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Construction, Concentration, and (Dis)Continuities in Social Valuations*

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Abstract

I review and integrate recent sociological research that makes progress on three interrelated puzzles of social valuation: (a) the degree of social *construction* relative to objective *constraints*; (b) the degree of *concentration* in social valuations at a single point in time; and (c) the conditions that govern two broad forms of temporal *discontinuity*-- (i): fashion cycles, especially in cultural expression and in managerial practices; and (ii) bubble/crash dynamics, as witnessed in such domains as authoritarian regimes and financial markets. In the course of the review, I argue for the importance of identifying how objective conditions constrain social construction, and suggest two contrarian mechanisms by which this is accomplished—arbitrage and valuation entrepreneurship, and the conditions under which they are more or less effective.

Key Words: Valuation, Social Construction, Culture, Fashion, Financial Markets

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I. Introduction

It is noteworthy that the expression *de gustibus non est disputandum* exists in many variations in many languages. The frequent invocation of such expressions reflects our repeated struggles with the conundrum that in any population of human beings, there is both substantial variation and substantial agreement in valuations (of physical objects, organisms, artifacts, practices, institutions, and [groups] of humans), and it is not clear what governs such valuation patterns. Consider textbook economic models of demand. In the first instance, such models may be seen as canonizing variation in valuation: as prices decline, the number of buyers increases due to the arrival of those who place less value on the good but are willing to substitute it for alternatives once it is sufficiently cheap. Indeed, the downward slope of textbook demand curves suggests that just because individuals coincide in their actions—e.g., purchase of the same good—they may not coincide in their valuation of that action. And yet, the area under the demand curve suggests that while there may be substantial disagreement about the specific price at which the good beats alternatives, there is considerable agreement that the good beats alternatives at a particular, low price. And it is obvious that at a given time and place, human communities feature large areas of agreement in their valuations. Exchange of referrals and endorsements, and demand for the opinions of critics and analysts, each reflects the fact that we often regard others' tastes as rough proxies for our own. Moreover, such agreement is no surprise since the people who live in one time and place are subject to different objective conditions from those who live in different times and places. A mundane example is sufficient to make the point: It is no mystery why it is that in June, there are more air conditioners on the shelves of New York department stores than there are in December.

But only a "sociological babe in the woods" (cf., Granovetter 1985: 502) would argue that social valuations—i.e., those that are articulated or enacted in interaction with others-- are purely a function of objective conditions. To the contrary, the main thrust in sociological thinking on matters of social valuation-- at least since the Thomas Theorem and Merton's Self-Fulfilling Prophecy (Merton 1948 [1968]; Merton 1995)--

and certainly since labeling theory in deviance studies (Becker 1963; Goode 1994) was incorporated into the broader language of social constructionism (Berger and Luckmann 1966) and applied to such domains as natural science (Knorr Cetina 1999) and technology (Bijker, Hughes, and Pinch 1987), financial markets (MacKenzie and Millo 2003; Westphal and Zajac 2004), organizational structure (Meyer and Rowan 1977) and social problems (Gusfield 1981; Hilgartner and Bosk 1988)-- is that social valuations are highly contingent products of social interaction (see Goode 1994; Best 2008 for review). Thus Jasper and Goodwin (2005: iii) recently summed up the prevailing sociological attitude on matters of social valuation as follows: "We are all social constructionists today, almost."

And with good reason. Any attempt to explain social valuations on the basis of objective conditions must deal with the ontological problem that it is not clear what are "objective conditions" when they must be apprehended by human beings to be relevant for their valuations, and especially insofar as such apprehensions must be shared in order to coordinate action. Moreover, even when one allows for a commonsense definition of "objectivity" (or the pragmatic definition suggested by Abbott [1988]; see below), one's faith in an objectivist or realist approach to social valuation is challenged by the empirical puzzles that we discuss in this review: (a) The same objective conditions seem to support very different patterns of valuation, suggesting the looseness of objective *constraints on construction*, and thus a high degree of contingency (Salganik, Dodds, and Watts 2007); (b) There is often more homogeneity or *concentration*, and sometimes more variation, than can be explained by reference to objective conditions (ibid.,; Strang and Macy 2001); and (c) Social valuations are often highly *discontinuous* to a degree that cannot be explained by changes in objective conditions. Such discontinuities take two broad forms: (i) fashion cycles, whereby a popularity ranking in one period is soon replaced by another (Lieberson 2000; Strang and Macy 2001); and (ii) and bubble/crash dynamics, as observed in financial markets (Zuckerman 2010a) and in such "social" cases as the persistence and rapid unraveling of authoritarian regimes

(e.g., Kuran 1995, Pfaff 1996; Wedeen 1999), moral panics (Goode and Ben-Yehuda 1994), scandal (Adut 2009; Fine 2001), and institutional change (Canales 2011).

At the same time, our very interest in such puzzling patterns, and our shared discourse about them, indicates that we recognize an objective basis for valuation, and we generally objective conditions to constrain social valuation. More, we generally rely on such constraints, and we (modern liberals) are suspicious about social institutions that do not provide such constraints. Consider: *Who among us would want to live in a community where people who shoot others with abandon are no more likely to be locked up as those who help the homeless (cf., Goode 1994)? Who wants to live in a political system where politicians who pursue private agendas remain in power while those who pursue the public's welfare are silenced or put behind bars (cf., Winner 1993)? Would anyone invest in a stock market where the valuations of profitable companies are lower than those of unprofitable companies? On what basis do we sociologists challenge the greater public prestige and influence of economics relative to sociology if not on the objective quality of our work (Zuckerman 2004b, 2010)? And what is the moral and practical foundation for our efforts to study and stamp out discrimination if not the recognition that objective standards exist, and that they can and should be heeded by employers and other resource-allocators (e.g., Correll and Benard 2006; Pager and Shepherd 2008; Measuring Racial Discrimination, 2004)?* When one considers that the answers to these questions are obvious, one realizes that there is also good reason for the "almost" in Jasper and Goodwin's characterization of sociological adherence to social constructionism. Not only does this reflect the fact that few sociologists endorse the "pure" constructionist perspective (e.g., Ibarra and Kitsuse 1993; Woolgar and Pawluch 1985) that there are no meaningful constraints on social construction. In addition, the recognition that are limits to social construction also reflects the fact that our cherished political and professional projects rely upon the "contrarian" attitude that there are right and wrong ways to evaluate objective conditions, coupled with the "rationalist" mission of adjusting institutions so that the wrong social valuations are produced less often (see Zuckerman 2010a, and below).

Given the importance of these issues, it is fortunate there has recently been a range of well-crafted and insightful sociological research on the three interrelated puzzles listed above—(a) the degree of social *construction* relative to objective *constraints*; (b) the degree of *concentration* in social valuations at a single point in time; and (c) two broad forms of temporal *discontinuity*-- (i): fashion cycles; and (ii) bubble/crash dynamics. The lines of work that touch on these issues are varied in methods and application, and thus have generally not engaged with one another (or at least not as productively as possible). As such, the strategy of this review is to facilitate such interchange and synthesize lessons that would not be obvious were we to consider each of the research lines individually. In particular, I turn in the next section to a discussion of three recent and well-crafted studies (and related lines of work) that focus either on the social determinants of fashion and/or valuation in cultural markets: Salganik and colleagues' online experiments on the emergence of popularity in songs; Strang and colleagues' simulation models of managerial fashion; and Lieberson and colleagues' quantitative archival research on fashion in given-names. The main limitation of these studies is that they focus on settings that do not have the supply-side constraints (and resulting price effects) that are the focus of research in the production of culture (see Peterson and Anand 2004 for review).[2] But this scope condition is a major boon because the bracketing of supply factors affords distinctive insight into the underlying mechanisms underlying social valuations. We will see that these mechanisms generate both notable similarities and striking contrasts in their implications for social valuations, and this makes it possible to derive general lessons about constraints on social construction, the sources of more or less concentrated valuation distributions, and the triggers of fashion cycles. In addition, these studies lay useful groundwork for the following sections, in which I: (a) address both ontological and substantive critiques of the idea that objective conditions can constrain social

[2] Another limitation is that these studies do not address situations where groups of individuals work to agree on a *joint* valuation (Lamont's [2012] review in this volume speaks to such situations). Rather, the focus here is on contexts where individuals are at least formally free to make independent valuations, though objective conditions and/or social forces may lead them to coincide in their valuations.

valuation; (b) identify two characteristic forms of contrarian action (arbitrage and valuation entrepreneurship) and the conditions under which they enable objective conditions to shape social valuations; (c) draw out implications for bubble/crash dynamics; and (d) discuss how the analysis relates to questions of institutional change and the conditions where supply factors are important.

