

Markets, Measures, and Meaning

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Abstract

Sociologists have long contended that the market reduces the value that can be realized through objects and relationships by introducing metrics of comparability that obscure unique features of objects and relationships. However, there exists little compelling evidence for this thesis, which seems incompatible with utility theory. In this paper, we propose and discuss the results of an experimental test of the sociological claim. While we discuss several qualifications that must be made in interpreting results, we believe that the results support the basic sociological claim.

Introduction

At least since Marx(1990) invoked the distinction between use-value and exchange- value, sociologists have had an abiding interest in understanding how the operation of the market impacts on the value-orientation that an individual brings to interactions with people and objects. What emerges from the sociological literature is a distinction between a value-orientation in which the individual embraces the unique essence of an object and a value-orientation in which the individual downplays the defining elements of an object because the individual is concerned primarily with establishing quantitative comparability across what are qualitatively dissimilar goods. While Marx advanced such a distinction in *Capital*, variations on this distinction reappear in a somewhat different form in scholarship over the last one hundred and fifty years. Simmel invoked a similar distinction in the Philosophy of Money(1978), as did Marcuse in One-Dimensional Man(1991).

More recently, Espeland and Stevens (1998) introduce the analytical construct of commensurability as a necessary component of a value-orientation in a market. Espeland and Stevens define commensurability as a social process by which different qualities are transformed into a common metric, such as utility or a numerical ordering. They argue that when two objects are made commensurable, one's experience of each object is not only transformed but potentially is of less value than it would otherwise be. Finally, Podolny and Hill-Popper (2004) have introduced the distinction between what they call a hedonic conception of value and a transcendent conception of value. While there are a number of dimensions along which the hedonic and transcendent conceptions of value are distinguished, one of the central features of the distinction is that the former implies a ranking among objects, whereas the latter implies that each object is valued as an end in itself. Like Espeland and Stevens, Podolny and Hill-Popper argue that some of the essential value of an object is lost when the valuation implies a comparative assessment.

However, despite the large number of variations on this thematic distinction, there is no empirical proof that individuals derive less value from an object when that object is assessed in terms of some underlying basis of commonality. To be sure, there are a number of institutional and cultural analysts, like Marcuse, that discuss how markets bring about this reduction in value, but these scholars theorize rather than empirically demonstrate the premise that an assessment in terms of an underlying basis of commonality reduces the value of what is assessed. Moreover, this premise seems almost nonsensical if expected utility theory – the central model of decision-making in microeconomics and a model that has had significant impact within the field of sociology (e.g., Coleman 1990)– is the lens through which one conceptualizes an individual's

orientation toward objects and experiences in his or her life. At a basic level, expected utility theory assumes that whenever one considers the value of a good, one is implicitly arriving at a quantitative assessment of its value based on whether the attributes of the goods are utility enhancing. The market may provide quantitative information to facilitate the individual's assessment of whether the experience with a good will improve the individual's utility, but such information does not transform one's orientation to the good since one's ability to make choices depends on having some underlying utility metric for assessing the value of alternatives. If individuals were not evaluating religious experiences, works of art, and friendships in terms of some underlying utility metric, then the individual would not be able to choose how much time to allocate to each, and since we know that individuals do choose, then they must have some underlying metric informing the choice. Even work in behavioral economics, which challenges some of the axioms of expected utility theory, does not question the basic understanding of choice as implying a comparative assessment of alternatives in terms of some underlying utility metric.

In this paper, we discuss an experiment that tests the fundamental sociological claim that the inherent value of an object can be lost when the individual's exposure to or experience with an object is mediated by quantitative information about that object. To the extent that we find empirical support for this claim, we believe that the implications are profound for at least two reasons. First, and perhaps most obviously, such a finding challenges the fundamental understanding of valuation implicit in utility theory. Second, if an object loses some of its essential value when it is assessed against a common metric, then there is a sense in which market institutions can be said to be value-destroying in the

way that they operate. While markets may facilitate the matching of individuals and objects, markets may ultimately lower the value the objects themselves to the extent that the establishment of common metrics is an essential feature of the operation of the market.

Our paper is organized as follows. We first review in some more detail the theoretical foundations of the proposition that the value of objects decline when those objects are considered in terms of a common metric. We propose an experimental test of this basic idea. After discussing both the details and results of the experiment, we discuss both implications and extensions of this research.

