

## Payment Cards and Consumerism in the Age of AI: towards a Mediation Account

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### Abstract

We sometimes assume that technologies simply do what they are designed to do. Technology, however, brings new opportunities and risks into the world that would not have been possible otherwise. It often leads to effects that are unintended and/or unforeseen and exceed our primary intentions. It shapes environment, society, and even our own self-understanding. In this paper, we offer an account of one such technology, namely payment cards (and other related payment technologies), which are an important step in the direction of cashless society and Internet of Things. While conveniently facilitating the process of payment, these cards have been shown to promote consumerism, impulsive spending, and, in some extreme cases, may even contribute to the development of a mental dysfunction known as 'Compulsive Buying Disorder'. In our applied philosophy essay, we employ the concept of technological mediation from the postphenomenological tradition, which highlights the role of artifacts themselves going beyond their merely instrumental value.

**Keywords:** Payment card, consumerism, Compulsive Buying Disorder, mental health, public health, mediation, Internet of Things, Postphenomenology, Don Ihde

### Introduction

Life in our age has taken a new shape. Technology is so ubiquitous that one may hardly find any aspect of life where technology is absent. Almost every dimension of our life is technological, so to speak. We live in human-made houses, eat human-made foods, communicate with others through human-made devices and so forth. We barely encounter the natural world directly. This is true of simple technologies, such as glasses and bicycles and even more so of smart ones with sophisticated electronics gradually integrated into vast interacting AI-powered Internet of Things. This human-made world is not neutral. We have formed it but it in turn forms us in terms of exerting influence on our habits, behaviours, perceptions, decisions, and, more broadly, our relationship with the environment. Although scholars have yet to reach a consensus on how best to study the impacts of technology or how to conceptualise its role, there is widespread agreement that technology often generate unintended and unforeseen consequences.

Philosophers of various backgrounds and traditions have strived to understand the role of

technology in a systematic way. While many philosophers try to provide a general description of technology and ignore the differences between various technologies, one of the traditions, so-called postphenomenology, emphasise the need to avoid sweeping generalisations about technology. Instead, it seeks out to bring those specific facets of particular artifacts into philosophical attention.<sup>1</sup> Postphenomenology furthermore provides a framework within which one may study any artifact in a specific and distinct way. Every particular artefact *mediates* our experience and human-environment relationship in its own specific way and thus calls for an independent study. In this paper we focus on one such artefact, namely payment cards and, more broadly, other novel tools of payment.<sup>2</sup> We are specifically addressing this artefact as a plausible contributing factor in the development of consumerism, overspending, sometimes escalating into compulsive buying behaviours that may manifest in some extreme cases as a psychiatric condition, called Compulsive Buying Disorder (CBD).<sup>3</sup> The topic is of interest in its own right but possibly even more in times of an increasing call for a cashless society,<sup>4</sup> powered by AI and interconnected through the Internet of Things (IoT).

It goes without saying that there are many benefits of payment cards such as convenience, security, impact on public health<sup>5</sup> and economic growth.<sup>6</sup> However, as we have learned already from Plato in *Phaedros*, who warned of the negative impact of inventing the technology of writing on memory and philosophical enquiry, with every new technology there are not just positive but also negative consequences. As applied philosophers, we should attempt to understand both and consider ways of maximising the good and minimising the bad ones. This is even more true when it comes to novel, disruptive technologies, such as recently computers, robots, internet, autonomous vehicles, dating apps, and so on. While we appreciate *positive* ambitions of some companies to offer the possibility of ‘ordering and paying by thought and delivering by teleportation’, we would also like to draw attention to likely *negative* aspects of certain indispensable components of this vision, in particular payment cards and other contemporary forms of cashless payment.<sup>7</sup>

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- 1 In this paper, we use the terms ‘artefacts’ and ‘technology’ interchangeably. By these terms, we refer broadly to entities brought into existence through human effort, as opposed to those that arise naturally or exist as brute facts of nature. Some postphenomenologists, such as Peter-Paul Verbeek, resist drawing a strict distinction between humans and artefacts. For critical evaluation, see Ehsan Arzroomchilar and Daniel D. Novotný, ‘Verbeek on the Moral Agency of Artifacts’, *Organon F* 25, no. 4 (2018): 517–538.
  - 2 We do not address here the distinction between debit and credit cards, as both are typically designed to function in ways that are largely indistinguishable for most end-users; except, perhaps, that credit cards may offer even greater possibilities for overspending.
  - 3 We are aware that there is an ongoing controversy in psychiatry and philosophy of psychiatry concerning the definition and even the very existence of some personality disorders, such as CBD. See, e.g., Peter Zachar and Robert F. Krueger, ‘Personality Disorder and Validity: A History of Controversy’, in *The Oxford Handbook of Philosophy and Psychiatry*, ed. K. W. M. Fulford et al. (Oxford: Oxford University Press, 2013), 889–910. A comprehensive discussion of the distinctions between consumerism, excessive-shopping traits, compulsive buying, behavioural addictions, CBD, and related concepts would lead us into a broad and contentious interdisciplinary debate, one that exceeds the scope of this paper. Our aim here is more modest: to address payment tools cash/card with respect to consumerism and its related phenomena, ranging from subclinical patterns observable in the general population to their more severe manifestations, including CBD. See, e.g., Donald W. Black ‘Compulsive Buying Disorder: Definition, Assessment, Epidemiology and Clinical Management’, *CNS Drugs* 15, no. 1 (2001): 17–27; Donald W. Black, ‘A Review of Compulsive Buying Disorder’, *World Psychiatry* 6, no. 1 (2007): 14–18. For more, see also below the section 3.
  - 4 Some countries and territories come to be close to completely cashless already, esp. Scandinavian and East Asian. For economic evaluation, see, e.g., Yukinobu Kitamura, *Quest for Good Money: Past, Present and Future* (Singapore: Springer Nature, 2022), 125–151.
  - 5 Paper money and coins are known vectors of various pathogens. Fomites contribute not only to the spread of SARS-CoV-2, where this seems to be a rather minor way of transmission route during the recent pandemic, but also to the spread of numerous other viruses, such as influenza viruses, noroviruses, rhinoviruses, rotaviruses, and hepatitis A virus, as well as bacteria, such as *Staphylococcus aureus*, *Escherichia coli*, and *Salmonella*. See Emmanouil Angelakis et al., ‘Paper Money and Coins as Potential Vectors of Transmissible Disease’, *Future Microbiology* 9, no. 2 (2014): 249–261.
  - 6 For a study on economic growth, see, e.g., Mark Zandl, Virendra Singh, and Justin Irving, ‘The Impact of Electronic Payments on Economic Growth’ (Moody’s Analytics, 2013), <https://usa.visa.com/dam/VCOM/download/corporate/media/moodys-economy-white-paper-feb-2013.pdf>. One may also investigate the positive and negative impact on natural environment; these are, however, difficult to measure and remain understudied.
  - 7 ‘Ordering by Thought and Delivering by Teleport’ is a motto of the Czech e-commerce company Alza.cz. Even easier ways to pay would

Regarding the negative aspects, we do not address all potential concerns surrounding payment cards; instead, we limit our focus to issues of consumerism, compulsive buying, and, more speculatively, CBD. There are serious issues of privacy and security that have their technical, economic, and also ethical aspects but we set them aside here. We only aim to provide an account of the phenomenon of consumerism and compulsive buying associated with card payment method. We also suggest a direction in which our account may help to find ways to better cope with excessive consumerism (and perhaps CBD as well).

We call our account a ‘mediation account’ because it is inspired by postphenomenological tradition for which the concept of mediation is central.<sup>8</sup> Our core claim is that mediation of payment card differs from cash primarily by its *material* manifestation which makes cards as if *transparent* in themselves allows them to withdraw from the user’s awareness. This transforms them into a sort of veil that hides the value being spent on goods and might bring about irresponsible and impulsive behaviour. Perhaps somewhat paradoxically, cash, thanks to its *physical* properties, draws attention to itself and hence also to the value it represents; in this way it invites to a different, a more responsible and less impulsive behaviour. Put differently, the inherent characteristics of cash, on the one hand, and payment cards, on the other, cultivate distinct ways in which consumers relate to their environment, namely, to the products they purchase. This, in turn, gives rise to different patterns of consumption. While payment cards and other ‘pure’ means of value transactions have many advantages, we show that ‘material’ aspects of payment systems need to be preserved in some way and to some degree as well.<sup>9</sup>

We proceed as follows. In sections 2 and 3 we briefly introduce payment cards and compulsive buying (in its more extreme form of CBD) to provide a context for our mediation account. In section 4 we will sketch our general framework inspired by the postphenomenological tradition by which we may come to an understanding of the phenomenon of payments and compulsive buying. In sections 5 and 6 the most important step will be taken, and we will bring philosophical grounds of two competing methods of payments to the fore, namely cash versus card payment. Here we will provide an explanation of how payment cards may promote a consumerist and compulsive behaviour in buyers. In the last section, we will discuss how we may come to a balance when it comes to incorporating advantages of both payment methods while minimising their disadvantages.

As already noted, this paper is primarily an essay in applied philosophy. Our aim is to outline a plausible research programme that builds on existing empirical findings without undertaking that empirical work ourselves and/or systematically comparing it to potentially competing explanations

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be implanted nanochips that would enable payments. There is a growing demand for implant nanochips in some countries such as Sweden and perhaps soon they may be used for payment too. See, e.g., Lauren Chadwick and Ric Wasserman, ‘Will Microchip Implants Be the Next Big Thing in Europe?’ *Euronews*, May 12, 2020, <https://www.euronews.com/2020/05/12/will-microchip-implants-be-the-next-big-thing-in-europe>.

