

## Chapter 2

# Money: Metaphors and Motives

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**Abstract** This chapter provides a historical and personal account of the development of our understanding of the psychology of money over the past 30 years. Classical psychological theories (such as those of Freud and Skinner) are briefly considered, as is the characteristics approach to money before our more recent attempt to propose a tool/drug theory of money, and its subsequent reception, is described. The current state of the empirical literature on money is summarised, including a section on the research on money and happiness. We conclude that money is a tool and a drug, but that its efficiency as a tool creates its drug-like properties, and that it often provides us with pleasure without doing us any good.

### A Personal Introduction: Lea and Webley on Money

At irregular intervals throughout our long collaboration in economic psychology, we have tried to provide a comprehensive account of the psychology of money. Although all those efforts have involved an element of critical summary, both of the available empirical research in the psychology of money and of the existing theories about it, in each case we have sought to set out a theoretical framework that might help us understand the strange phenomenon of money.

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Our first attempt (Lea & Webley, 1981) was mainly a review of the classical psychological theories about money, from Freud (1959/1908) to Skinner (1974). But it looked forward to the idea that dominated our second attempt (Lea, Tarpy, & Webley, 1987, chapter 12), which was the idea that money is multiply symbolic, rather than being a monolithic entity at the psychological level. We sought to make that idea more concrete by interpreting the many different forms of money that exist in modern society, and the even greater variety that can be found by taking a historical and cross-cultural perspective, in terms of Lancaster's (1966) "characteristics" theory of demand. According to Lancaster, in a modern economy (or, to use Lancaster's term, a "sophisticated consumption economy"), the number of available goods vastly exceeds the number of distinct motives that people possess, and as a result, people can satisfy almost any combination of desires efficiently. Similarly, in a sophisticated financial economy, the number of different kinds of money vastly exceeds the number of different ways in which people want to use money, enabling people to find forms of money that exactly correspond to their personal mixture of needs for it. Conversely, in a "primitive consumption economy" an individual may have to acquire more of one characteristic than is desired in order to get enough of another, because there are a limited number of combinations available, and this would also be true in a primitive financial economy, where there may be only one or two forms of money. The coexistence of multiple forms of money (cash, bank accounts, credit and debit cards, gift tokens, etc.) in modern society is evidence that people do have different kinds of desires for money.

The problem with the characteristics approach to money is the same as the problem with the characteristics approach to goods; it provides no guidance on the list of underlying desires or needs that people might feel, or the underlying characteristics of either money or goods that might account for our demand for them by corresponding to our needs and desires. At best, therefore, it leads to a kind of botanising of wants, and at worst, it can allow for the arbitrary postulation of characteristics to explain any result, and thus has no predictive value whatever. For example, gift tokens have the characteristics of being less liquid than cash (they can only be spent in a particular shop or on a particular product) and embodying some (limited) thought on the part of the giver, but whether it is these characteristics or some others (such as, from a Freudian point of view, their greater distance from the faecal origin of money) that lead to our demand for them is uncertain (Webley, Lea, & Portalska, 1983).

There was an uncharacteristically long pause before our next attempt at a synthesis (Lea & Webley, 2006), although for almost half that time we were in one way or another working on that paper. Here we tried to overcome the potential arbitrariness of the characteristics approach to the multiple psychological nature of money, by specifying at a theoretical level what the different faces of money actually are. Posing the question as to how money comes to be such a potent incentive despite a total lack of biological foundations, we introduced a distinction between the actions of money as a tool and money as a drug.

Within the tool theory of money, we sought to capture all those ways in which money enables us to satisfy our biologically rooted needs and desires. In this view, money is essentially a means to an end. Just like a tool such as a lever, which

enables us to exert more force than we could with our bare hands, and so magnifies our abilities, so money helps us to exchange goods and store value more effectively. We can barter one food of which we have an excess for another which we don't possess, thereby meeting our biological need for particular nutrients, but money makes these kinds of exchanges much easier. Similarly we can store grain and goods to provide resources for our children in the future—but money passes on value through the generations much more efficiently. Few psychologists or economists would regard this account of money as problematic, though it should be noted that we do not have a coherent and defensible theory of how the tool account actually works—what psychological processes carry us from money's undoubted instrumental usefulness to its extraordinary incentive power (a power we were at pains to document, in the response section of our 2006 paper, in reply to a well-taken query by Furnham, 2006). There are many phenomena in modern society that are highly useful but do not seem to have much incentive power; undergoing dentistry is only the most obvious example.