II. Three Studies on Construction, Concentration, and Fashion-Based Discontinuity

Socially Endogenous Inference in the Musiclab.

The Columbia "musiclab" experiment of Salganik et al. (2007; Salganik and Watts 2009) is an especially useful starting point for discussing how recent research helps address the agenda laid out in the introduction. In this experiment, young men and women were recruited from a teen-oriented website and given access to a set of recordings by unknown rock bands. They were then encouraged to sample and rate the recordings, with the option of downloading any they chose. The subjects, who were assured complete anonymity, were randomly diverted into either a control condition or a set of alternative "social influence" conditions where, in addition to the names of the bands and the songs, information was displayed on how many times other subjects had downloaded the song. The main findings from these experiments were that that "social influence" heightens both: (a) the level of concentration in such choices (a relatively small number of songs garner disproportionately high "market shares");[3] and (b) the degree of inconsistency (the average difference in market share across different experiments) in valuations.

The latter result provides unusual empirical evidence for the basis of the pervasive "nobody knows" problem, whereby even sophisticated cultural industry insiders have difficulty predicting which cultural products will become highly popular

[3] In the musiclab experiments, all bands were unknown to the subjects prior to the experiment. In other contexts, consumers may be knowledgeable about some producers but not others. Under such conditions (which may be more general), Tucker and Zhang (2011) show that publicizing popularity will actually lead to *lower* concentration because even the relative low popularity of previously unknown options may signal greater quality than the consumer had previously assumed. And this may be why internet-based platforms lead to both more concentration and a "longer tail," in that there is more market-share for low market-share options.

and which will fail (Goldman 1982; Caves 2000). More generally, this result is evidence for contingency in social valuations, with different valuations being socially constructed under the same objective conditions. However, the musiclab results also feature evidence of the presence of objective constraints on valuation. Although there were different winners and losers in each alternative world produced in the musiclab, there was significant correlation at the extremes, with some songs achieving significant popularity in all experiments and some songs consistently being unpopular. Moreover, when Salganik and Watts (2009) intervened in the social influence condition, by presenting new subjects with a popularity ranking that was the reverse of the actual ranking, the new subjects showed significant signs of resisting the reversed ranking, thereby giving it less stability. In this sense, the musiclab experiments provide compelling and rare evidence that social valuations are not fully constructed, but are significantly constrained by objective conditions. The challenge is then to understand how these constraints operate, and the conditions under which they are more or less likely to do so.

But before discussing how recent work helps us meet this challenge, it is critical to clarify the nature of the "social influence" that is responsible for the results observed in the musiclab, and thereby to compare and contrast it with other forms of social influence that produce different patterns of social valuation. Perhaps the key thing to note about the musiclab is that the subjects were *anonymous*, and conditions of anonymity support certain mechanisms of social influence but exclude others. Following Correll et al (2011), I use the term "socially endogenous inferences" to refer to the specific cumulative advantage process (see DiPrete and Eirich 2006 for review) that apparently produced the musiclab results.[4] The key contextual condition that triggers this process is that decision-makers have difficulty evaluating the relative "quality" of

[4] As reflected by their application to status dynamics (see Gould 2003; Lynn et al. 2009) and herding models in economics (Banerjee 1992; Bikhchandani, Hirshleifer, and Welch 1998), and to fashion in managerial fashion (see discussion below), SEI processes also operate when actors are identified. However, SEI is the only form of social influence that can operate under conditions of anonymity (see Zhang 2010 for a compelling example); and as discussed below, SEI processes can be overwhelmed by other processes when actors are identified.

various options, where quality may be defined (as in the musiclab experiment) in terms of the performance standards the person uses when consuming privately. Under such conditions of uncertainty, it is often reasonable for decision-makers to infer quality from popularity (e.g., they reason that more popular songs are likely to be better, or that high-status actors are more likely to deliver services of higher quality [see Gould 2002; Lynn et al. 2009; Sauder et al., 2012);[5] and insofar as the differences in quality are negligible, this implies that random, early leads in popularity can eventuate in large differences over time. Moreover, since different songs are lucky at the outset of each alternative "world" that is simulated, each trial produces different winners and losers.

Fashion in Managerial Practices: Overshooting and Aversion to Convergence.

Note, however, that there is nothing in the SEI model that can explain why social valuations are often so temporally discontinuous. In particular, it is striking that while the musiclab captures the "nobody knows" aspect of cultural markets, it does not seem capable of producing the fashion cycles that are so commonly observed in cultural practices.[6] By contrast, Lieberson and colleagues' analysis of fashion in given names (Lieberson 2000; Lieberson and Lynn 2003; cf., Besnard 1994) is designed to explain such fashion; and Strang and colleagues' (Strang and Macy 2001; Strang and Still 2004; Strang et al. 2011; cf., Abrahamson and Fairchild 1999) models are designed to capture fashion in a domain where we might not expect fashion cycles at all: managerial practices. As in the musiclab, given (or "first") names and managerial practices exhibit significant concentration, with a marked tendency for a few names or practices to enjoy disproportionate "market share" at any given moment. However, whereas valuations in the musiclab experiments are observed to stabilize, popular managerial practices and

[5] Gould (2002) and Lynn et al. (2009) do not explicitly assume that actors are anonymous; and in fact, they elaborate their model of cumulative advantage with mechanisms that assume that actors are identified (and thus worried about what their sociometric choices signal about themselves). But the main motor of the model is the assumption that deference to high-status actors reflects an attempt to satisfy the decision-maker's private quality standards (see Correll et al., 2011).

[6] One could argue that this is merely due to the short time-scale of the experiments. If the experiment were extended for years, one would expect tastes to change, leading to a different hierarchy of preferences (even if we hold constant the options available). However, such change is outside the SEI model, which precludes endogenous mechanisms that produce discontinuity.

given names in one time-period tend to decline and to be replaced by others that had previously been unpopular. Note further that, as Strang and Macy (2011) point out, the discontinuity in these settings represents a striking contrast to the predictions of neo-institutional theory (e.g., DiMaggio and Powell 1983; Meyer and Rowan 1977; Powell and DiMaggio 1991; Tolbert and Zucker 1983), which implies no deviance from a prevailing (and therefore, legitimate, taken-for-granted) mode of practice, and stasis rather than fashion.[7]

