Considering the place of virtue in Aristotle's ethics, it is important both to clarify the notion of the mean and to determine how its connection to virtue adds clarification to the notion of virtue itself. There are two different interpretations of the mean that might be drawn from Aristotle's writings. The first, though seeming to be the most natural, is an implausible interpretation and one to which Aristotle himself is not committed. The second, for the most part implicit in the discussion, escapes the most obvious difficulties that confront the first but leads to further difficulties. But if the notion of the mean remains somewhat obscure, then nothing has been gained by the definition of virtue in terms of the mean.

Assuming that to aim toward the mean is characteristic of virtue, two distinct questions arise for any proposed interpretation of the mean. First, for any virtuous action is it always true that it has the properties required by the interpretation? Second, if we are perplexed about whether a certain action is virtuous or not, will the mean as so interpreted provide a criterion for resolving this perplexity? Any definition of virtue must give practical criteria for assessing particular actions or passions; it must be not only theoretically correct but also materially adequate. This point needs to be emphasized, since ethics is for Aristotle a practical science. To be able to aim at virtue, which is the essence of the moral life, requires that one be able to judge the virtue of alternative courses of action. Thus these two questions provide an adequate test for any interpretation of the mean.

The first interpretation is that of the mathematical sense of mean, for which the differences between virtues and vices will be matters of degree. One characteristic of virtue that Aristotle cites is to be "destroyed by excess and defect and preserved by the mean" (N.E., 1104a25). This terminology of excess, defect, and mean naturally suggests this type of interpretation. Reinforcement is found in Aristotle's treatment of justice, particularly of corrective justice. At several points in the Politics and Nichomachean Ethics, he indicates a connection between justice and the mean, so that one needs only to notice the mathematical model in terms of which justice is analyzed to derive a strong presumption for an analogous interpretation of the mean.

Can a plausible case, which is consistent with the Nichomachean Ethics, be made for such an interpretation? That it cannot should be evident from seeking an answer to the second question above. Against the determination of the virtues by seeking some sort of mathematical mean, four, not necessarily
exhaustive, difficulties can be cited.

First, since virtue, or the mean, is defined in some way as an average of excess and defect, it will be necessary to give some precise value to these terms. This must be done without knowing the mean of which they are excess or defect; otherwise the problem is already solved. But can this be done, and if so, how? Take as an example giving to charity. We might interpret the excess and defect as the absolute minimum and absolute maximum that one could possibly give, and calculate the average. But this average will, in most cases, itself be excessive, depending on the amount assigned as an absolute maximum. Alternatively, we might assign either "average" values of excess and defect or assign values that are the "greatest defect" and "least excess"; and then take the mean as the average of these values. But clearly these values are much more difficult to determine in concrete cases than the mean itself, unless the mean is already known. Either of these methods leads to the obvious difficulties that beset this interpretation. The confusion arises from attempting to derive a mean from the excess and defect when the most natural, and least obscure, course is to proceed in the opposite direction. The idea of excess and defect can only be explicated in terms of a prior assessment of the proper amount, or mean, for any action.

Second, any action at all might be virtuous as a mean for some arbitrarily chosen reference class. For any action, some feature which is susceptible of degree may be chosen for which that action lies in the mean, relative to that feature. Thus the action becomes a virtue in comparison to other actions sharing that feature. For example, apathy, as "moderation", would be justified as a mean between resistance to and active support of political and social institutions, such as segregation.

Third, the preceding difficulty raises and depends upon another: the ambiguity of "degree" itself. Not only is the mean (in degree) as much in need of clarification as virtue, but actions may also admit of degree for each of their features and in various ways, such as in quantity, quality, frequency, etc. Take as an example, talking. Its excess may lie in talking too loudly, too frequently, at the wrong times, verbosely, indiscriminately, crudely, or in a way to incite, among others. This shows the difficulties inherent in basing virtue on degree.

Fourth, is the idea of differences in degree (relative to ourselves) of actions and passions adequate to explain the differences between vices and virtues? Actions and passions are often capable of excess and of defect as well as their consequences and of their being good or bad. Thus no action or passion could be excessive or deficient in degree which had no untoward motives or consequences. What constitutes overeating, for example, can only be determined insofar as it leads to obesity; and then only if it is the result of some improper motive and not of an organic condition. Otherwise, a man of proper weight could be guilty of the simultaneous vices of overeating and overexercising. But it would not be clear how these excesses in degree could be assessed where there are ill effects at all. Either may be the effect of the other, so that it is impossible to say which is the vice; given the excess of one, the other is a mean relatively in that it maintains the proper weight. In such cases, the determination of degree (of excess and defect) is derivative in the sense that it depends on a prior assessment of motives and consequences. We might want to say that their goodness or badness is also a matter of degree. But this does not appear to be true. Such motives and consequences differ not in degree but in kind; they are just the sort which are good or bad in themselves. Some things are called excessive only if they are already known to be vices (have bad motives or consequences) and hence the definition of vice becomes a tautology.