Within the drug theory, on the other hand, we attempted to capture all those phenomena about money that are resistant to an instrumental account: situations where money fails to act as an effective incentive or reward, though logically (and in terms of economic theory) it certainly should, and situations where money has an attraction that seems to have no instrumental basis, or a greater attraction than is instrumentally explicable. We called this a drug theory because we were arguing that money was acting in the same way as undisputed drugs—pharmacological agents of satisfaction—do, stimulating the reward systems of the brain by means of shortcuts that subvert the adaptive purpose, and adaptational history, of those systems. Obviously there is a large gap from addictive substances such as nicotine, cocaine or caffeine to the irrational effects of money; but we argued that gap could be bridged by considering a range of other phenomena that do not involve drugs in the traditional sense but share the effect of subverting our reward systems—from artificial sweeteners such as saccharine to addictive behaviours such as gambling that are widely believed to produce endogenous opiates in the brain, so that there is a comprehensible mechanism by which they could subvert the brain's reward processes.

One of the main aims of the present chapter is to examine the subsequent history of our attempted synthesis. Before we do that, however, we need to reflect on the state of the evidence base, for our approach to understanding money has always been strongly empirically based.

## **The Expanding Empirical Literature on the Psychology of Money**

The starting point for our earliest attempt at a theoretical synthesis on the psychology of money (Lea & Webley, 1981) was just how little empirical work was available. Lacking modern computerised bibliographic aids, we did a simple count of the number of papers indexed under money in the most recent year of "Psychological

Abstracts”, which aimed at a comprehensive coverage of the world’s literature in psychology; we found 15, one of which dealt with the activities of foundations and many of which focused on the professional rather than research question of how psychotherapists could ensure that their clients paid their fees. While we were of course able to cite more empirical data than that, there was little to show for the 80 years during which economic psychology had been in the academic lexicon since the publication of Tarde’s (1902) treatise on the subject, at least as far as data that could inform a systematic and theoretically grounded account of the psychology of money was concerned. We had little data to draw on that had not been available to Simmel (1978/1900) in his essentially theoretical account, virtually contemporaneous with Tarde’s.

When we reviewed money for our text book of economic psychology (Lea et al., 1987, chapter 7), the situation had hardly changed; if we were able to draw on rather more data than we had in 1981, it was partly because we could report on some of the research we had ourselves been carrying out in response to the vacuum we had discovered, but mainly because we had stumbled on, or been alerted by colleagues, to a wider range of the published research that did in fact exist, little connected and little collected. Notable among this was research based on Foa’s (1971) resource exchange theory (which provides some support for a characteristics approach) and that from developmental psychology (which paints a picture of how children come to understand money). Foa (1971) and Foa and Foa (1980) proposed that there are six kinds of resource classes (money, information, status, love, services and goods) that people can be rewarded with, and that two dimensions underlie these—particularism and concreteness. Love is highly particular (it matters which particular people are involved in the exchange) whereas money is not. In Foa’s analysis, money was seen as closest to information and goods, and farthest away from love, though in Brinberg and Castell’s (1982) analysis of this structure, money was found as rather similar to love, as respondents considered money to be a particularistic resource. Developmental psychologists all reported a series of stages through which each child passed in becoming a competent user of money. At the first stage children could not understand the role of money in transactions: at an early intermediate stage children can understand immediate exchanges but not the divisibility of money—so if a candy cost 5 cents and a child only had a dime (10 cents) they could not buy the candy (Strauss, 1952). The final stage involves an understanding of all kinds of exchanges involving money, including understanding the notions of profit and investment.