Strang and Macy (2001) address this issue by adopting a different set of assumptions. The managers in their model are "adaptive emulators" who do not care about how their practices coordinate with various audiences (Schelling 1960; cf., Clark et al., 2006; Correll et al. 2011; Jensen 2006) so much as whether it helps to improve firm performance (i.e., to increase demand for their products and/or lower the costs of sourcing, producing, and delivering such products). These assumptions resemble the conditions of the musiclab in that each context breeds indifference to how others regard one's choices. But Strang and Macy's (2001) analysis suggests how the stability observed in such settings may be disturbed due to the characteristics of the institutions that support discourse about managerial practices. To appreciate these changes, it is useful to note the two key assumptions that underlie the SEI model (see Correll et al. 2011). In particular, it is more reasonable to infer quality from popularity insofar as: (a) the other community members truly are peers (cf., Zuckerman and Sgourev 2006) in that they have similar desires or needs to that of the decision-maker; and (b) the popularity distribution accurately represents the experience of those peers. But Strang and Macy (2001) argue that each of these conditions often does not hold in discourse regarding managerial practices, and this helps explain fashion waves in managerial practices. In particular, the business press and other channels carrying discourse about new managerial practices (e.g., consulting firms) tend to neglect negative experiences (see also Denrell 2003), and to elide differences among firms that might suggest that

what works for firm *i* might not work for firm *j*.[8] And these conditions create perennial overshooting, whereby practices of moderate general value are over-adopted relative to their utility for specific firms, and then are dropped as many firms discover that they do not work for them, leading them to search for new "hot" candidates. Thus Strang and Macy (2001) complement Salganik and Watts's (2009) finding, that valuations can be constrained by objective quality constraints, by clarifying how fashion cycles can be produced by institutional limits on the discourse that supports the inference of quality from popularity.

Moreover, fashion cycles can also be produced by social influence processes that are particular to contexts where actors are *not* anonymous, and specifically where actors compete with one another. Strang et al (2011) extend Strang and Macy's (2001) model in a way that provides an important link to Lieberson's model of fashion (see below) and distinguishes each of these studies from the anonymous conditions of the musiclab experiment, and the SEI process it captures. As in Strang and Macy (2001), the managers in Strang et al's (2011) model are adaptive emulators who do not care directly about others' views of the practices they select. But they do care indirectly because they seek higher *relative* performance for their products rather than an improvement in performance relative to an historical, personal standard. Thus whereas their adoption or dropping of business practices may effectively be invisible to consumers, the effects of such actions are not. Consumers will select those products that meet their quality standards relative to price. And this fuels a desire on the part of firms to distinguish their products, thereby producing an aversion to convergence on common practices. When *all* firms employ "best practices," such practices necessarily cease to be best, and the search begins for new practices that can distinguish the firm.[9] Thus whereas convergence can be stable when it is based on private standards, convergence fuels instability where actors (must) seek distinction from one another.

[8] Strang and Still (2004) show that this is exacerbated when (as was found in empirical research on a major bank) firms follow the practices of high-status firms rather than those who are high-performing.
[9] Strang et al. (2011) also show how competition for distinction among consultants who supply managerial practices can further distort the information environment, leading to greater instability.

Fashion in Naming: Tastes for (Un)Popularity.

Lieberson's research on fashion in given names produces a similar dynamic in a context where actors care *directly* how audiences respond to their selection of practices. As in the musiclab and in managerial fashion, the popularity distribution of given names tends to be highly concentrated at a particular point in time, with a small number of names earning a disproportionate share.[10] But the mechanisms involved are distinct, and they produce quite different dynamics. In particular, whereas it seems reasonable to assume that individuals have personal, idiosyncratic taste in music; and it seems reasonable to assume that managers care about performance "consequences" and not about the "appropriateness" of business practices (cf., March 1994), these assumptions have limited applicability to parental choices for names. In a sense, this context is the *opposite* of the anonymity of the musiclab because the purpose of names (and identities more generally; see Zuckerman 2012) is to facilitate coordination across time and interacting parties. And while different names are often used in private contexts, official given names are designed expressly for coordination with governmental and other institutions and in a wide array of public and semi-public contexts (Scott, Tehranian, and Mathias 2002; cf., Obukhova, Zuckerman, and Zhang 2011). Accordingly, given names generally take highly conventional forms in a given culture (e.g., in English, they rarely have more than four syllables), and research on naming shows a very high level of concentration at any point in time, with a relatively small number of popular names and types of names. In general, we can expect parents to be conservative, in that they avoid highly unusual (types of) names for fear that such names will raise suspicion about the child's cultural competence or social commitments. Thus, precisely because convention is so important and adaptive emulation based on objective performance does not seem to be salient, this context seems to fall within the scope of

[10] As discussed by Lieberson (2000; cf., Besnard 1994), the advantage of studying fashion in given names is that unlike other cultural domains, the selection of given names is unaffected by commercial interests and supply-side factors more generally.

neo-institutional theory; and as such, we might expect significant conformity ("isomorphism") and temporal continuity.

But Lieberson (2000; Lieberson and Lynn 2003) show that: (a) there is considerable differentiation in naming; (b) such differentiation has been increasing over time in Western societies; and (c) it has been accompanied by the emergence of fashion cycles of increasingly rapid turnover. The general reason for this is that conventions typically encompass a *range* of legitimate behavior, and sometimes this range is quite wide (see Kahl and Phillips 2011; Leifer 1985; White 1981). To choose an obvious example, there is a wide range of color, pattern, and material by which one can abide by the Western convention that men wear a necktie to a business meeting. And this applies to other forms of dress as well. The case of given names is instructive in this regard because names cannot fulfill their social purpose unless there is differentiation among them—in the full name, if not in the given name. Accordingly, while Western societies historically had much higher levels of concentration than is currently observed (Lieberson 2000; Lieberson and Lynn 2003), there was always a menu of legitimate options in given names. And levels of concentration in given names are much lower in China in part because the small number of surnames does not distinguish members of the same family (see Obukhova et al. 2011). Names are conventions that coordinate via differentiation.

Moreover, the bounds of such convention change over time and place, sometimes stimulating more concentration in valuation and sometimes more variation. Lieberson has argued that, at least in the West, the marked decrease in concentration and the intensification of fashion cycles reflects the operation of endogenous processes (see also Besnard 1994), the heart of which is a downward shift in the mean "taste for (the) popularity" of their cultural practices.[11] It is outside the scope of this review to consider in detail the critical question of which factors are responsible for differences,

[11] Lieberson's conclusion that naming fashion is overwhelmingly based on endogenous mechanisms (see Kaufman 2004 for review) is compelling but somewhat overdrawn, as it reflects a focus on languages where the meaning of names is not salient to their users (cf., Weitman 1987 on Hebrew names, and Obukhova et al., 2011 on Chinese names).

both within communities and between them, in individuals' taste for popularity (TFP).[12] But let us consider the *effects* of such variation. As argued by Lieberson and Lynn (2003) and modeled by Obukhova et al. (2011), a population that has a lower mean TFP[13] will—all things equal-- exhibit both lower concentration and greater temporal turnover in the popularity distribution than a population with a higher mean TFP. In particular, this implication follows from the following three assumptions: (i) that the selection of practices is driven solely by the expected popularity of the practice rather than personal preferences;[14] (ii) that the average member of the population prefers practices of moderate popularity; and (iii) that various subgroups range from an *avant garde,* who have a strong preference for rare practices and a corresponding aversion to common practices, to "conformists," who prefer practices of the greatest popularity and avoid

[12] Such variation is particularly problematic for psychological approaches that see individuals as balancing innate needs to express similarity and difference from others (Brewer 1991; cf., Simmel 1957). Sociological approaches tend to see the inclination to express difference as either reflecting a degree of power relative to an audience (e.g., Padgett and Ansell 1993; Simmel 1957) or a sense of security that audiences will not interpret difference as deviance. Progress on the latter condition is particularly noteworthy. In particular, the literature on status and conformity (see Phillips and Zuckerman 2001; Phillips, Turco, and Zuckerman 2011) suggests why the achievement of security in group membership facilitates greater acceptance of differentiation on the part of high-status actors (while lowering the incentives for conformity among the socially marginalized). Correspondingly, the social insecurity of immigrants makes them distinctively conservative in their naming patterns (see Zhang et al. 2001). And the greater support for differentiation in liberal societies may reflect the fact that the extension of citizenship rights means that individuals enjoy a minimal level of social security that allows for the expression of difference (see Obukhova et al. 2011). But while social security makes differentiation possible, it is less clear why actors take up that possibility. The most general reason may be that if there is a chance that one can distinguish oneself, and the risks of differentiating have been eliminated, there is no reason not to differentiate. In addition, there is reason for actors to worry that "slavish conformity" (Homans 1961: 339) will be viewed by audiences as a negative signal suggesting that the actor is insecure (cf., Willer et al. 2009). Accordingly, Le Mens and Berger (2009) show that names that diffuse very quickly are quickly abandoned because parents (apparently) fear that use of the name suggests that they are conformists.