On the other hand, some actions and passions are thought to be virtuous or vicious regardless of their motives or consequences. What is taken as important is just the kind of action or passion that they are, e.g. murder or not lying. Thus they differ from their corresponding virtues or vices not in degree but in kind. Further, it is implausible to think of virtue as a deficiency carried to excess or as a deficiency of an excess. This also suggests qualitative rather than quantitative differences. How can the present interpretation of the mean handle these rather plausible claims?

Some insight into these matters is gained by asking the other basic question: is the mean on this interpretation characteristic of all actions or passions presumed to be virtuous? Here we find an unexplained equivocation in Aristotle's moral system. He admits, but does not explicate a second model.

Some actions, such as murder, are always vices and thus can never have a mean. Other actions, such as not lying supposedly, are always virtuous and thus can never have an extreme. There are then two classes of actions for Aristotle: those which become virtuous or vicious insofar as they do or do not lie in the mean, and those which are virtues or vices whether or not they are intermediate. For the second class, it is just not morally relevant that such actions are performed to a certain degree or that they have certain motives or consequences. The only thing of importance is the kind of action that they are.

The question, which is not considered by Aristotle, arises of delimiting the range of application of these two models. There seems to be a natural solution. Non-moral terms which define the class of actions capable of excess and defect in terms with an explicit moral connotation signify either good or bad actions only and are not capable of such variation. We might then say that there is simply no problem with the latter, since we "know" already whether they are virtues or vices. Thus the three-part model (excessive-mean-defect) applies in the former case, for which there is a genuine problem; it is used to assess all non-moral terms signifying actions and passions. But two
needs to be justified even for the restricted class of terms.

Accepting the above solution, some of the problems in using the mean in the mathematical sense to differentiate virtues and vices are surmounted. Since the mean only applies to the second class of actions, it is possible to admit consistently that some virtues and vices do not differ in degree but in kind. But, even within the second class, motives and consequences play a role in the moral assessment of some actions. Thus the mean (under this interpretation) is apparently not characteristic of all virtues within this class. Neither does it provide a criterion for determining those virtues.

To feel pleasures or pains, etc. too much or too little is not well, "but to feel them at the right time, in reference to the right objects, towards the right people, with the right motive, and in the right way, is what is both intermediate and best, and this is characteristic of virtue" (N.E. 1106b20-23). This is perhaps Aristotle's most explicit formulation of the mean and the source of its second interpretation. Here the mean is based upon certain features of the action or passion: time, objects, people affected, motive, and way performed. Let us call these the circumstances of the action. An action is intermediate if and only if each of its circumstances is proper. That is, if an action is performed in the right way an action is performed in the right way. But as a matter of degree, the first interpretation of the mean becomes a special case of the second. Further, for this interpretation, the excess and defect can be known only if the mean itself is known, since improper circumstances can be known only in reference to the proper circumstances of a particular action. The appeal of the first interpretation is that it creates the illusion that one can "calculate" the mean from the excess and defect. For example, the right time for an action is not determined by calculating an average of the different wrong times. Further, the capacity to formulate the maxim of that action depends in large measure on our knowing the proper times of its performance. And the time of performance can only be understood as improper insofar as it deviates from the norms used to determine the proper time. Indeed, norms of impropriety per se are inexplicable.

Does this interpretation of the mean provide a criterion for determining the virtues? Through its greater flexibility in admitting factors other than degree, this interpretation escapes the four objections raised against the first interpretation. But a definition of virtue in its terms does not directly answer our question, but shifts its focus to the determination of the propriety of the circumstances. Is this a clarification? One reasonable and consistent way of reading the Nichomachean Ethics is that anyone with the proper experience and moral education and with good practical judgment will just know whether an action is virtuous. That is simply no problem. Otherwise, Aristotle would not have left the formulation of the mean so vague, if it were to be the primary guide to virtue. And in the Politics, he does say that "far better than such definitions is their mode of speaking, who, like Gorgias, enumerate the virtues." (Politics, 1260a25-28). This reading resolves the present question, but several consequences follow. In particular, the definition of virtue as a mean is not a way of knowing what is virtuous but a property of virtues already known, and hence a principle of classification rather than of determination.