Two decades later, as we put together the Lea and Webley (2006) paper, we faced a very different situation. Perhaps for the first time since Simmel, psychologists and other social scientists were beginning to pay serious and empirically driven attention to the sheer oddity of the psychology of money; two of the UK’s foremost social psychologists (Adrian Furnham and Michael Argyle) brought out a book with the title “The psychology of money” in 1998, though it is fair to say that they did not only intend a study of money in itself, but were also using it as a metaphor and an entry point for a consideration of the psychology of economic life in general. This book performed a valuable service by bringing together a very broad range of material, but was somewhat a-theoretical and eclectic, and perhaps in detail too British in focus.

The rapid growth in socio-economics and behavioural economics had led to theoretical or even experimental investigations of many of the questions we had raised as fascinating but unexplored possibilities in 1981 and 1987. A striking example is the issue of taboo transactions, on which in 1987 we could only offer a one-line speculation, but which by the mid-2000s had been extensively explored by psychologists (e.g. Fiske & Tetlock, 1997), sociologists (e.g. Zelizer, 1994) and economists; although the most authoritative collection of economists' views on "repugnant transactions" did not appear until after our synthesis (e.g. Roth, 2007), the economists' view that some widely discussed taboo transactions ought not to be taboo was already well known. Becker and Elias (2007), for example, who argue vehemently for allowing the purchase and sale of body organs for transplantation, first presented their analysis at a conference in 2002. Other lines of investigation owed more to economic psychologists in the strict sense; the impact of changing forms of money, which we touched on briefly in our 1987 treatment by way of a discussion of the UK's 1983 transition from a note to a coin for the £1 unit, was carried out much more thoroughly by an international collaboration of economic psychologists, when it came to the 2002 introduction of the euro in 12 European countries (see Pepermans, Burgoyne, & Müller-Peters, 1998). Additionally, a number of psychometric scales related to money were developed (e.g. Kidwell & Turrisi, 2004; Loix, Pepermans, Mentens, Goedee, & Jegers, 2005; Tang, 1995), enabling a rapid expansion in the systematic investigation of some aspects of money psychology.

Such a rapid expansion was perhaps only to be expected in a period when, as has been noted, economic psychology, socioeconomics and behavioural economics were all expanding and being pursued by better-known and better-connected academics, some of them with the ear of governments. Between the publication of our attempted synthesis of 2006 and the present, however, the empirical literature on the psychology of money has developed in a quite different and perhaps less predictable way.

Shortly after the appearance of our paper of 2006—but, in publication terms if not in the generation of the underlying research, in time to draw upon it—Vohs, Mead, and Goode (2006) published a paper that has become much cited and influential. It was the first of a long series of experiments from the Minnesota group (subsequently replicated and extended by many others) in which the primary manipulation was the activation of "the concept of money through the use of mental priming techniques, which heighten the accessibility of the idea of money but at a level below participants' conscious awareness. Thus, priming acts as a non-conscious reminder of the concept of money" (Vohs et al., 2006, p. 1154). This line of research in "money activation" has provided a rich stream of further information about the psychology of money, the more so because it is linked through the authors' other research interests with one of the most powerful (and economically relevant) ideas in current social psychology, the concept of self-regulation and its predictable failure (e.g. Baumeister, Bratslavsky, Muraven, & Tice, 1998).

In the 30-plus years since we began writing about the psychology of money, therefore, we have seen huge developments in empirical research. It is not just that economic psychology, the natural home for the psychology of money, has expanded as a specialism; nor is it only that empirical research on the effects of money on

human behaviour has spread into economics, through the media of behavioural economics and socio-economics. It is also the case that interest in money has become part of the mainstream of psychological thinking. Money is increasingly recognised for the massive and distinctive factor in the motives, feelings, thinking and behaviour of humans in modern societies that it is.

## Money and Happiness

A specific area where there has been a massive expansion of the literature on the psychological impacts of money has been in the study of the relationship between money and happiness. Although this literature has certainly contributed substantially to our understanding of the psychology of money, its development has not been due to the increasing interest in money on the part of psychologists, but to the steadily growing acceptance on the part not only of academics in a wide range of disciplines, but also of policy-makers, that people's subjective ratings of their happiness can be treated as reliable, valid and important data (Diener & Biswas-Diener, 2008; Krueger & Schkade, 2008; Lyubomirsky & Lepper, 1999). That acceptance has meant that the unexpected and even paradoxical relations between financial measures (typically, income and wealth, either at the individual or at the national level) and rated happiness have become powerful elements in the discussion of the psychology of money.