Theory

Because there is such a long-standing sociological concern with how the value of an object is transformed when subjected to a common metric, there are potentially a number of classic theoretical starting points. Marx's distinction between use-value and exchange value is an obvious one; however, as it is not possible to decouple this analytical distinction from Marx's thoroughly criticized labor theory of value (cf. Sorensen 1996), we will instead take Weber's (1979) classic distinction between instrumental rationality and substantive rationality. The distinction between these two forms of rationality suggests two ways in which an individual can be oriented to and hence derive value from an object. Consistent with Weber's notion of instrumental rationality, an individual's orientation to an object can be defined by the extent to which the object facilitates some end that is analytically separable from the object. So, an

individual can value her education because that education will facilitate her ability to pursue some type of employment that she would otherwise not be able to pursue. In contrast, Weber's conception of substantive rationality implies an orientation in which an individual's mental and emotional engagement with an object represents the enactment of an ethical, religious, or aesthetic principle that is valued as an end in itself. When an individual's orientation to an object is guided primarily by substantive rationality, the experience with the object implies demands and obligations on the individual, and a failure to fulfill those demands and obligations would be seen by that individual as indicative of some moral flaw or weakness on her part. So, an individual can value her education because she considers being an educated person to be a moral imperative, and she perceives a failure to pursue an education as a moral failing on her part. Though Weber presents the two types of rationality as contrasting ideal types, they are not necessarily incompatible, as the example of an education suggests. An individual could pursue an education both as a moral imperative of being an educated person and as a means to other ends that the individual also values.

However, even if the two types of orientation are not incompatible, there is a tension between the two, and to analytically unpack this tension, we turn to the literature on aesthetics. As Weber regarded aesthetic values as one possible ends for substantively rational action and as aesthetics is a field of inquiry concerned with the way in which individuals relate to objects around them, it should not be surprising that one can find analytical distinctions in the literature on aesthetics that parallel Weber's distinction between the two types of rationality. But, in contrast to Weber's ideal-typical

distinction, the literature on aesthetics delves more deeply into experiential differences associated with the two orientations.

For example, in his work *Art as Experience*(1980), Dewey draws a distinction between an aesthetic and instrumental orientation using the example of an epicure. He writes:

[T]he pleasures of the palate are different in quality to an epicure than in one who merely likes his food as he eats it. The difference is not of mere intensity. The epicure is conscious of much more than the taste of the food. Rather, there enter into the taste, as directly experienced, qualities that depend upon reference to its source and its manner of production in connection with the criteria of excellence. (p.49)

Peter De Bolla (2001) writes:

[M]oments of aesthetic experience are qualitatively different from other kinds of experience. Such experiences do not, necessarily, come easily; they may not be available on demand. We have to work toward them, and as will become clear, work them through.” (p.12)

Both Dewey and de Bolla place great emphasis on the fact that a substantively rational aesthetic orientation obliges one to work through a detailed, nuanced understanding of the particularities of the object and the circumstances of the object’s creation, whereas an instrumental orientation does not. When an individual regards an aesthetic experience as an end in itself (i.e., as substantively rational), she or he cannot adopt the stance of a passive recipient of the first thoughts or feelings that the object engenders; rather a substantively rational aesthetic orientation requires an embrace of the object’s uniqueness, drawing on the individual’s own knowledge of such facts as the challenges involved in the object’s creation, the intention behind the creation of the object, and the broader context of other objects that have sought to engender a similar response from the individual. Within the literature on aesthetics, there is a divide

between those like Kant, who regard an aesthetic orientation as essentially cognitive and those like Dewey, who regard the aesthetic orientation as necessarily emotional; however, what spans this divide is the understanding of an aesthetic orientation as a thorough embrace of the object's uniqueness and, as a consequence, regarding the object as an end rather than a means.

In contending that one's social class is the fundamental determinant of the aesthetic value that an individual perceives in a work, Bordieu (1984) offers a somewhat more cynical view of the basis on which the uniqueness of an object can be apprehended. One's perception of an object's uniqueness depends on one's class and not on features of the object or on time investments that the individual can make independently of the class of his origin. However, we believe it is fair to say that Bordieu also sees aesthetic value as revealed only through active contemplation and a thorough working through of the object's significance; the major difference is that Bordieu believes that the individual's *habitus* will have a considerable impact on the individual's comfort and engagement in working through the art object. Value is still engendered by the uniqueness that is recognized by the perceiver, and such recognition depends on the perceiver's willingness to engage in deep reflection on the object and its felt impact.

In so far as value arises from the active contemplation of uniqueness, we argue that the introduction of a common metric for valuation – for example, a rating of objects in terms of some formally defined criteria -- interferes with a substantively rational aesthetic orientation. Such ratings are extremely common in markets; movies are rated on “star scales”, cars are rated in terms of formal criteria like the speed at which they go from 0 to 60, and institutions of higher learning are rated by representatives of peer

institutions and “customers”. Some of the metrics in markets arise *ex ante*, prior to an individual’s actual purchase decision, as when a potential moviegoer looks to the number of stars that a critic awards a movie in order to decide whether to attend the movie. Other metrics arise *ex post*, as when a bidder in a silent auction commits to a price after being presented with qualitative information about an object on which she is bidding.

