always we may need very complex and specific statements to arrive at universality. Perhaps Hare did not feel the need to complete this task because he was satisfied with the conviction that it can be completed *in principle*.

The second interpretation, which would make critical principles person-relative, is supported by Hare's views of universalizability.[15] A moral judgment about some situation is universalizable in Hare's sense if *the person involved* is prepared to make the same judgment about any other (actual or hypothetical) situation which is *precisely similar*. Other situations include those in which the person occupies the position of another party; an exchange of roles should not make a difference.

The *precisely similar* enables Hare to bypass the tricky notion of morally relevant features. The situations Hare considers are qualitatively identical, so the question whether they are sufficiently similar to bear on universalizability does not arise.

This looks like a consistent position. However, Hare's stance is singularly unhelpful if we want to implement the criterion of universalizability in order to *formulate* a critical principle. To try to accommodate all the features of the situation concerned in a principle is absurd. (The notion of a set of "all" features is incoherent.) So we are forced to work with features we judge to be relevant. The chances are that any *particular* situation will involve a great number of such features. Also, infinitely many kinds of situations exist. For these reasons, many authors have argued that Hare's universalization thesis is vacuous or trivial.[16]

We admit that the issue is elusive since Hare could insist that persons are able to envisage identical situations without bothering about specific features. We are unable to perform this kind of envisaging, but the failure may be ours. However, if specification of features is really dispensed with, we have a different objection. A critical principle we arrive at in this way would essentially be about a particular situation and situations which are similar to it. Moreover, person-relativity would imply that reference to a *particular* person is a covert part of the meaning of critical principles. On two counts, therefore, critical principles would not be universal! When Hare states that such principles are universal, he means that they contain a universal quantifier. That is not sufficient for statements to be universal in the normal sense of the term in logic and philosophy. Besides containing a universal quantifier, universal statements should meet the requirement that they do not mention particulars.

To some extent, this is a matter of terminology. Hare is free to use the term "universal principles" for items which are not formulated and which essentially involve particulars. However, the chances are that such idiosyncratic conceptualizations will generate much confusion. We can but conclude that Hare's critical principles should not be regarded as components of an ethical theory (unless we *also* choose to use the concept of theory in an idiosyncratic way).

If critical principles in Hare's sense could be formulated, they would be universal (in some respects at least) and valid. In many cases we would have to pay a price for these desirable features, in the form of lack of generality and, perhaps, clarity. *Prima facie* principles are universal and general. Their disadvantage is that they are not generally valid. This classification of principles is not exhaustive. For example, in some contexts we could be content with principles which are general, valid, and non-universal.

Hare's treatment of critical principles is highly confusing. Yet his work remains valuable because he has shown that ethical principles cannot satisfy all apparently reasonable methodological criteria. The context of interest will determine which criteria we should emphasize.

5. Comments on casuistry: Jonsen and Toulmin

The most elaborate defense of casuistry is found in the recent book by Jonsen an Toulmin.[17] We will give a running commentary on their views to assess the merits of casuistry *vis-à-vis* overly abstract, general theories.

Jonsen and Toulmin notice that highly abstract generalizations in ethics are tailored only to fit paradigm cases. They are not suitable to resolve ambiguities and conflicts among principles. Jonsen and Toulmin present the following telling example.[18] The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, which was set up in the United States in 1974, managed to reach agreement about many particular moral judgments. But the moment discussions soared to the level of abstract principles, no consensus could be reached.

> In theory... particular concrete moral judgments should have been strengthened by being "validly deduced" from universal abstract ethical principles. In practice the general truth and relevance of those universal principles turned out to be *less* certain than the soundness of the particular judgments for which they supposedly provided a "deductive foundation".[19]

We agree, but we think that Jonsen and Toulmin's terminology is misleading. They contrast abstract generalizations with particular moral judgments. The term "particular" in philosophy often has the connotation of non-universality. We can speak of rocks in general and formulate universal statements about them and about particular rocks. This is doubtless not what Jonsen and Toulmin have in mind. We assume that their particular judgments are universal statements at a low level of generality. They are opposing ethical theories which put extremely general statements at center stage.

Jonsen and Toulmin subsequently contrast theory and practice. They characterize theory as idealized, atemporal, and necessary. By contrast, practice (such as ethical reasoning) is concrete, temporal, and presumptive. In this context the following remark about practical judgments is interesting.