This is not the place to rehearse the frequently discussed paradoxes of the income-happiness relationship; they have been reviewed many times (e.g. David, Boniwell, & Conley Ayers, 2013; Easterlin, 1974; Layard, 2011). The key point is that people with higher income or wealth do not always rate themselves as happier than people with less, and the key arguments are about the circumstances under which the "obvious" positive relationship between money and happiness does, and does not, manifest itself. From our perspective, the important progress that has been made on this question is in clarifying (both for the academic community, and for the respondents in surveys) what we mean when we talk about happiness. For as long as there have been happiness studies, there has been some variation in whether we should talk about "happiness" or about "life satisfaction", and whether it matters (see Diener, Suh, Lucas, & Smith, 1999; Ryff, 1989 for opposing perspectives on this question). In our view, however, the important development in recent years has been the disaggregation of happiness into "experienced utility" and "decision utility", first proposed by Kahneman (2000), with experienced utility being measured on a moment-to-moment basis. It seems more or less unambiguous that, when happiness is measured using momentary measurement techniques such as the Day Reconstruction Method proposed by Kahneman, Krueger, Schkade, Schwarz, and Stone (2004), its relationship to money is negligible. If, on the other hand, people are asked to evaluate their overall happiness or life satisfaction, there sometimes is a relationship with income, though Kahneman, Krueger, Schkade, Schwarz, and Stone (2006) argue that even this is illusory, the result of survey instruments drawing respondents' attention to their financial situation before asking them about their life satisfaction.

The conclusion Kahneman and his colleagues have drawn, therefore, is that although money is a powerful incentive, possessing it, or having access to a steady stream of it, does not in practice cause us to spend time in activities that make us happier. That is hardly surprising when one considers that, according to data of Kahneman et al. (2006), the activities that have an above-median positive impact on happiness are intimate relations, socialising, relaxing, prayer, worship and meditation, eating, exercising and watching television—none of them activities requiring very substantial financial resources.

Part of the reason for the paradoxical relationships between money and happiness is that people appear to be exceedingly bad at predicting their future emotional states. The vicissitudes of such “affective forecasting” have been investigated extensively by Gilbert and his colleagues (e.g. Gilbert & Wilson, 2007). The capacity for mental time travel, often argued to be unique to humans (e.g. Suddendorf & Corballis, 1997, 2007) means that we are able to envisage how we would feel under future circumstances that we have not yet experienced—say, after receiving an increased income or purchasing a new consumer good or service—but it also seems that we are highly inaccurate in such estimations. This means that, even if money can in principle buy happiness, we will frequently spend it on the wrong things, so that the potential gains in happiness that money makes possible are never realised in practice.

In a commentary on Gilbert and colleagues’ position, as expressed by Dunn, Gilbert, and Wilson (2011), Vohs and Baumeister (2011) offer an entertaining alternative slant on the money/happiness relationship, or lack of it, with a paper entitled “What’s the use of happiness? It can’t buy you money”. This sounds as though it might turn the debate upside down, but in fact what they are seeking to do is to make it irrelevant, by arguing that we should not have expected money to make us happy in the first place, because that it is not what it is for. Rather, it enables us to pursue life goals in an autonomous way, without dependence on other people. That sounds like a whole-hearted endorsement of our tool theory, but in fact it is not, because Vohs and Baumeister then argue, on the basis of their extensive previous empirical research, that as a result the mere thought of money, or even unconscious priming with the idea of money, drives us in the direction of harder work, neglect of social relationships, ignoring pain, and a host of other effects that are direct modulations of our pain and pleasure in different activities—in other words what we would call drug effects.