If a perceiver must compare two objects according to some underlying measure of commonality, the perceiver is shifting his or her focus away from what makes each object unique. Common standards are necessarily imposed from outside of the individual act of creation, and as a result they imply a social and psychological distance between the perceiver and the creator of the object. They interfere with the type of understanding that Dewey associates with the epicure or de Bolla characterizes as a thorough “working through.”¹ Further reinforcing this social and psychological distance is that the fact that the act of comparing multiple objects on a common standard implies a certain objectivity vis-à-vis the objects and the conditions of their creation. As is the case for judges in sporting contests, empathy interferes with objectivity, but a lack of empathy interferes with understanding.

Arguably, *ex ante* metrics should interfere more with a substantively rational aesthetic orientation since *ex post* metrics at least allow the individual to engage in a thorough working through of the object before turning his or her attention to an *ex post* measure like price. However, there is clearly an intermediate case between *ex ante* and

¹Along these lines, it is noteworthy that de Bolla provides three illustrations of what a thorough working through can entail. In his book *Art Matters* de Bolla provides three illustrations of a thorough working through of an aesthetic experience. In elaborate detail, he discusses his reaction to three significant works of art – a painting, a piece of music, and a poem. The shortest of these discussions is x pages; the longest is y pages.)

ex post measures, where an individual finds himself exposed repeatedly to *ex post* measures, such as an art auction in which objects that initially receive a qualitative characterization are the target of bidding behavior. It seems reasonable to expect that repeated exposure to multiple *ex post* measures (e.g., being asked to provide prices on multiple items) may have an effect that is comparable to *ex ante* measures in magnitude.

Put simply, common metrics introduce objectivity in judgment, and objectivity in judgment undercuts the ability of the individual to engage in a thorough embrace of the object. So when qualitative differences are quantified through the establishment of a common metric, those qualitative differences are no longer clearly perceived.²

As Espeland and Stevens (1998) point out, similar claims about the quality-diminishing consequences of comparability have a long history, going back to the writings of Plato and Aristotle. However, as we noted at the outset of this paper, such claims seem fundamentally incompatible with the image of decision-making in expected utility theory, where all valuation decisions are assumed to be made with respect to the already quantified metric of utility. To the extent that the imagery of utility theory is an accurate portrayal of the way in which individuals are oriented toward goods, then hedonic models of prices are fully capable of incorporating an infinitely long list of rich, nuanced features of an art object. Hedonic models posit that an individual's valuation of an object is a function of the weight that the individual places on numerous features of

² There are noteworthy parallels between this proposition and arguments that arise in the sociological work on relational contracts. As scholars such as Dore (1983) and Uzzi (1997) emphasize, the cognitive orientation associated with an arms-length transaction interferes with a market actor's ability to perceive and realize the benefits of a long-term relation. A further parallel can be found in the social psychological literature on the oversufficient justification of rewards. As Staw (1980) has argued, when an individual's attention is drawn to considerable extrinsic rewards for a task, the individual experiences fewer intrinsic rewards for performing the task.

the object. Such models can allow a decision-maker to derive utility from such facts as the challenges involved in the object's creation, the intention behind the creation of the object, and the broader context of other objects that have sought to engender a similar response from the individual. Accordingly, if one's analytical starting point involves an implicit quantification of the value that an individual derives from a good, then there is no reason to think that the introduction of a common metric should lower the value that the individual derives from the experience with the good.

There are multiple ways in which one might seek to test the sociological proposition that the inherent value of an object can be lost when the individual's exposure to or experience with an object is mediated by quantitative information about that object. Espeland and Stevens (1998) propose an institutional investigation of the social processes by which commensuration is introduced in market contexts; they rightly observe that the processes of commensuration are largely invisible. By making this process more visible in the way that we analyze markets, we increase the awareness of the way in which commensuration transforms valuation. Podolny and Hill-Popper (2004) argue that there are a number of linguistic earmarks in the way that individuals characterize their experience with objects that can be used to analytically distinguish differences in value orientations. However, both approaches assume that one already believes that the introduction of quantitative information is value-reducing and then proceed to show how this happens. Neither approach really is suited to addressing a high level of skepticism about the basic claim.

To test the basic claim, we propose an experiment in which two groups of individuals are exposed to the same object as a stimulus and asked to value the object.

However, in one group, the exposure is mediated solely by qualitative information; in the other group, the exposure is mediated by the same qualitative information *plus* quantitative information that is not available to the first group. If the quantitative information is value-reducing, the second group should assign a lower value to the good.

Experiment

While there are potentially many experimental designs in which one could expose subjects to objects and ask them to value those objects, we decided that it would be most appropriate to actually create a market in which participants would buy and sell objects. Given the market context, we manipulate the type of information that is provided to the subjects about those objects, and we ask them to commit to prices at which they are willing to buy and sell those objects. In one realization of the market, we provide the participants only with qualitative information about the object. In a second realization of the market, we provide the participants with the same qualitative information as well as *ex ante* quantitative information (i.e., a rating) of the object. The obvious advantage of creating a market in which individuals trade goods is that one can assess whether the introduction of a common metric impacts on behavior and not just on subjective assessments.