Are all virtuous actions intermediate in this sense? As was pointed out above, the existence of two models for moral actions presents two kinds of problems. The first (that it would be necessary to know in advance whether some actions are virtues or vices in order to apply the models) is dispelled by the above reading of the text. This leaves as the crucial issue then the adoption of the three-part model for its appropriate class of actions. But there are two considerations weighing against the advisability of such an adoption.

First, the range of application of Aristotle's two models, under this interpretation of the mean, needs to be questioned. One model applies to actions which are virtuous or vicious in all circumstances; the other applies to those actions, signified by non-moral terms, whose moral assessments depend on the circumstances of performance. But it is not clear that such a sharp demarcation between actions or terms can be made. Few actions are good or bad without qualifications; and the extent to which assessment of actions depends upon the circumstances forms a continuum from terms such as "talking" to those like "murder." Even for the latter, there are circumstances, e.g. "judicial murder," in which it might be taken as virtuous. Second, even within the range of application of the three-part model, there are apparent counter-examples. Take the case of imbibing. Abstinence might be a virtue, say for someone with an ulcer. But, otherwise, is drinking a little a vice? Further, there would be distinct vices, correlative to each virtue, for each way in which any of the circumstances might be improper. But apparently there is no such complexity.

However, there is a plausible extension of this interpretation of the mean which is compatible with it and which meets these problems. This involves taking the mean as an application of categories to the practical subject matter. As pointed out, an action is intermediate if and only if each of its circumstances (time, objects, etc.) is proper. It is this list of circumstances which may be taken as a list of practical categories, so that a good must be good in each of them. Some justification of this may be sought in an analogy with the role of theoretical categories.

In the theoretical sphere, categories provide the highest-order predicates of theoretical judgments. As such, they also
indicate the different senses of "being", which is not a univocal concept. In a like manner, "good" is not a form which is universally present in all cases, but since the existing many senses as "being" (N.E., 1096a23-28). Since "good" is the central practical concept, as "being" is the central theoretical concept, there is this much similarity. But for a complete analogy, practical categories would have to provide the highest-order predicates of practical judgments. If there are no practical categories or if they do not play such a role, we need to ask why, given Aristotle's approach, practical and theoretical judgments are so fundamentally dissimilar.

Aristotle does not explicitly present the items in his characterization of the intermediate as a list of practical categories. The analogy above may not have occurred to him, however plausible it is. Or he may have felt that an exhaustive list of practical categories, unlike theoretical categories, could not be given. In any case, there is a need for them within the Aristotelian framework. The set of predicates pertaining to a possible action forms its maxim. Some of these predicates will be relevant to the maxim being that of a virtuous action; that an action is in accordance with virtue must be based on its maxim, even if practical judgment is a function of virtue as it is for Aristotle. But just as theoretical predicates fall into certain categories, morally relevant predicates also appear to fall into certain categories, such as those cited by Aristotle. It is common in contemporary metaphysics to talk about actions which are relevantly similar morally, but what sorts of things are morally relevant are never classified. In many cases, this is a reflection of the supposition that, being based on language, there are an indefinite number of categories. But where Aristotle diverges from such categorial schemes lies in just this supposition. There are, for him, a definite number of mutually exclusive theoretical categories. By extending this, we may see practical categories as marking off different kinds of morally relevant predicates. The maxim of a virtuous action, which lies in the mean, will fall under some though perhaps not all of these categories; it will be a certain kind of action, done at a certain time, etc. Thus the general character of virtue is to be good in each of the categories, rather than to share in a form of the good. And this is exactly what Aristotle does say about virtue.

But something which exists must fall under one or more of the theoretical categories and empirical objects typically fall under all or most of them. And actions and passions, the subject matter of practical philosophy, exist. Thus the claim that "good" has as many senses as "being" may mean that, for example, since the substance and qualities of an action "are" in different senses, the senses in which they "are good" must also be different. This suggests that there are no practical categories as supposed; rather practical judgments employ theoretical categories if at all. But the differences between practical and theoretical judgments must be kept in mind. One produces knowledge of objects, while the other leads to action. Only an action can be the proper conclusion of a practical syllogism. However, it is not the case which is of practical significance but the state of character from which it springs; this provides the moral principle. And it is to this basis of action that practical categories pertain. After all, virtuous and vicious men may often perform the same actions. This points out the dual perspectives of all actions. From the practical perspective, there are categories with which virtuous action must be in accordance and which practical judgments must presuppose; just as knowledge presupposes the employment of theoretical categories. And they are categories in the sense of being the highest-order predicates of practical judgment. Actions then can fall under theoretical categories from the perspective of knowledge and under distinctive practical categories from the perspective of virtue. This point provides a second need for categories.