But from our perspective, both Kahneman’s and Gilbert’s core arguments bear strongly on our original argument for a dual operation of money on human psychology. We would agree that there are ways of spending money that would increase people’s happiness, as Dunn et al. (2011) argue, and this once again confirms that money can be a useful tool; but we have to accept their conclusion that most people do not use it in instrumentally effective ways. Kahneman et al. (2006) point out that, despite the ineffectiveness of money at procuring happiness, people do many things that are calculated to increase their financial resources. Being a powerful incentive while making one, both from moment to moment and indeed overall, thoroughly miserable is a very apt description of many drugs of addiction. In our 2006 paper, we did not consider the money/happiness relationship at all, but in the light of these more recent data, it may be the most powerful argument yet for viewing money as a drug.



## Theorising the Psychology of Money

We have repeatedly stressed that our interest is in providing an empirically based psychology of money, not in theoretical speculation. But that is not to say that we wish to stay in the dustbowl of pure empiricism. Merely stacking up facts is nature study, not science. It is therefore crucial that we constantly use the available empirical information to construct and refine theories of the psychological impact of money and the psychological mechanisms driving humans' responses to money. That is what we were seeking to do with our tool/drug distinction, and a key question for us is whether new ways of theorising the psychology of money have developed since our 2006 article.

Other than some (limited) discussion of our own tool/drug idea, which we will review below, we see only two directions in which the theory of the psychology of money has been advanced in the past decade. These are first, the self-regulation approach of Vohs and Baumeister (2011), to which we have already referred in passing, and second, the neuro-scientific approach to money and behaviour. We will consider both in detail here.

Vohs and Baumeister propose that money acts to allow us to be more self-reliant (which sounds positive) and therefore to disengage from social relationships (which does not sound so positive). This generalisation offers a synthesis of a wide range of different phenomena caused by exposure to the idea of money or cues associated with money. These include reductions in physical pain or the distress due to social rejection (Zhou, Vohs, & Baumeister, 2009), increases in the amount of work people will do on puzzles—sometimes beyond what is actually useful for efficient solution (Vohs et al., 2006), and increases in the feelings of threat induced by others' attempts to exert social influence on one (Liu, Smeesters, & Vohs, 2012).

However, what makes this a theory of the psychology of money, rather than just a characterisation of its effects, is Vohs and Baumeister's repeated demonstrations that even unconscious exposure to the concept of money can shift people's feelings and behaviour in the direction of autonomy. This means that every kind of money-related behaviour is likely to be unexpectedly complex; whenever people plan to use money to achieve goals that could also be achieved in other ways, more will happen than the mere replacement of one tool (for want of a better word) by another. There will be a range of unintended consequence. For example, using money as a tool to achieve a specific goal (e.g. buying food) may unconsciously influence people in other directions such as becoming more autonomous (and therefore being less likely to share the food). This proposal therefore provides an account of, for example, the impacts of the monetisation of a transaction on the personal relations between the parties to that transaction. These have often been commented on, though less often subjected to empirical investigation, and we now turn to a review of recent work in this area.

We have already noted the heated debate that exists on the question of whether it is appropriate to monetise the procurement of blood for transfusions and organs for transplantation (for further discussion, see for example Campbell, Tan, & Boujaoude, 2012), but malign effects of monetisation have been argued for in many other spheres.



Ellingsen and Johannesen (2011) seek to explain the aversion to using money for some transactions, such as gifts, in terms of people's desire to appear generous.