Of course, one potential disadvantage of this design is that any query about price requires subjects to engage in an *ex post* quantitative assessment of value, and this *ex post* quantitative assessment could confound the initial valuation decision. We believe that it is easier to address this concern after discussing the results of the experiment. At this point, we simply note the concern and also note that any potential impact of this *ex post* quantitative assessment on the experienced value would bias the results in the opposite

direction of the sociological claim being tested. Therefore, if the results are consistent with the sociological claim, the only consequence of this concern is that it suggests that the impact of commensuration may be greater than the experiment reveals it to be.

We decided to create the two markets around the buying and selling of wine. Wine is a product for which one can easily obtain rich, qualitative descriptions. There exist numerous wine magazines and newsletters that aim to provide nuanced descriptions of wines. In addition, compared to other objects that might be the subject of a similarly rich description, such as cars or paintings, bottles of wine are reasonably inexpensive and therefore more practical for the purpose of creating an experimental market.

We recruited subjects for the wine experiment through an email announcement to the members of the wine club at a business school in the North East. The announcement informed the students that they would receive monetary compensation and/or wine for participating in a wine tasting experiment that would last no more than an hour. We randomly divided participants into the two markets, informing each group to arrive approximately 15 minutes before their experiment was to begin.

For reasons that will soon become clear, it is necessary that the two realizations of the markets be run sequentially rather than simultaneously. We will first describe the design of the wine market in which subjects' experience of the wine is only mediated by qualitative information.

Version 1. Upon entering the room in which the experiment is held, half of the individuals were randomly assigned the role of "seller" and the other half were assigned the role of "buyer". Sellers were given a red marker that signified them as the owner of a

bottle of wine. All the bottles were identical in so far as they were all part of the same release from a particular winery. Buyers were given a blue marker that could be exchanged for \$20 at the end of the experiment. Buyers could use the money for the purpose of bidding on the bottles of wine. Buyers and sellers were seated at tables and asked to complete a questionnaire that asked them to provide some demographic information about themselves as well as information about their consumption of and knowledge of wine.

The experimenter provided the buyers and sellers with some basic instructions and information about the experiment. The experimenter told them that they would participate in a wine auction and about the significance of the markers that had been presented to them when they arrived in the room. The experimenter informed them that they would each be provided with a description of the wine, and they would each get to taste the wine. However, they would not be presented with any information about the wine that would allow them to identify the winery that produced it.

The participants were told that, after receiving the description of the wine and tasting it, they would be asked to provide a price at which they would be willing to sell the bottle (if they were a seller) or a price at which they would be willing to buy the bottle (if they were a buyer). From the buy and sell offers, the experimenter would calculate a market clearing price. Sellers were told that if their offer was below or equal to the market-clearing price, they would receive the market-clearing price in exchange for the bottle that they now own. If their offer was above the market-clearing price, they would keep the bottle. Buyers were told that if their offer was above or equal to the market-clearing price, they would pay the market-clearing price in exchange for the

bottles. If the buyers bid offers were not above the market-clearing price, then they would keep the \$20. In addition, buyers were informed that they did not need to limit their buy offers to the \$20 that had been provided to them for participating in the market; however, if the market-clearing price was less than \$20, they would keep the difference. The participants were also told that after the auctioning of the first bottle of wine was completed, they would participate in the auctioning of a second bottle of wine where roles would be reversed. Sellers would become buyers, and buyers would become sellers. Finally, the subjects were explicitly told to communicate with no one else during the experiment. In order to avoid any possible confusion about the instructions, participants were also provided with written instructions that reiterated the verbal instructions of the experimenter.

After they received and read the instructions, buyers and sellers were then presented with a one-paragraph review of the wine by an established wine critic, though any unique identifying information (e.g., the name of the winery that produced the wine, the name of the critic) was removed from the description. The description was read by a recruited confederate who was knowledgeable about wine but did not know the theoretical motivations of the experiment. At the same time that the review was read, it was also visually projected on a screen so that all participants could read the description themselves. Importantly, the description did not include any quantitative rating information provided by the critic; nor did the description include any information that would allow knowledgeable participants to know the winemaker and/or year behind the bottle.

The description for the bottle was as follows:

This 2001 French wine is a remarkable offering from importer Eric Solomon, who personally put together this 9,000 case blend of 60% Grenache and 40% Syrah, all from vines over thirty years of age. Approximately one-third of it spent time in barrel. A dense ruby/purple color is followed by sumptuous aromas of black fruits, spice, earth and flowers. Full-bodied and opulent, with good underlying structure, dazzling purity and tremendous texture, this high-class, serious wine is supple enough to drink now yet possesses all the stuffing needed to age (possibly improve) for 4-6 years. Amazing stuff!