[13] Obukhova et al. (2011) operationalize the TFP as an ideal-point of popularity for a given decision-maker, such that the decision-maker tries to select practices that are as close as possible to this ideal-point. This approach resembles builds on threshold models of collective behavior (see Granovetter 1978; Granovetter and Soong 1983; Schelling 1978; Orser 1994), collective action (Marwell and Oliver 1993), and innovation adoption (e.g., Bass 1969), but is distinct in that agents: (a) choose from a large number of possible actions; and (b) have an ideal point rather than a threshold, such that practices can be too popular, as well as insufficiently popular, for an agent to adopt (or retain).

[14] As Lieberson (2000) discusses, key issue is the time-scale of such expectations and the availability of information about others' selections at the time of selection. There is thus a type of overshooting in naming, whereby many parents discover that they have chosen names that are more popular than they had expected.

rare practices (cf., Rogers 2003). Ceteris paribus, it follows that once the *avant garde* make a rare practice somewhat popular, it will be adopted by subgroups with ever lower mean TFP, and the practice will diffuse until it is embraced by the conformists. But as it diffuses, it becomes too popular for the *avant garde*, which then turns to new practices.[15] Thus as in Strang et al (2011), convergence on common practices sows the seeds of discontinuity, in the form of fashion cycles. The difference is that in the context of given names, it is convergence *per* se that is problematic; whereas in the case of Strang and colleagues' adaptive emulators, convergence is problematic because it eliminates differences in objective performance.

Recap

We have seen in this section that the musiclab experiments capture a particular type of social influence ("socially endogenous inferences") that produces high levels of concentration and significant contingency, accompanied by an absence of fashion cycles. These patterns reflect very specific conditions, however. They can be expected insofar as: (a) the institutions that support discourse communicate others' experiences accurately, and these others are true peers, in the sense that they have the same goals as the decision-maker under the same objective conditions; (b) decision-makers do not feel a need or desire to differentiate themselves from others (because they are anonymous or are not in competition with one another); and (c) objective quality differences are negligible. But different patterns obtain when any of these conditions do not obtain. In particular, the failure of condition (a) fosters discontinuity in the form of repeated waves of overadoption and rejection (Strang and Macy 2001).[16] And the

[15] The augmentation of these assumptions with the "ratchet mechanism" (Lieberson 2000) explains why fashions do not quickly circle back on themselves. In particular, in selecting new practices, the *avant garde* will avoid recently popular practices for fear that this could signal that they are in fact laggards. This inclines them to pick new practices that have not been popular for a long enough time to avoid sending such a signal. And this explains why old practices often return, but that it takes time for this to happen.

[16] And when we see stability in such conditions, this implies that there is a basis for conformity that derives from the need to coordinate with audiences (see Correll et al. 2011).

relaxation of condition (b) both leads to less concentration and implies that situations of convergence will not be stable, thereby fostering fashion cycles.

Finally, Salganik and Watts (2009) provide clear evidence for the importance of condition (c), suggesting that actors resist valuations that depart sharply from shared quality standards. But the matter of the objective constraints on such contingency is a controversial issue that requires more careful consideration. I now confront this issue directly, and formulate an approach that will be helpful in integrating literature that suggests how "contrarian" mechanisms may enable objective conditions to shape social valuations. This will also help shed light on why some systems exhibit highly discontinuous dynamics, with long-lasting "bubbles" involving valuations that appear to depart substantially from objective conditions followed by "crashes" in which such gaps rapidly disappear. And this discussion will take us to the concluding section, where I discuss the role of institutional entrepreneurship and the role of supply factors generally.

III. Realism and its Critics: Pragmatic Foundations

Objectivity as Foundation for Politics

As noted in the introduction, the most important motivation for tackling the matter of objective constraints on social construction is that if we regard valuations as pure constructions (e.g., Ibarra and Kitsuse 1993; Woolgar and Pawluch 1985), we thereby lose the moral and practical foundation for our political and professional projects.[17] As Abbott (2001: 87) put it, "one of the great problems of constructionism (is that) it does not in fact have a politics..." Zuckerman (2010: 364) elaborates: "By focusing solely on the idea that ideas can shape reality, pure constructionism cannot tell us what those ideas should be and it abdicates responsibility for identifying the reality for which we should strive." Indeed, while pure constructionism is generally depicted as the polar (or

[17] Nor does it help to merely add the caveat that one does not adhere to a pure constructionist position, or that *of course*, not any valuation can gain acceptance (e.g., Mackenzie's [2006: 20] note that the algebra of the Black-Scholes-Merton formula for options valuation had to be correct in order for it to become accepted. Unless such constraints enter into analysis [cf., ibid., pp. 258-9), deference to them is mere lip service, an attempt to avoid the unwanted logical implications of what is essentially a pure constructionist position (cf., Zuckerman 2012: xx-xx).

"fractal" opposite of pure realism (see Abbott 2001)—i.e., the belief that the prevailing valuation accurately assesses objective condition and there is thus no justification for opposing it, they are in fact identical in the highly conservative politics that they imply (Winner 1993). As illustrated in figure 1, the two perspectives share the principle that there is no actionable difference between objective value and the prevailing valuation. For the pure realist, this principle flows from the claim that the prevailing valuation is the most accurate; for the pure constructionist, this principle flows from the claim that social valuations are not, and cannot be constrained by objective values. In effect, this principle is that of *de gustibus non est disputadum* (cf., Stigler and Becker 1977).

FIGURE 1 ABOUT HERE

Thus the foundation of political action must thus lie elsewhere. In particular, and as illustrated in figure 1, politics implicitly relies on a *contrarian* stance towards prevailing valuations. Contrarianism covers a family of stances, each of which shares: (a) with pure realism, the principle that prevailing valuations can be judged against, and shaped constrained by, objective conditions; and (b) with pure constructionism, the principle that prevailing valuations are shaped by subjective factors. It is the main goal of this sections of this review to arrive at a deeper appreciation for these stances, and to show how they operate to producer stricter vs. looser objective constraints on social valuations, and thereby shed light on the second broad form of discontinuity—i.e., bubble/crash dynamics. In addressing this task, I first consider the two related ways by which a constructionist critic might attack the conclusion that the musiclab results demonstrate objective limits to social construction. The first critique is an ontological critique, for which I offer a pragmatic response; the second is a substantive critique, the response to which will take us to key settings (financial markets, science, authoritarian regimes) that shed light on the possibilities and implications of contrarianism, in its three variants.

Ontological Critique and Response

The first critique is fundamental and ontological: insofar as shared tastes are the product of particular historical and cultural circumstances, to regard the shared taste of the musiclab subjects as "objective" Is naively to fall prey to the fallacy of misplaced concreteness. Put differently, these subjects and the culture they represent are themselves the result of a larger, *natural* experiment and their common culture is just one of various alternative worlds that could have emerged instead of the one that happened to emerge.[18] As such, the limits to construction in the musiclab are just the limits of a larger, longer-lived construction on the smaller, shorter-lived constructions that are built within it.