Some of the discussions reviewed above are at least rooted in empirical investigations. However direct empirical tests of the impact of monetisation of transactions are fewer. There are some examples, however. The best known are probably the studies of DeVoe and colleagues. DeVoe and Iyengar (2010) showed that egalitarian distributions of resources that were seen as fair when physical goods were concerned were seen as unfair when the corresponding values were distributed as money. DeVoe and House (2012) demonstrated that inducing people to think of their income in terms of an hourly wage, thereby putting a price on time, reduced their pleasure in spending time on leisure activities, and DeVoe and Pfeffer (2007) showed that similar effects could be found using the natural variations in salience of hourly wage rates that arise from the different ways in which people are paid for jobs across the national economy. A number of studies of consumer preference have shown that activating ideas of time on the one hand, or money on the other, can change people's evaluations of product attributes. Mogilner and Aaker (2009), for example, using both field and laboratory experiments showed that activating time (vs. money) leads to a favourable shift in product attitudes and decisions. This occurs because time increases focus on product experience, and one's personal connection with the product. Similar results have been obtained by Lee, Bertini, and Ariely (2012). Estle, Green, Myerson, and Holt (2007) and Odum and Baumann (2007) have demonstrated that money rewards are subject to less severe temporal discounting than directly consumable rewards, even if the latter are not subject to deterioration. Jeffrey (2009) showed that non-cash incentives could be more effective in a work situation than the equivalent amount of cash, even though people stated a preference for the cash reward, and similar preference reversals can be found in laboratory experiments (e.g. Shaffer & Arkes, 2009). Although the analysis has not yet been done, all these effects are potentially explicable in terms of Vohs and Baumeister's self-reliance theory.

The other theory of the psychology of money that has been developed substantially during the past decade (though it may seem odd to refer to it as a theory) is the proposition that the psychological impacts of money can be accounted for by specifying the areas of the brain that money activates, as measured by fMRI and other brain-imaging techniques. The evidence here comes from the burgeoning science of neuroeconomics. So far as we know, a specific neuroeconomic theory of money has not yet been advanced, but it is implicit in the research programme of neuroeconomics that it could and perhaps should be.

It is an old debate in psychology, though new to economists, as to what has actually been explained if we are able to identify a part of the brain that is active (or inactive) when a particular psychological phenomenon occurs. Is an interest in such matters just crass reductionism, or is it the only account of mental phenomena that is worth having? For our part, we are mainly interested in psychological explanations of psychological phenomena; it is obviously necessary that the brain should cool the blood, but the details of how it does so are not necessarily interesting. As Clithero, Tankersley, and Huettel (2008) have argued, the potential gains

from neuroeconomics research are easily overstated. But we agree with Clithero et al. that the neural and social sciences can and should interact profitably. In particular, one kind of physiological evidence is always potentially interesting. If some phenomena involve activation in a particular brain area, and others involve activation in a different area, that implies that the two sets of phenomena belong to distinct systems, and are related within groups but differ between them.

Unfortunately, in neuroeconomics as in other branches of physiological psychology, such “double dissociations” between brain areas and behavioural effects form only a small minority of research findings, despite being recognised as the gold standard from an interpretative standpoint. Nonetheless, they are not entirely absent. Cory (e.g. 2006) has argued strongly, on neuroeconomics grounds, for the need to distinguish self-preservational, egoistic from affectional, empathetic neural circuitries, and that these two systems are associated with dual motives that can be detected in people’s exchange behaviour.

There are other neuroeconomic data that provide at least some insight into the psychology of money, even if they do not meet the exacting standard of reporting double dissociations. For example, Bourgeois-Gironde and Guille (2011) and Weber, Rangel, Wibral, and Falk (2009) have demonstrated that the overvaluation of high nominal money values that is characteristic of the money illusion (Shafir, Diamond, & Tversky, 1997) is reflected in unexpectedly high levels of activity in the ventromedial prefrontal cortex (part of the brain’s reward circuitry). Dohmen, Falk, Fliessbach, Sunde, and Weber (2011) have shown that relative as well as absolute income changes produce direct effects on the reward system.

Of course, these are not the only theories of money that are in current use. The earlier theories, which we summarised in our 1981 paper and our 1987 book, are still current. Some of our earlier conclusions are, too; for example, in constructing scales of the emotional significance of money, Furnham, Wilson, and Telford (2012) made extensive use of Goldberg and Lewis’s (1978) analysis, which is close to the multiple-symbolism approach we used earlier.

## **Developments in the Tool/Drug Theory**

Given that there is relatively little new theory within the psychology of money, we need to ask how useful our tool/drug account has been. Our 2006 paper has been quite widely cited, though perhaps more because it provided a useful summary of non-instrumental uses and impacts of money than because the citing authors endorse our synthesis of those phenomena.