After the participants were presented with this qualitative information, they were then provided with a 1-ounce tasting of the wine, which was served to them by a professional wait staff. We chose red wine for the experiment because white wine typically needs to be chilled, and chilling would have introduced an additional logistical complication into the experiment. The visual projection of the review remained on the screen while the participants tasted the wine.

Following the tasting of the wine, participants wrote down their buy and sell offers on sheets of paper. Experimenters collected the sheets and then provided each participant with another sheet of paper that prompted the participant to rate the wine on a scale of 1(low) to 10 (high) and provide any qualitative feedback that they would like to share with the experimenters. After these sheets were collected, the experimenter conducted an auction of a second bottle of wine. The second auction followed the same steps as the first, with the only difference being that participants switched buyer and seller roles.

After both auctions were completed, the experimenters determined the market clearing prices and provided the subjects with the combination of money and/or wine to which they were entitled.

Version 2. The second realization of the experiment was identical to the first in all respects except one. Whereas participants in the first realization of the experiment were presented with only qualitative information about the wine, the participants in the second experiment were also provided with ratings information obtained from the first group. Specifically, before reading the review, the confederate provided the second group with the high rating, low rating, and mean rating from the first group. The subjects were told that the first group was just like themselves. In addition, the high rating, low rating, and mean rating of the first group were visually displayed above the projected version of the review.

Presumably, there are a number of alternative metrics that one could introduce as a mediator of an individual's experience with the wine. One obvious alternative is the quantitative rating provided by a critic. However, we were concerned that participants might regard the quantitative rating of a critic as a signal of the wine's true dollar value, and we did not want the significance of the critic's rating as a signal to confound the effect of just introducing a common metric. For example, suppose that a critic awards a wine a score of 98 on a scale of 0 to 100. Even if the introduction of a score based on a unidimensional scale discourages a thorough working through of a wine's uniqueness, this high score could also lead subjects to question their own judgment of the wine's value. As a result, even if the rating lowers the subject's experience with the wine, it may still raise the subject's perception of the wine's monetary value. The challenge therefore was to find a metric that provided information in terms of some underlying metric of commonality without the wine's score on that metric acting as a signal that might bias

individuals' evaluation. So, whereas the first group was presented with above description of the first bottle of wine, the second group was presented with following:

Avg. Peer Score: 5.8

Range(Min-Max): 3-8

This 2001 French wine is a remarkable offering from importer Eric Solomon, who personally put together this 9,000 case blend of 60% Grenache and 40% Syrah, all from vines over thirty years of age. Approximately one-third of it spent time in barrel. A dense ruby/purple color is followed by sumptuous aromas of black fruits, spice, earth and flowers. Full-bodied and opulent, with good underlying structure, dazzling purity and tremendous texture, this high-class, serious wine is supple enough to drink now yet possesses all the stuffing needed to age (possibly improve) for 4-6 years. Amazing stuff!

In providing the participants with the high score, low score, and mean of a group that should have been identical to them in preferences, we sought to minimize any signaling effect from the quantitative information. However, our most significant concern about an alternative explanation for results consistent with our hypothesis is that the quantitative information is not neutral with respect to its signaling value and has a downward impact on price. Specifically, unless the quantitative information seems to be at least as positive as the qualitative information, any downward shift in the prices of the second group may be simply a function of the fact that they are receiving a signal that is more negative than the signal of the first group. While we attempt to adequately address this concern when discussing the results, we note it here because it is an important alternative explanation about which to worry.

As was the case for the first group, the participants in the second group were asked to provide the price at which they were willing to buy or sell the wine, and they were then asked to rate the wine after their buy and sell offers had been collected. Also, as was the case for the first group, the participants in the second group switched buyer

and seller roles and participated in the auctioning of a second bottle. Accordingly, the only difference between the first version of the wine market and the second is the introduction of the *ex ante* metric as a mediator of the subjects' assessment of the wines.

Variables of Interest. Given this experimental design, there are a number of variables deserving of attention. The first and most obvious is the price that the participants in the experiment are willing to pay for the wine. Indeed, the central prediction that emerges from the above theoretical discussion is that the average price paid by subjects in the first realization of the experiment should be higher than the average price paid by subjects in the experiment's second realization.

While price is the variable that we find to be of greatest analytical interest, the fact that we prompted students for qualitative evaluations of the wine provides us with a measure of engagement in the experience. It seems reasonable to assume that those who respond to the open-ended question "Is there anything else that you would like to tell us about the wine?" are on average more engaged by the experience than those who are not. To the extent that participants in the first realization of the experiment engage in a more thorough working through of the distinctive features of the wine, we expect that they will be more likely to provide a response to this open-ended question.