There are two responses to this critique. The first is to note that there are non-social limits even to such longer-term constructions. For instance, the laws of physics and biology cannot be bent by the human will. The difference between science fiction and science fact derives largely from factors that lie outside of our control. Accordingly, Abbott points out that while the "problem of alcoholism" has been framed in a wide variety of ways by an array of competing professions, these constructions were always limited by "certain objective qualities," *even when they were unknown at the time*—i.e., that fact that "consumption always produced central nervous system depression with loss of… motor and sensory functions (1988: 37; cf., Gusfield 1981:)."

The second response to this critique pertains to the social limits to construction, and relies on a pragmatic definition of objectivity. In particular, Abbott (1988) argues that the fact that a context is built of long-lived constructions does not make them any less objective: "Despite the normal connotations of the word, objective qualities are not a reality that awaits discovery beneath the cultural images; they are an inertia that reconstruction must overcome (p. 37)." For instance:

> the idea that alcohol consumption is an individual rather than a group activity is a cultural belief, not a natural fact. But for the purpose of most jurisdictional claims (i.e., attempts by competing professions to redefine alcoholism as problems subject to their specific expertise), such deep-

[18] See Bauman (1989) for productive use of this logic to argue that it is vital to study extreme events like the Holocaust because they reveal the alternative worlds that could have been produced by the same (modern) conditions that produce the world in which we live.

> rooted beliefs have an objective quality. They may change as the culture changes, but jurisdictional claims are made over a considerably shorter time-scale, within which these cultural facts appear like objective facts. The opposition between the objective and subjective in human problems is not between the natural and the mental, but between the movable and the fixed (pp. 38-39; parenthetical remark added).

Swidler's *Talk of Love* (2001) exemplifies this pragmatic approach to the issue. She of course recognizes that the institution of monogamous marriage is socially constructed. Yet for the contemporary Americans she interviewed, this institution (by definition) was as objective as any feature of the physical world. Accordingly, each of those Americans faced roughly similar problems in grappling with the (contradictions embedded in this) institution, thereby leading to a more fleeting-- and thus more constructed-- discourse that suggests solutions to such problems, not unlike Strang and colleagues' managers on the hunt for best practices. In sum, while it is important to bear in mind that the shared taste of the musiclab subjects is largely the product of social construction, this does not make it less objective in any practical sense, and it begs the question of how longer-term, taken-for-granted constructions shape and constrain what can be constructed within it. And the musiclab experiments suggest that such constraints are hard indeed.

Substantive Critique: When Sensitivity to Popularity is Very High

But this brings us to the more substantive critique, which is informed by our discussion in the prior section. In particular, it is reasonable to ask whether the constraints observed in the musiclab operate precisely because the mechanisms of social influence are so limited under conditions of anonymity. What about the much more common situation, in which actors are identified and they are (therefore) highly sensitive, either directly (as in Lieberson 2000) or indirectly (as in Strang et al. 2011), to audience response to their selections? In particular, imagine a situation in which the subjects anticipated being judged by their musical taste, they are highly sensitive to the judges' reactions (e.g., a large amount of money or their jobs are at stake, or perhaps just their reputation for good judgment) and they know nothing about the judges other than that they are aware of the hierarchy of songs. Under such conditions, it is rational for the

subjects to ignore their own taste and favor the songs that are the most popular since this is the only available means for effective coordination with them (see Correll et al. 2011; Schelling 1960; cf., Willer et al. 2009). Indeed, it seems reasonable to expect that under such conditions, the objective constraints observed in the musiclab would disappear; and in particular, Salganik and Watts' (2009) intervention would succeed in transforming the song hierarchy such that it proceeded much as if the hierarchy were endogenously generated.

This thought experiment is useful because it links us with several other contexts where it is highly relevant, and one context in particular—financial markets—where it is the basis for arguments that endorse pure constructionism (e.g., Mackenzie 2006; Zajac and Westphal 2004; see Zuckerman 2012)[19]. Keynes's 1936 [1960] metaphor of the beauty contest is the classic statement of this approach. In particular, Keynes likens speculative markets to:

> … those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole; so that each competitor has to pick, not the faces that he himself finds prettiest, but those he thinks likeliest to catch the fancy of the other competitors, each of whom is looking at the problem from the same point of view…. We have reached the third degree where we devote our intelligence to anticipating what average opinion expects the average opinion to be… (p.156).

Note how this constructionist logic (what Zuckerman 2004a,b calls the principle of self-recursion) is fully rational, deriving from two basic assumptions. The first is assumption (i) adopted above in the context of naming fashion, which is that selection is driven solely by the expected popularity of the practice rather than personal preference (cf., Wrong 1961). In the context of financial markets, this assumption is reasonable due to the fact that (as opposed to songs), there is no private, use-value for financial assets. And second, unlike in the context of names where the average TFP (in modern societies)

[19] Here and below, my discussion of valuation in financial markets draws heavily on Zuckerman (2012), where these issues are treated in greater depth.

is moderate, TFP for stocks is at a maximum.[20] The maxim of 'buy low/sell high" expresses this second assumption. Insofar as a speculator is sensitive to capital gains and losses within a certain time horizon, her returns depend on her anticipating trends in prevailing opinion (weighted by capital) within that time frame. As such, it is rational for her to focus on such trends, and to ignore objective ('fundamental" or "intrinsic" value) value.[21]

Moreover, this same rationale for ignoring objective conditions holds in a wide variety of other settings where these two assumptions hold. In particular, this is the logic that underlies neo-institutional theory's account of isomorphism in organizational forms.[22] And this is the characteristic driver of public life under authoritarian regimes. It is by now axiomatic that especially after the initial years of such a regime, most citizens (except for perhaps the minority group that is favored by the regime) do not endorse it privately. In the aftermath of case after case of the downfall of an authoritarian regime, it is revealed that dissent had been widespread for many years. However, in a world where there is no way of expressing and coordinating on the basis of such dissent, it is rational for everyone to suppress it (see Havel 1985; Jowitt 1974; Kuran 1995; Pfaff 2005; Scott 1990; Wedeen 1999). This same basic logic applies more generally to cases of "unpopular" norms, as long as there is no system for creating common knowledge about the dissent (see Adut 2009; Centola, Willer, and Macy 2005).[23] But while the context of authoritarianism is a depressing example of how social

[20] The following discussion restricts itself to such cases, though one could argue that the case of Science (see below) is one where TFP is moderate, and this fuels endogenously driven fashion in scientific theories and methods.

[21] It is worth noting that this condition of high TFP holds despite the fact that under everyday definitions of anonymity, the stock market is as anonymous as the musiclab. In fact, however, there is a critical sense in which the stock market is not anonymous—participants rely on a system of property rights that uniquely allocates and protects rights and obligations over the relevant time frame. Thus the participants' are very much identified with respect to this system, and they would not participate if they did not trust that it would protect their rights (and others') obligations. Correll et al. (2011) demonstrate the implications of the same logic in a consumer recommendation context.

[22] All three forms of isomorphism noted by DiMaggio and Powell (1983) can be reduced to situations where the actors have a very high TFP due to some kind of penalty they would face were they to depart from conventional practice.

[23] "Unpopular" is a bit of a misnomer in the context of the present discussion because norms that enjoy wide public support may be defined as popular. What Centola et al. (2005) mean by this term is that such

construction processes can foster prevailing valuations that are unrelated to objective conditions, the presence of widespread dissent from prevailing valuations under authoritarian regimes suggests that dissent may be widespread even in contexts where there do not appear to be significant penalties for expressing it.[24] But insofar as these settings are governed by the two assumptions of sensitivity to popularity and high TFP, such private dissent seems quite impotent and irrelevant. How might it play a role in constraining social valuations?

Contrarianism I: Arbitrage as Foundation for Objective Constraint

The short answer to this question is that for dissent to enable objective conditions to discipline prevailing valuations, dissenters must have available to them one of two contrarian strategies: *arbitrage* and *valuation entrepreneurship*. Arbitrage is the more fundamental and far-reaching of the two mechanisms. I define arbitrage as any action taken to take advantage of one's dissent from a prevailing public valuation, the returns to which *do not depend on change in that public valuation*. In the case of the stock market, a limited form of such arbitrage occurs when one buys stocks for their dividend income rather than for capital gains. In both Keynes and Graham's (Graham and Dodd [1934] 1940; Graham [1949] 1973) terms, this is investing rather than speculation. Insofar as the prevailing valuation is low relative to the income that one expects to receive from ownership of the shares, then it is rational to buy the stock. Note that suggests a radically different rational imperative than that of Keynes's beauty context, whereby the rational action is to *ignore the crowd* and focus only on objective conditions.

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norms enjoy little private support, and more fundamentally, that such norms are dysfunctional because they address objective conditions less well than might alternative norms. In this sense, their analysis links the current discussion to classic sociological questions about whether prevailing institutions are necessarily functional. The two mechanisms discussed in this section work to make institutions more functional than they might otherwise be; and a system that is lacking in these mechanisms will be dysfunctional (cf., Hirschman 1970).

[24] See Turco and Zuckerman (2011) for an example from a financial market where all participants are thought to be highly sophisticated.

This form of arbitrage is limited in the case of common stocks because dividends are not guaranteed. Thus the more basic case, which is only available to sufficiently capitalized investors (the modern exemplar is Warren Buffett; see Lowenstein 1996) is to buy an undervalued company outright and take it private, thereby getting access to its assets and cash-flows. As with the first strategy, this strategy carries the risk that the investor is wrong and "Mr. Market" (Graham 1949 [1973] [1973]) is right about the income that the company can be expected to generate. But the key distinguishing feature of such activity is that it carries no *social risk,* in that the arbitrageur's returns do not depend on prevailing valuations. As such, arbitrage allows the arbitrageur to escape the high sensitivity-to-popularity regime, and profit from so doing. Moreover, we will see shortly that the possibility of such "exit" has far-reaching implications for prevailing social valuations (cf., Hirschman 1970).

But let us first clarify how this mechanism may survive the implications of the ontological critique discussed above. In particular, once we recognize that the economy is itself socially constructed, it is questionable that the arbitrageur incurs no social risk. There are many alternative ways the economy could be organized, and any economic system depends on a system of social expectations that can potentially unravel. Moreover, activity in financial markets can feed back into the economy—e.g., when businesses regard a stock market decline as a reason to hold off on hiring, and this in turn depresses demand for goods and services.

The main retort to this critique is that the pragmatic basis for defining objectivity applies here as well. For the most part, the economy's constructed nature confronts investors as slow-changing social facts that are independent of stock-market activity. And as such, the value-investor can often make a great deal of money by buying companies that are undervalued in the market. Moreover, an alternative reply to the critique is to concede the limits to the pragmatic response but to note that in another context, there is an important form of arbitrage that operates on the basis of the physical definition of objectivity—i.e., contrarianism with respect to prevailing scientific and technological doctrine. In particular, scientists who wish to dissent from scientific

convention face the challenges of social pressure from their colleagues, journal editors, grantmakers, etc. Such a system induces a high TFP (but see FN 20), and is the (implicit) basis for the argument that scientific theories are socially constructed. However, insofar as dissent from scientific convention generates returns independent of prevailing scientific opinion, such opinion does not matter. This caveat does not pertain to all scientific theories, but it does apply whenever the theory can be applied to develop technologies that provide great advantages to their users-- e.g., because they kill more productively or efficiently; they facilitate communication or transportation over long-distances, or allow one to field a more competitive sports team (see Lewis 2003)– even if, and perhaps especially if, others do not adopt them.

Moreover, these examples are instructive because they suggest how *arbitrage is the key force by which objective conditions constrains social construction*. To the extent that the arbitrageur's returns either directly or indirectly give him a competitive advantage in managing objective conditions, he will have an advantage relative to those who stick with the conventional view. Speculators who repeatedly sell to the value-investor are essentially transferring their wealth to her; over time, they will suffer capital erosion and be driven from participation in the market. Similarly, adopters of new technologies that enable users to navigate or manipulate the world more efficiently can often gain significant advantages relative to others. The obvious advantages of adopting a new, more efficient, killing technology need not be belabored. And the ultimate threat to authoritarian regimes lies in competition the greater productivity and efficiency of more open political systems. Note as well how the musiclab results hint at arbitrage and its implications for inaccurate valuations, and the systems that produce them. In particular, the second key result of Salganik and Watts's (2009) intervention was that there was a sharp decline in the use of the system, which apparently reflected the fact that post-intervention subjects found the prevailing valuations to be poor guides of song quality. This suggests that if there were competition between a system based on endogenously-driven valuation and one with an exogenous, arbitrary system, the latter would outcompete the former. This is not direct arbitrage, but indirect

arbitrage via *exit*, with the resulting shift of support for one system or entity versus another, providing a stimulus for reform of the first (Hirschman 1970).

Note finally that the competitive threat posed by the arbitrageur is the fundamental mechanism that enables objective constraints to enter into, and shape prevailing valuations. The reason is that *the threat of arbitrage brings the two rational imperatives together*, such that valuations are made via theories of value that are anchored in objective conditions. Consider what happens to Keynes's beauty contest as stock prices get lower and lower (see Zuckerman 2012: xx-xx), to the point that the arbitrage opportunity becomes obvious (e.g., when one can own all of General Electric for $100). At this point, speculators face an enormous competitive disadvantage (and will be weeded out over time) unless they begin to *theorize* about arbitrageurs' likely behavior, and this in turn causes *theories of value*—i.e., models of how objective observables are to be evaluated-- to enter into Keynes' beauty contest.[25] Accordingly, the logic that ultimately governs speculation is the attempt to decipher what most people think that most people think is the prevailing theory of value that arbitragers will act upon. And this in turn constrains the viable theories of value to be those that are reasonable or plausible renderings of objective conditions (cf., Gould 1995). Theories that are unreasonable are ultimately selected out via arbitrage.

Limits to Arbitrage and the Basis for Valuation Bubbles

Insofar as arbitrage operates in this fashion, it disciplines valuations to be faithful renditions of objective conditions, and there would be no "bubbles"—i.e., cases where prevailing valuations remain unanchored in objective conditions for long stretches of time. However, bubbles in their various forms—e.g., moral panics, authoritarian regimes, unproductive scientific paradigms-- do occur. And the reason is that as Hirschman (1970) taught us, exit (and arbitrage generally) is a limited stimulus for

[25] On theories of value in other contexts, how they change over time, and how they form the foundation of conventional categorization systems, see Ferguson (2011), Shiller (1990); Zuckerman (2000), Zuckerman and Rao (2004); Zuckerman, Kim, Ukanwa, and von Rittmann (2003).

change. This is obviously the case in authoritarian regimes, which tend to block exit and induce total dependence on the state (Walder 1986; Shirk 1983).[26] And the arbitrage opportunities available to the lone technologist are relatively limited.