Of course, no-one seeks to deny the “tool” aspect of the analysis; that much has always been unproblematic, though as we noted above, the exact cognitive and developmental mechanisms by which we come to use money as a tool so effectively have not been explored in great depth, and really only additional detail has been added to what was known as long ago as our 1987 summary. We know more, for example, about how the social context influences children’s understanding of money

and its origins and how social practices with respect to children and money have changed in recent decades (Webley & Nyhus, 2013), but the basic picture of children mastering the understanding and use of money via the ascension of a set of Piagetian stages remains the same, probably because developmental researchers have taken a conventional view of money for granted. Given the absence of much concern with “tool” mechanisms, the question, therefore, is whether it is useful to think of money as in any sense a drug.

Zhou and Gao (2008) made extensive use of the tool/drug theory in their analysis of money’s use, alongside social support, in the management of pain. This is an interesting application because it interacts strongly with the Vohs-Baumeister self-reliance theory of the psychology of money. Zhou and Gao see money and social support as essentially complementary in pain management, and as noted above, Zhou et al. (2009) have subsequently shown that even unconscious triggers of the money concept can directly reduce both physical pain and the distress from social exclusion.

But it should perhaps be no surprise that the drug account of money has been picked up most extensively among those working on addictions to other substances or activities. Indeed, the most vehement criticism of our ideas among the original commentaries on our 2006 article came from an addiction perspective. Ross and Spurrett (2006) argued that the idea of money as a drug was a functionally empty metaphor and that the distinction between tool-like and drug-like motivators is insufficiently discriminating to say much about money that is useful. However other experts on addiction have found the distinction persuasive. For example, Blaszczynski and Nower (2010) used the tool/drug distinction as a way of discriminating the attitudes of problem gamblers from those of non-problem gamblers: the former reported obsessions with money as an indicator of prestige and power whilst having much greater anxiety about money. This analysis was carried through into their specific investigation of slot machine abusers (Nower & Blaszczynski, 2010) where the more severe gambling problems were, the less likely an individual was to set a spending limit before gambling. Chen, Dowling, and Yap (2012) have continued this line of analysis.

What is needed here is to go beyond the metaphor and develop a theory which specifies the processes and mechanisms which underpin the drug aspects of money. Without this, there is a danger that, like the characteristics approach, it can be used to explain any result but predict none.

## Conclusions

What conclusions can we draw from this, our latest decennial survey of the psychology of money? In particular, what progress has been made since our most recent look at the topic, Lea and Webley (2006)?

The most obvious is that the psychology of money is no longer a private obsession that we share with almost no-one else (as witness the wide-ranging research

on this topic described in the other chapters of this book). It is now accepted by many psychologists that money is psychologically complex and interesting, and by many economists that money has effects that go beyond the instrumental. The question, as ever, is how to characterise those non-instrumental effects.

The springboard for our 2006 paper was a biological paradox: money is an enormously powerful reinforcer (in the Skinnerian sense), but has no obvious evolutionary roots. We might be a little more cautious now than we were in 2006 about the impossibility of humans being adapted to work with money: Laland, Odling-Smee, and Myles (2010) have documented large numbers of instances where the human genome has altered, over relatively short time periods, as a result of co-evolution with cultural traits. But the ethnographic evidence is against the idea that money is an example of this co-evolutionary process: people with no previous experience with money pick up, with apparent ease, not just the skills required to use it, but also the fascination with it that characterises monetised societies.

Our drug metaphor was not neutral. Drugs are deceivers: they provide pleasure without doing us good, in the evolutionary, adaptive sense of good. It has become clearer in the past decade that money, too, is a deceiver. We do not, by and large, use it to procure the activities that would make us happy, and the pursuit of money tends to prevent us spending time on happiness-inducing activities. Of course, we could use money to secure the opportunities for enjoyable activities, though the amount of money needed to get an adequate amount of them is not very large. Money is, after all, a tool as well as a drug, and it could be a very efficient tool. Perhaps the problem is that its efficiency as a tool also creates its drug-like properties, and it may be providing us (individually and collectively) with pleasure without doing us good, in the widest sense of the term.

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