As mentioned, one difficulty facing the different interpretations of the mean is their ability to handle the two models of moral actions. For some actions, the character of their performance is just not morally relevant; the only thing of importance is the kind of action they are. What I want to suggest then is that a list of Aristotelian practical categories must include a category of substance, i.e. kind of action. And as the category of substance gives the primary sense of being, the category of moral substance plays a key role for the good. For actions good or bad in the category of substance without qualification, such as murder or not lying, the other categories need not be consulted. But for other actions, their goodness depends on the assessment of their predicates within the other categories. This provides an adequate explanation of the two classes of actions, without abandoning the categorical interpretation; the mean thus interpreted pertains to both. It should also handle the problems of demarcating the two classes of action and dealing with apparent counter-examples within the second class. Here is also a framework for unifying deontological and teleological theories. Thus Aristotle might be seen as coming close to Kant, except that no rule is given for determining goodness within the category of substance.

How is a categorial analysis of the virtues as a mean given? Facing danger is a kind of action which is not good or bad without qualification and which thus belongs to the class of actions susceptible to the three-part model. Here an essential category is that of time. To be rash means always to meet any danger and to be a coward means always to avoid any danger; while to be courageous means to face or avoid dangers at the proper time. The differences between this virtue and its correlative vices, as states of character, lie in this: the vices involve not the use of judgment about the propriety of the time, the virtue does, the use of inflexible rules of action. For the vices, there are no categories; one can not propose to act at the wrong time, etc. What is significant is that the good man judges such cases in each of the categories,
while the bad man can only be interpreted as not employing judgments (or categories) at all but some general inflexible mode of conduct. It is in this sense that vice is an extreme. And the virtues and vices are discontinuous, since the differences between intermediate and its extremes are not here a matter of degree. But the vices do confirm the categorial analysis in that they become extremes in one or more of the practical categories.

For Aristotle, practical reason and judgment spring from and are conditioned by the agent's character. Virtue is not a matter of judgment, although judgment is a matter of virtue. Thus the mean, and the practical categories, do not provide rules for determining the virtues, although they are employed implicitly in that determination. They provide then general characteristics of what practical reason judges to be virtuous. And the proper application of the mean as a principle both requires experience and depends on a virtuous character. Thus what appears to be a problem, how propriety within each of the categories is determined, does not become a problem for Aristotle. This itself must be a matter of practical judgment based on a virtuous character. And this reinforces our reading of the Nichomachean Ethics above.

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NOTES

1. Aristotle, Politics, 1287b 44ff; Nichomachean Ethics, 1132a 20ff are examples.

2. "But not every action nor every passion admits of a mean; for some have names that already imply badness." Aristotle, Nichomachean Ethics, 1107a 8-10.

3. This is consistent with and casts light on the passage cited on page 68.

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THE S-PREMISE

S. Ron Oliver

It is the intention herein to explicate and deal with certain aspects of scientific explanation. In particular, this is to be done with critical reference to material presented by Richard Cole in Wisdom. In keeping with this secondary goal, and due to the natural limits of time and space it will not be possible to provide a complete, cohesive theory of knowledge, though such is usually fundamental to the development of a theory of scientific explanation. Effort will be made, however, to provide sufficient guidelines of the underlying theory as to render the theory of explanation intelligible.

I. The Standard Model of Explanation

The particular feature with which we are concerned is Cole's analysis of explanation, of which the account of Alethea and her encounter with the watch is the prototype. In doing science we observe a certain (simple or complex) phenomenon. We are motivated through an element of curiosity (or whatever) to "explain" that phenomenon. Of course, there are some events which do not so motivate us. They are, in some sense, primitive. We accept them at face value (as they are presented to us) as not being in need of explanation. The business of doing explanation enters when we are confronted with phenomena which we do not take as primitive.

A study of such phenomena ensues which involves various and sundry observations and actions. The goal of this study is to obtain (discover) a set or network of elements which are themselves primitives, or combinations of primitives, and when taken as a related whole have the force of eliminating our perplexity about the event under scrutiny. That is, we proceed to provide a causal (to use the term loosely) pattern of primitive observations which, if properly related in a logical manner, explain the phenomenon which motivated our study. And the essence of this explanation is the elimination of curiosity or motivation to explain.

In general, the resultant explanation will refer to a rather restricted set of impressions (real-world phenomenon). At first we might only apply it to those specific events which we have observed during the construction of our explanation. We then may become more generous and apply our analysis to all events like those we have dealt with. Whatever the interpretation set of our explanation, the form of it might be represented thus: