

To the extent that we can commonly recognize “money,” we can also agree that it is not a category that is carved at Nature’s joints. Although Lea & Webley (L&W) acknowledge some examples, it is worth clear recognition that money coexists as a currency alongside a range of alternatives that includes meat, frequent-flier miles, collectibles (e.g., special coins or clothing), and status. Indeed, the way in which frequent customers of airline and hotel companies are recognized with redeemable credits that can accompany “elite” (or “gold,” “silver,” or “platinum”) “status” provides an entertaining juxtaposition of currencies.

Illustrative of the reasons why money and other currencies need to be considered alongside each other, Frank (1985) notes that people who work closely with others often appear willing to make trade-offs between salaries and status. Frank reports a pattern of within-firm salaries in relatively interactive or social organizations where high-performers are paid less – and low-performers are paid more – than would be predicted by traditional economic, pay-for-performance models. Frank concludes that (1) high-performing individuals who work closely with peers accept lower-than-predicted salaries in exchange for higher within-firm status while (2) lower-performing co-workers endure lower within-firm status in exchange for higher-than-predicted salaries. This notion that people can buy and sell status is similarly illustrated by the willingness of hotel and airline “frequent-users” to narrow their shopping of competitors and sometimes pay above-competitor prices and consume more in pursuit of increased “status.” Loyalty programs, in general, rely on this incentive to build their associated businesses.

Adopting one of L&W’s models, status has many “drug”-like features and, in fact, has been shown to affect individuals’ biochemistry. When considering the evolutionary basis, or origin, for their Drug theory, L&W accept that “trade could be a human instinct on which the money motive might be built” (sect. 5.2). While the authors’ recognition of the social nature of commerce (and childhood play) is interesting and relevant, it is also true that *status* could be a human instinct on which the money motive might be built. Research showing drug-like changes in human biochemistry after changes in status (e.g., Mazur & Booth 1998) provides material support for this argument.

More consequentially in the genetic domain, Smith (2004) shows that relatively successful hunters in hunter-gatherer communities tend to have relatively greater reproductive fitness. Similar to L&W’s observation that “we cannot reasonably talk about a ‘money instinct’” (sect. 1.4), it would be incorrect to infer from Smith’s findings that hunter-gatherers have an instinct for dead animals. Instead, it is helpful to recognize the fact that status can motivate individuals (e.g., to be among the best hunters) and, when acquired in sufficient quantities, relatively high status can translate into material benefits (e.g., relatively high reproductive fitness).

L&W ably show that money cannot be reduced to some universally liquid currency of status; however, the use of money can, and should, be recognized in large part as a consequence of individual “status instincts.” Predictably, just as money, meat, and furs carry different values across individuals, we should expect variation among individuals with regard to the importance of personal status. Schwartz et al. (2002) report a series of studies in which they find individuals vary according to whether they tend to be “maximizers” or “satisficers.” Maximizers strive to be the best, to complete perfect projects, and get the best deal, while satisficers are more easily accommodated and less demanding of themselves and others. This dimension of individual differences might profitably guide future research on money as drug or tool.

Good examples of the importance of status regularly originate with professional athletes since their contract negotiations are so deeply open to media coverage. When professional athletes who are already earning millions of dollars and are dominant members of their team argue that they are underpaid, they and

their agents are staking claims on the need for maximized status (independent of how closely they consider their relationships with teammates). The leapfrogging that happens in this and other contemporary environments (Gerhart & Rynes 2003) is driven in part by a concern for status in which salary is interpreted as a reflection of one’s relative standing. In the movie *Jerry Maguire* (Brooks et al. 1996), when a dominant football player and his sports agent celebrate their goal of a superior contract and exclaim “Show me the money!,” they might as well be shouting “Show me the status.” L&W acknowledge the roles of status in parts of their paper; however, (1) the distinction between money and status cannot be neatly made, and (2) the importance of concerns about status over the course of human evolution warrants closer focus.

Sacredness in an experimental chamber

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Abstract: I focus on the problem of whether a specific biologic basis exists for reinforcing the power of money. I argue in favor of its existence based on a new interpretation of data obtained in experiments with pigeons and rats in an experimental chamber. The experiments demonstrated that in the animals’ behavior we can observe some features that had been considered pertinent to human beings only, such as making certain sources of utility “sacred.”

We all know cases in which people agree to receive lower payment for work related to higher values than for equal work unrelated to such values. For example, a person requires smaller salary for participation in building a cathedral, than in commercial construction. Thus, some “agencies” where a person exchanges his labor for money possess a special quality that will be called *sacredness* (Lefebvre 2003). A person agrees to work for these agencies for smaller reward than for other agencies. Something similar can be observed in the behavior of rats and pigeons

Experiments with rats and pigeons were conducted in a chamber with two pedals (left and right keys), each connected to its own food-hopper from which food bits were distributed according to a special schedule (Baum 1974b). Animals were studied individually in a series of sessions; in each session a schedule of reinforcement was fixed for the pedals. An important detail is that the frequency of reinforcements could be regulated by the animal itself by means of multiple pushes on the pedals. In analyzing the animal behavior in the experimental chamber, we use the metaphor of an “agency”: the left key with its food-hopper being the first agency, the right key with its food-hopper being the second agency. The animal behavior consisted of “addressing the agencies” and performing “work” by pushing a pedal, and this was reinforced with a scarce food supply.

For a time it seemed that in these experiments the animals chose a specific line of behavior which is described by the Generalized Matching Law (Baum 1974b), but recently Baum put forth a hypothesis that this law only approximately describes the behavior of animals and in reality there are two different behavioral patterns (Baum 2002). Analysis of these patterns allows us to suppose that in each session the alternatives (pushing a left or a right pedal) were polarized by the animal’s cognitive system, and one of them started playing the role of the positive agency, and the other that of the negative one. By using the reflexive model of bipolar choice (Lefebvre 2004) we obtain the following correlation describing the behavior of the animals:

$$N_2/N_1 = \exp(-S)n_2/n_1, \quad (1)$$

where N_1 and N_2 are numbers of addresses to the positive and negative agencies, and n_1 and n_2 are numbers of reinforcements received from the positive and negative agencies during one session. The value of S is constant on the entire set of sessions and $S \geq 0$.

Correlation (1) indicates the existence of the analogue to sacred behavior in animals. Let us demonstrate this.

It follows from (1) that

$$n_1/N_1 \leq n_2/N_2. \quad (2)$$

Ratio n_1/N_1 can be interpreted as the mean payment for one appeal to the positive agency and n_2/N_2 as the mean payment for one appeal to the negative agency. We can see from (2) that, on average, the subject never requires more payment for one appeal to the positive agency than for one appeal to the negative one. Is it possible that in these experiments, we observe behavior evolutionarily preceding the sacred behavior of human beings? If it is so, then the sacred aspect of money has deep biological roots.

Money and motivational activation

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Abstract: Different aspects of people's interactions with money are best conceptualized using the drug and tool theories. The key question is when these models of money are most likely to guide behavior. We suggest that the Drug Theory characterizes motivationally active uses of money and that the Tool Theory characterizes behavior in motivationally cool situations.

Money acts as a drug or as a tool in different circumstances. We suggest that money acts like a drug when there is a strongly active current goal that may or may not relate to money. In contrast, money is treated as a tool in motivationally cool states, such as those for which there is significant psychological distance between the individual and the choice situation. To illustrate this point, we refer to specific data.

Research on mental accounting suggests that people set up mental accounts for different kinds of money to protect active short-term goals from desired long-term goals (Brendl et al. 1998; Shefrin & Thaler 1992). This view is consistent with the drug theory of money. When people are faced with tempting short-term alternatives, they are likely to spend money without recognizing that money spent in the present has opportunity costs in the future. Thus, people create both mental accounts and physical forms of money that are hard to spend in order to create barriers that protect long-term goals, precisely because they cannot treat money as a tool (see also Zelizer 1994b).

Consistent with this interpretation, we have data suggesting that people do not recognize the general value of money as a tool in motivationally hot states (Brendl et al. 2003). In one study, we approached German college students who were cigarette smokers after they had completed a long lecture class (in which they were not permitted to smoke). Half of the students were kept in the classroom and were given a cup of coffee (which stimulated their need to smoke). The other half were brought outside the classroom, were encouraged to smoke, and were also given a cup of coffee. Thus, the participants inside

the classroom had a high need to smoke, and those outside the classroom had a low need to smoke.

Participants were offered the opportunity to purchase raffle tickets for 25 pfennigs apiece. For half of the subjects, the prize was three cartons of cigarettes. For the other half, the prize was an amount of cash about equal to the cost of three cartons of cigarettes. Participants were only aware of the raffle they were offered. The students were told that the raffle drawing would be held the following week, so any prize could not be used to satisfy their current goals.

Those offered the raffle to win cigarettes were slightly more likely to purchase tickets when they had a high need to smoke than when they had a low need to smoke. This greater preference for a goal-related item when the goal is active than when it is inactive is called *valuation*. Of importance, students who were offered the raffle to win cash purchased tickets at a reasonably high rate when they had a low need to smoke, but rarely purchased tickets when they had a high need to smoke. This lower preference for a goal-unrelated item (cash) when the goal is active than when it is inactive is called *devaluation* (for more discussion, see Brendl et al. 2003; Markman & Brendl 2005).

This finding suggests that cash is not considered relevant to the goal of smoking when people have a high need to smoke. This result is consistent with the drug theory of money, for money is being treated as a specific entity that is relevant in particular circumstances. Other needs, such as smoking, can lead to devaluation of money. Had money been conceptualized motivationally as a tool, then it should have been perceived to be relevant to any situation in which it could be used to purchase an object that would satisfy an active goal. On the basis of evidence like this, we believe that money is treated as a drug in motivationally active states.

There are also cases in which money is conceptualized as a tool. One area where this view of money is obvious is in studies of taboos and social exchanges. As an example of a taboo, Tetlock et al. (2000) showed that people find it morally repugnant for a hospital to consider denying an expensive treatment to a patient in order to save money for another hospital project. Even considering the proposal taints the decision maker.

As a second example, McGraw and Tetlock (2005) describe varieties of social exchanges. Most transactions in our culture permit money to be used freely. Indeed, currency is the basis of our day-to-day purchases. Nonetheless, we have certain special relationships for which money is inappropriate. If a neighbor helps us to fix a flat tire, we can reciprocate by helping him or her to rake leaves in the yard, but not by paying them money. An offer of money for help from a neighbor would likely be seen as an insult. As another example, parents perform duties for their children without keeping track of the effort spent and with no expectation that the effort will be returned in like kind. Again, the idea that parents would receive payment for their services is strange.

Determining that it is inappropriate to offer money directly in exchange for human lives or in certain close social relationships rests on money being recognized as a tool. A significant component of the negative reactions to these situations arises because people do not wish to place these dimensions into the market economy where they can be traded against other goods and services for which money can be used.

These moral and social exchange situations involve psychological distance between money and the situation in which money is used. Most considerations of the taboo uses of money involve situations in which one is not actively engaged in the choice process itself. Indeed, most of the evidence obtained by Tetlock and his colleagues is done using vignette studies that assess people's reactions to hypothetical situations. Likewise, our social relationships are maintained in situations that do not have strongly active goals relating to exchanges. Thus, it is easier in these contexts than in motivationally active contexts to treat money conceptually as a tool.