Moreover, arbitrage is quite limited even in the case of the stock market. The efficient markets hypothesis (EMH), a pure realist perspective which has been the foundation for financial economics since the 1960s, is based on the presumption of unlimited arbitrage (see Brav and Heaton 2002). It insists that since the rewards for getting the price right are so great, we can assume that speculators who do not learn to drop wrongheaded theories of value (and replace them with more useful approaches)—or those, who adopt the mode of Keynes's beauty contest-- have already been driven by the market. However, the key weakness with the EMH is that while arbitrage is available to the contrarian who thinks that *prices are too low (i.e., when prevailing valuations are conservative assessments of objective conditions), there is no equivalent of arbitrage when prices are too high (i.e., when prevailing valuations are especially unreasonable characterizations of objective conditions)*. Imagine that you are certain that prices of a financial asset are too high, and you want to earn a return from the difference between the market price and the intrinsic value. In some markets—such as the US real estate market until 2006 (see Gorton 2010**;** Shiller 2005; G. Zuckerman 2009; Zuckerman 2010a) or the private equity industry (Turco and Zuckerman 2011), there is simply nothing you can do to act on such dissent. And insofar as prices are too high to be justified by objective conditions (as was the case in the US real estate market), this means that there is effectively no means by which prices can be disciplined by objective conditions.

[26] That said, the black market in its various forms is a form of arbitrage that is tolerated and even encouraged by many authoritarian regimes (e.g., Ledeneva 2008). This "safety valve" may work against systemic reform in the short-run, but support change in the long-run by making it widely, but not commonly known, that public loyalty to the regime is dissimulated (see Rona-Tas 1995; cf., Adut 2009). As such, the problem of mobilizing dissent to challenge the authoritarian regime is not that citizens think they are alone in their dissent (the condition of pluralistic ignorance discussed by Kuran 1995), but the regime's monopoly of the public sphere prevents citizens from effectively coordinating (cf., Elster 1996). Thanks to Andy Walder for discussion of these points.

The key implication is that there is a basic asymmetry, whereby theories of value that are highly "imaginative" (i.e., that imply a valuation that is based on one of many possible interpretations of observable conditions) are less constrained than are theories of value that are highly "realistic" (i.e., those that imply valuations based on uncontroversial interpretations of objective conditions—e.g., that GE is worth at least $100) because arbitrage constrains the latter and not the former. And this absence of the arbitrage mechanism is the foundation for valuation bubbles. When those who disagree with a prevailing valuation have no options but to sit on the sidelines (and worse, when they are compelled to publicly endorse the prevailing valuation; e.g., Wedeen 1999), the only thing that constrains the bubble is peoples' willingness to believe in a valuation (and the theory that supports it) that departs from what they privately experience and observe. But if the situation is one of high sensitivity to popularity, the rational imperative of Keynes' beauty contest effectively has free reign: participants are compelled to enact the valuations that will best coordinate with one another; and if it looks like the prevailing valuation is unmoored in objective conditions, it is rational to ignore them. Such conditions fuel bubbles.

Contrarianism II: Objective Constraint from Valuation Entrepreneurship

At the same time, bubbles do not last forever, and many potential bubbles do not form. This is due the operation of what I call *valuation entrepreneurship* and define as actions taken to take advantage of one's dissent from a prevailing public valuation, the returns to which *depend on change in that public valuation*. In the sociological literature, the most familiar examples of such actions are "moral" or "norm entrepreneurship" (Adut 2008; Becker 1963; Sunstein 1996) and "reputational entrepreneurship" (Fine 2001). And there is also a wide variety of valuation entrepreneurship that pertains to standards and metrics of performance (Espeland and Sauder 2007; Sauder et al., 2012; Timmermans and Epstein 2010). In all such cases, the entrepreneur has a dissenting view from the prevailing valuation and he appeals to objective conditions in a bid to change the prevailing valuation. Unlike the arbitrageur, the valuation entrepreneur is

completely at the mercy of prevailing opinion; and unless he has power over the relevant public and its discourse (cf., authoritarian regimes, cults [Martin 2002], or formal organizations [Freeland and Zuckerman 2011; Zuckerman 2010b), or has developed institutions that favor her preferred valuation (e.g., Espeland and Sauder 2007; see below), his hopes ride on must the public's ability to recognize the objective merits of his argument. In a sense, such strategies should be seen more as vehicles of voice than of exit, in that they must gain widespread endorsement in order to be effective.

Again, the context of financial markets is instructive as to the possibilities and limitations of valuation entrepreneurship. The classic form of valuation entrepreneurship is "short-selling." This strategy involves borrowing shares from their owners and immediately reselling them at price p_1 (e.g., $100/share), and then buying them back at price p_2 (e.g., $50/share), and returning them to the lender, plus interest. If $p_2<p_1$ and this difference exceeds the rate of interest on the loan, then the short-seller has earned a return by "selling high and buying low." And the actions of short-sellers can potentially discipline prices when they get too high, just as arbitrage can discipline prices when they get too low. However, as is recognized by a growing literature in financial economics,[27] this is a much weaker form of discipline. The basic reason is that while the arbitrageur's success depends on nothing but whether she is objectively right in her evaluation, the short-seller's success depends on whether prevailing market opinion comes around to his point of view within a relatively short time-horizon (because he must pay interest; and is subject to "margin" calls if the price moves against his potition). This difference in dependence on prevailing opinion helps explain why while value-investors tend not to publicize their investments, short-sellers frequently broadcast their bearish opinions on stocks through the media in the hopes that others will follow their lead, and thereby validate their dissent (see e.g., Powell 2010). And yet

[27] See Miller 1977 for the foundational piece in this literature; see Rubenstein 2004 for an historical overview of the idea; and see Brunnermeier and Nagel 2004; Chen, Hong and Stein 2002 and Ofek and Richardson 2002 for recent statements and empirical evidence.

such dissent may fall on deaf ears for quite along time. In the case of the Internet bubble of the late 1990s, short-sellers lost a great deal of money at that time because they could not sustain their position long enough to benefit from the eventual collapse of prices.[28] Indeed, many famous investors were forced from the market because they stubbornly clung to valuation methods that were objectively right, but were wrong for all practical purposes.

To conclude this discussion, it is important to underline the point that the weakness of valuation arbitrage does not mean that all valuation equally likely in contexts where arbitrage is unavailable, and actors are highly sensitive to popularity. As long as the community of evaluators experiences similar objective conditions, valuation entrepreneneurs should generally have more success when the valuations (and theories of value that support) them are more plausible given those conditions. As Bromberg and Fine (2002: 137) put it in the case of reputation entrpreneurship, "reputations are constructed, but the construction is limited by a set of recognized facts." For instance, "make what one will of (Pete) Seeger's politics, he will never be remembered as a conservative (ibid, p.151)." Similarly, Oscar Wilde will never be known as a conformist (Adut 2009). To be sure, there is often a wide range of possible valuations that fit the available facts. Moreover, the absence of any arbitrage mechanism in these cases means that the objective constraint on such valuations is relatively weak. But as long as: (a) there is a set of facts that is shared within the community; (b) it is possible for a valuation entrepreneur to publicize any discrepancy between the prevailing valuation and what is implied by those facts (see especially Adut 2009); (c) that valuation entrepreneur can expect to gain if the prevailing valuation moves in his favor (e.g., because his reputation will be burnished as a result), accurate valuations are vulnerable to competition from more accurate valuations. At the same time, it may sometimes take quite a long time for either the facts to become sufficiently clear (see e.g., Zuckerman

[28] A related problem was that many issues had relatively limited "float"—i.e., shares outstanding, which could be borrowed by short-sellers. The expansion of such float seems to have been an important trigger for the popping of the Internet stock bubble (see Ofek and Richardson 2002; Chen et al. 2002).

and Rao 2004), and thereby for the entrepreneurial opportunity to outweigh the significant risks. And then there is the fundamental problem that, as in the case of authoritarian regimes, or in financial markets that do not have some institution like short-selling, valuation entrepreneurs cannot express their views in a way that can discipline prevailing valuations. Such difficulties add fuel to bubbles, and help explain why the crashes are so severe.