> Once this practical judgment is exercised, the resulting decisions will (no doubt) be "formally entailed by" the relevant generalizations, but that

> connection throws no light on the grounds by which the decisions are arrived at, or on the considerations that tilt the scale toward one general course of action rather than the other. What such decisions involve can be explained only in *substantive* and *circumstantial* terms.[20]

Again, we agree, yet again we note that Jonsen and Toulmin's formulations are misleading. The phrase "the grounds by which the decisions are arrived at" concerns the temporal priority of some statements in moral reasoning. "Formally entailed by" stands for logical priority. Jonsen and Toulmin are committing the *fallacy of priority* (see section 2). Their line of reasoning could even be rebutted by those who would like to set up ethical theory in the spirit of geometry. Mathematicians at times arrive at brilliant theories by capricious activities. They are welcome, as long as the results are good.

Jonsen and Toulmin's key terms "substantive and circumstantial" (which keep cropping up in their book), likewise, have less force than they suggest. Sound ethical principles, at any level of generality we may wish to consider, will need to have substance in order to be useful. In applying them in actual practice, we will have to specify "circumstances." Proponents of abstract approaches in ethics should admit that much. Consider the following analogue with scientific explanation. Newton's laws will permit us to explain that a stone falling from the window will hit the ground at a particular moment. However, we cannot infer this from the laws alone. We will also need initial conditions such as the moment the stone started to fall. This is a "concrete, temporal [though not presumptive]" matter, described in "substantive, circumstantial" terms.

The distinction of theory and practice is not as sharp today as it was in antiquity. But essential differences prevail.

> Another feature of the analytic contrast between Theory and Practice concerns the solidity of argument in each. Within scientific theories today arguments are no longer accepted on a priori grounds alone, but they are still "necessary" in a less ambitious sense. So long as any scientific conclusion follows from theoretical principles strictly, that inference is valid formally as much as substantively. Conversely, when practical arguments go beyond the scope of any formal theory their conclusions are "presumptive" in a similar sense. Their soundness depends not on formal validity alone but on the richness of the substantive support for any general ideas they use and the accuracy with which any particular case has been recognized and classified.[21]

Jonsen and Toulmin subsequently note that inductive reasoning and pattern recognition are extremely important in practical arguments. In theoretical arguments the emphasis is more on deduction.

We think that the authors are again exaggerating the differences between theory and practice. In science as well, researchers often "go beyond the

scope of formal theory." Inductive reasoning is then legitimate. And presumptiveness is often regarded as a hallmark of science.

Jonsen and Toulmin subsequently present an impressive survey of the history of casuistry. They deplore the decline of casuistry in the last few centuries, and they suggest that we can learn much from the ways of the old casuists. In the concluding chapters the case for casuistry is strengthened on the basis of this. The following quotation captures the essentials of the main conclusions.

> Every well-founded ethical theory carries conviction on some occasions, in some circumstances, applied to problems of some kinds; but no theory has a monopoly in all situations or over all kinds of problems.... The objections to thinking of ethics as a "science" ...are as strong as ever ... What patterns of argument are appropriate in dealing with any particular kind of problem must...be judged *contextually* with an eye to the specific case at issue.[22]

This must not be taken to imply that ethics cannot develop theories at all. The point is that it must not be modelled on the exact sciences. For parallels we have to look elsewhere in science.

We argue that the way Jonsen and Toulmin characterize ethics should fit some exact sciences quite well. As we noted, biology and medicine do not have many general theories. Jonsen and Toulmin's point is that ethical theories which are general and universal are unlikely to be valid under all conditions. We agree, but we would add that conditions of applicability can be accommodated by principles of a theory. Thus, we could buy validity at the cost of generality, while retaining universality. If we cannot specify all the relevant conditions, we will need to be content with open-ended principles.

On this interpretation, what Jonsen and Toulmin are saying is fully compatible with the methodology we have introduced and, to a large extent, with Hare's methodology. (Hare is an obvious example of ethicists with a preference for the abstract theories Jonsen and Toulmin are opposing.) Unfortunately, Jonsen and Toulmin themselves are not sufficiently aware of the methodological distinctions we have discussed.

Jonsen and Toulmin do state that their view is apparently compatible with the more traditional abstract approaches. Their claim that casuistry is unavoidable in the application of ethical theory, will not be disputed by moral theologians or philosophers with abstract tastes and theoretical inclinations. However, the authors also purport to defend a less trivial claim, "that *moral knowledge is essentially particular*, so that sound resolutions of moral problems must always be rooted in a concrete understanding of specific cases and circumstances."[23] That is, in moral reasoning we should follow a bottom-up approach rather than a top-down approach.

All our previous comments are applicable here. First, "particular" in the intended sense is not an opposite of "universal." It refers instead to generality at low levels. The same goes for "specific cases and circumstances." Once this is recognized, we can grant that much moral knowledge, to the extent that consensus exists, is essentially particular. So is much knowledge in the natural sciences. Second, the *priority fallacy* lurks beneath the surface. Jonsen and Toulmin again do not distinguish temporal and logical priority. Maybe bottom-up approaches are quite suitable to arrive at moral knowledge (temporal priority), whereas a reconstruction of this knowledge is more profitably cast into top-down form (logical priority).

6. Conclusion

Does ethics have adequate general theories? Our analysis shows that this question does not have a straightforward answer since the key terms are ambiguous. So we should not concentrate on the answer but on the question itself. "Ethics" stands for many things, but we let that pass. "Adequate" may refer to varied arrays of methodological principles which are seldom fully articulated in ethics. "General" is a notion with at least three meanings. Different kinds of generality may be at cross-purposes, so we must not expect theories to be general in sundry senses. "Theory," for that matter, is itself ambiguous. Some thinkers say that ethics cannot have theories, while others deny it. We doubt whether opposing parties are talking about the same things.

No wonder, then, that controversies in ethics are long-lasting and unproductive. We hope that the methodology we have presented will alleviate some of them. The examples we chose show that this is feasible. Views such as Hare's and Jonsen and Toulmin's which are seemingly wide apart, show convergence if we put them in a methodological perspective.

Our analysis also suggests that many alleged differences between science and ethics could fade away if methodology is brought to bear on them. Specifically, the idea that ethics compares poorly with science in view of limited generality, or poor means of justification, is unfounded. Those who defend this view over-rate the powers of science.

Notes

1. Wim J. van der Steen, "Concepts of Biology: A Survey of Methodological Principles," *Journal of Theoretical Biology* 143 (1990): 383–403; Wim J. van der Steen and Harmke Kamminga, "Laws and Natural History in Biology," *British Journal for the Philosophy of Science* 42 (1991): 445–467. References

concerning the views of several philosophers of biology are given in the latter article.

2. Kenneth F. Schaffner, "Exemplar Reasoning about Biological Models and Diseases: A Relation between the Philosophy of Medicine and Philosophy of Science," *Journal of Medicine and Philosophy* 11 (1986): 63–80; Wim J. van der Steen and Paul J. Thung, *Faces of Medicine: A Philosophical Study* (Dordrecht: Kluwer, 1988).
3. Some philosophers, however, have explicitly stated that the search for generality in philosophy itself is mistaken. See especially Richard W. Miller, *Fact and Method: Explanation, Confirmation, and Reality in the Natural and the Social Sciences* (Princeton: Princeton University Press, 1987).
4. Peter B. Sloep and Wim J. van der Steen, "A Natural Alliance of Teaching and Philosophy of Science," *Educational Philosophy and Theory* 20 (1988): 24–32.
5. See articles in Stanley C. Clarke and Evan Simpson (eds.), *Anti-Theory in Ethics and Moral Conservatism* (Albany, N.Y.: SUNY Press, 1989).
6. R.M. Hare, *Freedom and Reason* (Oxford: Oxford University Press, 1963); R.M. Hare, *Moral Thinking: Its Levels, Method, and Point* (Oxford: Oxford University Press, 1981).
7. Albert R. Jonsen and Stephen Toulmin, *The Abuse of Casuistry: A History of Moral Reasoning* (Berkeley, Cal.: University of California Press, 1988).
8. Hare, *Moral Thinking*, pp. 40–41.
9. In the philsophy of science, two opposing views of scientific theories, the received view and the semantic view, are widely discussed. See e.g., Peter B. Sloep and Wim J. van der Steen, "The Nature of Evolutionary Theory: The Semantic Challenge," *Biology and Philosophy* 2 (1987): 1–15. Other sources are mentioned in the article.
10. Clarke and Simpson, *Anti-Theory*.
11. For discussions of forms of relativism, see e.g. Michael Krausz (ed.), *Relativism, Interpretation, and Confrontation* (Notre Dame, Ind.: University of Notre Dame Press, 1989).
12. Hare, *Moral Thinking*.
13. Ibid., pp. 137–140. For analogous examples, see Bert Musschenga, *Mag het Hemd Nader Zijn dan de Rok? Over Grenzen aan de Morele Eis van Onpartijdigheid* (Amsterdam, Free University Press, 1989).
14. Hare, *Freedom and Reason*, p. 47.
15. Hare, *Moral Thinking*, pp. 42–43. We are only discussing universalizability in one sense of the term. For a discussion of varied meanings of "universalizability," see A.W. Musschenga, *Noodzakelijkheid en Mogelijkheid van Moraal* (Assen: Van Gorcum, 1980).
16. See, e.g., G.F. Gaus, *Value and Justification: The Foundations of Liberal Theory* (Cambridge, England, Cambridge University Press, 1990), pp. 306–315.
17. Jonsen and Toulmin, *Abuse of Casuistry*.
18. Ibid., pp. 16–20.
19. Ibid., pp. 18–19.
20. Ibid., p. 30.
21. Ibid., p. 32.
22. Ibid., p. 297.
23. Ibid., p. 330.