Results

Thirty-four individuals participated in the first market; forty-one participated in the second. The reason for the difference is that some of those who signed up for the experiment did not show up at the appointed time. If a participant showed up late for the first version of the market, they were given the option of returning for the second version of the market. Using information from the questionnaire, we examined whether there

were any significant different between the two groups. We collected information on age, gender, and number of glasses of wine consumed per week. We also asked three questions designed to assess the subjects' expertise about wine. Specifically, we asked how many varietals they could name and whether they owned any books or magazines devoted to wine. The term varietals refers to the different grapes used in wines. For example, Chardonnay and Cabernet are two especially common varietals.

Table 1 presents these descriptive statistics across both groups. There were no statistically significant differences, though proportion female was just beyond the .1 level of significance ($p=.11$). Given that the individuals were randomly assigned to the two groups, the lack of any statistically significant differences in not surprising.

Table 2 presents the mean differences in price for each auction as well as the proportion of individuals who volunteered open-ended comments about the wine.

Examples of the types of comments that individuals made were the following:

Not as spectacular as critic made it out to be, but good.

I found it well-bodied, but a bit bitter in the final taste. Leaves good sensation in mouth. Fresh

Didn't feel the description matched. Found it to be lighter than described.

Table 2 reveals that, as anticipated, the mean price for the first group is higher than the mean price for the second group. It is worth observing that the average price difference falls from \$2.66 (12.82-10.16) to \$1.05 (\$12.25-\$11.20). While subsequent analysis revealed that the magnitude of the difference is not statistically significant, it is noteworthy that the decline is consistent with a view that repeated prompts for

quantitative information are likely to induce a value orientation in which one is focusing on commensurability rather than on unique sources of value.

It is also noteworthy that the first group offered a higher proportion of comments than the second group; as we argued above, such responses to an optional open-ended question at least suggest that the first group was more engaged than the second group.

To test whether the differences in price are statistically significant, we performed an analysis of variance for a block design with replication. In conducting this analysis, it is especially important to include an individual's role as "buyer" or "seller" as an additional variable in the analysis. As Thayer (19xx) and Kahneman (19xx) have demonstrated, an individual's valuation of an object is strongly influenced by whether the individual is a buyer or seller of that object. Even when buyer and seller roles are randomly assigned, as in this experiment, sellers tend to place more value on an object than buyers. Thayer used the phrase "the endowment effect" to refer to this differential valuation of buyers and sellers, and there was a powerful endowment effect in this experiment. For the first bottle of wine, the mean sell offer (i.e., the average price of the seller) was \$15.58, whereas the mean buy offer was \$6.87. For the second bottle of wine, the differences were less extreme, but still large; the mean sell offer was \$13.02, and the mean buy offer was \$10.39. Accordingly, the ANOVA is a 2x2 (market variation by buyer/seller role) design with replication. We perform this analysis with and without the covariates above.

Table 3 reports the between-subject effects.³ None of the demographic or experience variables impact on price, and subsequent analyses not reported here revealed no interaction between these covariates and condition on price. Table 3 reveals that there is a statistically significant difference between the prices paid in the two market variations. The subjects pay significantly more when they are only presented with the qualitative information.

Table 4 reports an ordered logistic analysis of the number of comments made by the participant across the two bottles. Possible values on the dependent variable are 0 (no comments), 1 comment, or 2 comments. As the table shows, there is a strong effect of market condition on number of comments made, suggesting that the participants in the first realization of the experiment are more engaged in the experiment than the participants in the second condition of the experiment.

Significantly a content analysis of the comments reveals that the participants in the first realization of the experiment were much more likely to make reference to themselves using pronouns like “I” or “me”, whereas participants in the second realization of the experiment were much more likely comments excluding personal references (e.g., “wine is bitter, seems too young”). Approximately 1/3 of the comments in the first group contained such references, whereas only 1/8 of the comments in the second group contained such references. This greater propensity of subjects in the first

³ There are two reasons that we do not focus on within-subject effects. First, we are not substantively interested in the difference between an individual’s price for the two wines. Second, the only significant within-subject effect was for number of varieties known. The more varieties of which an individual was aware, the greater was the difference between what the individual paid for the first wine and second wine. Given the lack of substantive interest in the within-subject effects as well as the small number of significant results, we will focus our discussion on the between-subject effects.

condition to include references to themselves suggests that they are more personally engaged in their orientation to the object than the second group.

While the analyses reported in tables 2 through 4 are consistent with our expectation that the introduction of a framework of commonality reduces the value that an individual derives from his experience with a good, there is one alternative explanation that deserves to be systematically addressed. As noted above, it is possible that the quantitative information somehow serves as a negative signal when depicted along with the verbal description of the critics. So, in the auction of the first bottle, we noted that the average peer score was a 5.8, and the range of the peer scores were from 3 to 8. Perhaps this information simply had a negative valence relative to the critics' description. If so, it is possible that a different mechanism underlies the difference in the prices offered by the two groups. Rather than the lower estimation of value being a consequence of the introduction of a framework of comparability, the lower estimation of value may simply be the result of introducing this negative signal. We offer a number of responses to this concern.

First, if this quantitative information is in fact acting as a signal, it is a weak signal at best. If we make the reasonable assumption that individuals are not planning on reselling the wine but plan on consuming it, then others' rating of the wine should not impact on their own willingness to pay for the wine upon tasting it. In fact, given that individuals have direct experience with the wine through tasting it, the signaling value of either the quantitative or qualitative information should be minimal. Moreover, even if one assumes that the rating has signaling value, it is a very noisy signal. Participants in the experiment have no guidance as to how a rating number translates into a dollar

number; accordingly, it provides little guidance for attaching a price to the bottle of wine, especially when compared to the actual tasting of the wine. In short, there are a number of reasons to believe that the quantitative information is a poor signal, and as such, it seems hard to believe that it could be the fundamental driver of the price difference.

Second, even if the interpretation of the quantitative information as a noisy, negative signal represents an explanation for the price differences between the two groups, it does not represent an explanation for the different levels of engagement revealed in the comments offered by the subjects. Therefore, if one prefers the signaling explanation, one still needs to explain the differences in the comments.

Our third and final way to address this alternative interpretation of the pricing results is to conduct an additional analysis in which participants are grouped according to their level of expertise. If the signaling interpretation is correct, then the participants most affected by a negative signal would be those with little expertise. Those with less expertise should be less trusting of their judgment upon tasting than wine than those with more knowledge. Conversely, if our interpretation is correct, then the experts should be most affected by the introduction of framework of comparability because the experts are the participants most capable of appreciating the unique essence of the wine.

To explore whether the introduction of the quantitative information varies by level of expertise, we constructed three categories of participants: novices, those with moderate knowledge/experience, and experts. We define novices are those individuals who own no books or wine *or* who drink less than one glass of wine per week. We define experts are those who own at least one wine book, subscribe to at least one wine magazine, and drink at least one glass of wine per week. While we are comfortable with

the definition of novices, we are somewhat concerned that one book, one magazine subscription, and one glass per week is not a particularly stringent definition of expert. However, even with this weak definition of expert, there are only 13 individuals across both groups (5 in the first group and 8 in the second group) that meet the criterion of expert. In contrast, there are 30 novices (11 from the first group and 19 from the second group).

We then perform a regression of the form:

$$\text{Price} = \alpha + B_1(\text{Buyer/Seller Role}) + B_2(\text{Market Variation}) + B_3(\text{Novice}) + B_4(\text{Expert}) + B_5(\text{Market Variation} * \text{Novice}) + B_6(\text{Market Variation} * \text{Expert}) + \varepsilon$$

A value of B_5 that is significantly less than 0 is consistent with the signaling interpretation; a value of B_6 that is significantly less than 0 is consistent with the explanation offered in this paper.⁴ We conducted separate analyses for the auctions of the first and second bottle. We also conducted a pooled analysis of the two bottles. Neither of the interactions was significant in the analysis of the second bottle or in the pooled analysis; however, in the analysis of the pricing data for the first bottle, which is reported in table 5, B_6 is statistically significant and negative, whereas B_5 is not. Given that the cross-market variation in price was less pronounced with the second bottle, it is perhaps not surprising that it is more difficult to detect interaction effects in this analysis. To be sure, B_5 is negative; so the point estimate for the novice group is obviously lower than for the “average” group, and the over-all pattern of point estimates conforms more to

⁴ While we could continue to use the ANOVA methodology to perform an identical test, we felt that the regression methodology provided a more straightforward way of contrasting the two hypotheses. However, an ANOVA methodology will produce results that are identical to those yielded by a linear regression.

a U-shape than to a monotonic trend in one direction or another. So, it is possible that both effects – the signaling effect and the commensuration effect – are operating simultaneously. However, at least on the basis of the one analysis, the only group that stands out from the rest in terms of the magnitude of the effect is the expert group.

Obviously, one should not take the significant negative coefficient for B_6 as conclusive evidence that those with greater expertise are likely to have their valuation experience more adversely affected by a framework of comparability; the number of experts is small, and the outcome only applies to one of two auctions. However, the purpose of this analysis was to try to rule out an alternative interpretation – that the observed pricing difference is strictly due to a signaling effect. When this analysis is considered in conjunction with (1) the noisiness of the quantitative information as a signal, with (2) the fact that participants actually experience the good and therefore have little need to rely on a signal, and (3) that a signaling interpretation does not explain the greater level of engagement revealed by the open-ended comments, we believe that this analysis at least serves the purpose of helping to rule out this alternative explanation.

Conclusion

In our view, these results are a compelling demonstration of the fact that there are two possible value-orientations that an individual can have toward a good, and the introduction of framework of commonality impacts on that assessment. The results seems especially strong given that there is much about the “qualitative only” condition that seems to reduce the extent to which it can be accurately characterized as “qualitative only.” While we designed the experiment to ensure that there were no ex ante metrics for

comparability, we could not demonstrate a difference in value without prompting respondents for an *ex post* metric. Accordingly, we had to design the experiment in such a way that it most likely minimized the consequences of introducing a framework of comparability into the process of evaluation.

There are a number of directions that future work could proceed. One would be to tease apart the distinction between quantification and “framework of comparability”. There are a number of ways in which a framework of comparability can be induced without requiring quantification. For example, ratings of “poor”, “average”, “good”, “great” create a framework of comparability without quantification. Do such ratings have the same impact as quantification.

Ideally we would like to develop an experiment in which there are no *ex post* prompts for valuation decisions and still obtain some indicator of the felt value by the participants. One possibility would be to design the experiment but only ask for open-ended responses; of course, the benefit of removing the *ex post* measures of quality must be set against the obvious advantage of this design – we see that the introduction of an *ex ante* framework of comparability does indeed impact on the tangible market outcome of price.

Another possibility would be to develop a more sophisticated linguistic methodology for drawing a correspondence between the language that individuals use for describing the value of objects and the underlying value-orientation that the individual brings to those objects, Podolny and Hill-Popper (2004) have provided some initial steps in elaborating this grammatical correspondence, but there is much room for further development.

Regardless of the direction in which follow-up work proceeds, we would conclude by observing that the sociological claim that frameworks of comparability are value-destroying is one of the disciplines most provocative claims about the operation of markets. The claim calls into question much of the received wisdom on how markets operate. Future research will hopefully provide a more detailed consideration of the proposition's implications.

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Table 1: Descriptive Statistics for Participants in the Two Variations of the Wine Market

Variables	Market 1 Subjects (N=33)	Market 2 Subjects (N=41)
Mean Age	27.32(1.34)	27.36(1.77)
Proportion Female	0.75(0.50)	0.54(0.49)
No. of glasses/wk consumed	3.86(2.73)	3.89(3.57)
Proportion with wine books	0.66(0.48)	0.49(0.51)
Proportion with wine magazines	0.36(0.41)	0.41(0.55)
Number of varietals identified	8.40(6.23)	6.32(5.32)

Mean scores followed by standard deviations in parentheses.

Table 2: Mean Differences in Outcome Variables of Interest

	Market Variation 1		Market Variation 2	
	Bottle 1	Bottle 2	Bottle 1	Bottle 2
Price (in dollars)	12.82(6.25)	12.25(6.74)	10.16(7.35)	11.20(4.86)
Proportion with qualitative comments	0.58(0.50)	0.46(0.51)	0.24(0.43)	0.12(0.34)

Mean scores followed by standard deviations in parentheses.

Table 3: Two-way ANOVA of Price Offer for Wine Bottle

Variables	Mean Square(F-Value)	Mean Square(F-Value)
Market Variation (Qualitative Mediator vs. Qualitative and Quantitative Mediator)	103.66(2.95)*	157.78(4.37)**
Buyer/Seller Role	319.42(9.10)**	343.73(9.51)**
Gender		44.54(1.23)
Age		20.65(20.65)
Number of Varietals Known		12.97(0.36)
Number of Glasses Consumed/Week		27.13(0.75)
Books (Yes/No)		20.09(0.56)
Magazines (Yes/No)		20.00(0.55)

* = $p < .1$; **= $p < .05$

Table 4: Ordered Logistic Analysis of Comments Offered After Wine Auction

Variables	Coefficient(Standard Error)
Market Variation (Qualitative Mediator vs. Qualitative and Quantitative Mediator)	2.10(0.58)**
Buyer/Seller Role	-0.47(0.54)
Gender	1.42(0.58)**
Age	0.32(0.19)*
Number of Varietals Known	0.019(0.049)
Glasses Consumed/Week	-0.18(0.09)**
Books (Yes/No)	-0.68(0.56)
Magazines (Yes/No)	0.64(0.65)

* = $p < .1$; **= $p < .05$

Table 5: Price Regression of First Bottle When Market Variation is Interacted with Different Levels of Expertise

Variable	Coefficient(Standard Error)
Intercept	7.37(1.46)*
Buyer/seller role (Seller = 1)	8.24(1.27) †
Market variation (Second variation = 1)	-0.28(1.93)
Expert	5.73(2.70)*
Expert*Market Variation	-6.06(3.62)†
Novice	0.24(2.05)
Novice*Market Variation	-2.14(2.81)
R ²	.47

† = p <.05, one-tailed test; * p<.05, two-tailed test