IV. Conclusion: The Role of Supply and Institutional Entrepreneurship

In the foregoing, I have attempted to integrate several strands of sociological (and related) literature to address the four puzzles described at the outset of this review. As we have seen, there is a great deal of promise in this work. First, it provides clarity regarding an important process ("socially endogenous inferences") that often produces *concentration* in valuations, and which is a powerful engine of *social construction* under conditions where objective quality differences are relatively minimal, and neither of the contrarian mechanisms-- arbitrage and valuation entrepreneurship-- is available. The literature also suggests how departures from the premises underlying the inference of quality from popularity (i.e., that popularity distribution accurately characterizes the experiences of true peers) fuels temporally discontinuous valuation patterns resembling fashion cycles, due to the repeated overadoption of moderately-valuable practices. In addition, another engine for fashion cycles lies in the need for differentiation, as experienced in contexts where actors are identified and/or in competition with one another. And finally, the discussion in previous section has suggested how, even in contexts where sensitivity-to-popularity is very high, two contrarian strategies/mechanisms help to discipline prevailing valuations so that they are anchored in objective conditions. At the same time, I have also discussed why these anchors are often quite weak, thereby providing the basis for long-term valuation bubbles, and sharp crashes. Finally, I have stressed why it is vital not to concede the ontological critique of the notion of objective constraints, since our professional and political projects depend at least on some pragmatic definition of objective reality.

Clearly, much work remains for future research in this area. In concluding this review, I will include a few notes on how supply factors "may be brought back in."[29] As discussed in the introduction, a focus on contexts where supply factors are irrelevant has great advantages because it provides clarity on critical social processes that are otherwise masked, and which may erroneously attributed to supply factors. But such factors are clearly very important in many contexts. For instance, it is instructive to contrast the case of naming fashion, which in the modern, liberal context is driven purely by "consumer" tastes, with fashion in color. It is a relatively unknown fact that fashion in color in the United States is largely controlled by the Color Marketing Group (CMG) an industry trade association that publishes a "color forecast" that effectively serves as the common color palette for large producers of durable goods. This forecast helps solve the critical risk that such producers face, which is that they make large investments in products that turn out to be out of fashion. Yet in coordinating their responses in this way, the CMG not only harnesses the fashion cycle, but is a mechanism for planning the obsolescence of consumers' purchases, thus fueling more such purchases (see Orbach 2004: 101-2). To be sure, CMG forecasts "freely confess fallibility," insisting that consumers are the "ultimate arbiter(s). (Trudeau 1999)." But as is demonstrated more generally by the literature on the production of culture (see Peterson and Anand 2004) for review, control over the production and distribution of culture can have quite far-reaching constraints on what valuations are enacted. But given how hard it is to identify demand and supply factors independently, it remains a significant challenge to understand how they interact in producing patterns of enacted valuation.

Finally, it is worth noting how this challenge relates to the moral and practical rationale for understanding and promoting contrarianism. The success of arbitrageurs and valuation entrepreneurs in mounting challenges to valuations-- and the theories of value that support them, as well as the people and institutions those valuations legitimize—often depends on what has come to be called *institutional entrepreneurship*. Following Canales (2011), institutional change is impossible unless there is significant

[29] But see notes on Tucker and Zhang (2010) and Strang et al. (2011) on the role of supply.

doubt of private doubt in prevailing institutions and the valuations they support. The key challenge is to mobilize such doubt into an effective challenge, and this is especially acute when public expression of such doubts is infeasible or illegitimate. As such, the most basic form of institutional entrepreneurship is to make contrarian strategies possible. An example in the case of arbitrage is the Manhattan Project or the creation of NASA. Without the capital and institution-building behind these projects, the scientific ideas behind them could not come into fruition. One can also see the Mertonian norms of Science ("organized skepticism," "universalism," disinteredness," and "commun(al)ism"in this light). Social constructionists have challenged Merton's account as naïve, but this misses the point. For those of us who believe that Science has the potential of making progress in understanding the objective conditions of the world we occupy, these application of these norms is a critical objective because they support and encourage contrarianism.

In this regard, it is worth underlining the specific implication of condition (b) for valuation entrepreneurship—that it must be possible to voice and promote dissenting views. Especially when the mechanisms supporting arbitrage (exit) are weak, the vehicles supporting voice must be robust if prevailing public valuations are to incorporate private beliefs (e.g., that real estate is overvalued; that the regime is kleptocratic, that famous scientists are frauds), which are based on direct experiences with objective conditions, but which are not necessarily articulated publicly. Conversely, the bubble/crash dynamics seen in authoritarian regimes, financial markets, and reputational systems suggests the weakness of vehicles promoting voice. Accordingly, a critical form of institutional entrepreneurship for those who want to ensure that the correct valuations have a chance of winning out is to provide mechanisms for ensuring that all voices can be heard. The mission of providing such "transparency" may sound banal, especially in the context of authoritarian regimes. But it is noteworthy that a key reason for recent financial-market bubbles, and thus their the great dislocations that they caused, was that the failure of regulators to realize that these markets had little or no vehicles for expressing contrarian views. Accordingly, a key institutional challenge

for anyone who wishes to avoid such outcomes is to engage in rational regulation, which involves facilitating the broadcast of dissent (see Zuckerman 2010a; G. Zuckerman 2009).

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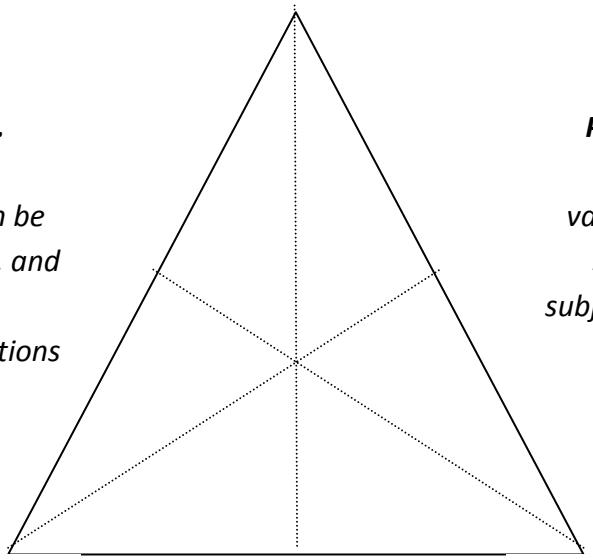
Figure 1:
Three Perspectives on Social Valuation, with Examples from Financial markets*

Contrarianism:
Arbitrage and Value Entrepreneurship
(e.g., Value-Investor, Short-Seller)



Principle 1.
Prevailing valuations can be judged against, and shaped by, objective conditions

Principle 2.
Prevailing valuations are shaped by subjective factors

Pure Realism
(e.g., Efficient-Markets Hypothesis)

Principle 3.
No actionable difference between prevailing valuations and objective value

Pure Constructionism
(e.g., Keynes's Beauty Contest; Performativity)

*This graph is adapted from Zuckerman (2012: xx). Each vertex in this three-dimensional plot (see Coleman 1961; Martin 2009) is a perspective that embraces each of the principles described on the adjacent edges. For instance, a "pure realist" perspective holds both that "objective values ultimately govern prices" and that "there is no difference between price and value." The edges drawn from one vertex to an opposing side indicate that the perspective on the vertex rejects that particular principle. Thus, the pure realist position rejects the principle that "subjective factors shape prices."