8 We could also call it a ‘postphenomenological account’, but we are not committed to some of the claims made by postphenomenologists, such as pragmatism and what they call anti-essentialism. Our understanding of essentialism differs from that of postphenomenologists, but we cannot deal adequately with this issue here. See, e.g., Daniel D. Novotný and Lukáš Novák, eds., *Neo-Aristotelian Perspectives in Metaphysics* (New York: Routledge, 2014). At any rate, we consider some of the assumptions of postphenomenologists as neutral with respect to our current project. Also, we are aware that there are other accounts of mediation besides the phenomenological one. For more on mediation and postphenomenology see, e.g., Don Ihde, *Technology and the Lifeworld: From Garden to Earth*. Bloomington: Indiana University Press, 1990; Robert Rosenberger and Peter-Paul Verbeek, eds., *Postphenomenological Investigations: Essays on Human-Technology Relations* (Lanham, MD: Lexington Books, 2015); Jochem Zwier, Vincent Blok, and Pieter Lemmens, ‘Phenomenology and the Empirical Turn: A Phenomenological Analysis of Postphenomenology’, *Philosophy & Technology* 29, no. 4 (2016): 313–333.

9 One of the anonymous referees noted that the contrast between cash and payment cards is not strictly binary, since payment cards also possess physical characteristics, and cash itself may, under certain conditions, become somewhat transparent and similarly conducive to consumerist behaviour. We agree with this observation and are pleased to make the point explicit. The contrast, as we intend it, is a matter of degree and must be understood within the broader context of socio-technical networks and environments. It remains real, nevertheless.

in various disciplines such as social psychology, behavioural economics, neuroeconomics, etc.<sup>10</sup> Undertaking such work would require a broader research team, which we leave for future projects. We now turn to a brief general account of the phenomena of payment cards (section 2) and of consumerism and CBD (section 3).

## Payment Cards

Payment cards represent a noteworthy innovation in the history of money.<sup>11</sup> They too, serve the four functions famously identified by William Jevons in *Money and the Mechanism of Exchange* (1875): as a medium of exchange, a common measure, a standard, and a store of value. They appear to many users, however, as a convenient and attractive alternative to *cash*, i.e., banknotes and coins, since they are smaller, easier to carry, and usually more secure.

The modern history of cashless payments has been traced to Northern America in 1800s. It is reported that ‘during westward expansion, merchants would use credit coins and charge plates to extend credit to local farmers and ranchers, allowing them to forgo paying their bills until they harvested their crops or sold their cattle.’<sup>12</sup> At the beginning of the twentieth century some stores and companies began to issue ‘store cards’. Gradually, countless contributions by inventors and companies throughout the twentieth and twenty-first century led to the development of the current system of payment cards. Here are some of the milestones<sup>13</sup>:

- 1946 John C. Biggins, of Flatbush National Bank of Brooklyn, NY, created a system called *Charg-It*, which is considered to be the first payment card.
- 1950 Diners’ Club card has is able to show credit to the participating stores.
- 1959 American Express introduces a plastic card.
- 1972 Lloyds Bank introduces information-encoding magnetic strip and the personal identification number (PIN) for security.
- 1973 Atalla Technovation develops hardware security module (HSM) with microchips,

10 In fact, we do not even attempt to survey all the major approaches in applied philosophy. Among the perspectives that appear especially promising to us are virtue-ethical frameworks and contemporary accounts of well-being. Within these approaches we could raise questions such as: What kinds of technomoral virtues are required for flourishing in a predominantly cashless society? Are these virtues distinct from those cultivated in societies that relying on other forms of payment? And how might prevailing conceptions of well-being shift as individuals and communities transition from cash to digital or cashless environments? Here are some examples of virtue-ethical approaches applied to other emerging technologies. Autonomous vehicles: Soraj Hongladarom and Daniel D. Novotný, ‘Autonomous Vehicles in Drivers’ School: A Non-Western Perspective’, in *Autonomous Vehicle Ethics: The Trolley Problem and Beyond*, ed. Ryan Jenkins, David Černý, and Tomáš Hříbek (Oxford: Oxford University Press, 2022), 99–113; Love- and Sexrobots: Cécilia Andrée Monique Lombard and Daniel D. Novotný, ‘Aristotle and Sartre on Eros and Love-Robots’, *Open Philosophy* 8, no. 1 (2025), <https://doi.org/10.1515/opphil-2025-0065>. For comprehensive virtue-ethical account regarding technology in general, and AI in particular, the best way to start is with Shannon Vallor’s books *Technology and Virtues: A Philosophical Guide to a Future Worth Wanting* (New York: Oxford University Press, 2016) and : *AI Mirror: How to Reclaim Our Humanity in an Age of Machine Thinking* (New York: Oxford University Press, 2024). Vallor’s work offers valuable resources for thinking about the cultivation of moral character in technologically saturated environments. We see our mediation account as complementary, not competing to virtue ethics.

11 For a more general introduction to various metaphysical, epistemological, and ethical issues concerning money, see Boudewijn de Bruin et al., ‘Philosophy of Money and Finance’, in *The Stanford Encyclopedia of Philosophy* (Winter 2018 Edition), ed. Edward N. Zalta, <https://plato.stanford.edu/archives/win2018/entries/money-finance/>.

12 Jan MacDonald and Taylor Tompkins, ‘The History of Credit Cards’, *CreditCards.com*. Accessed July 14<sup>th</sup>, 2020. <https://www.creditcards.com/credit-card-news/history-of-credit-cards/>; See also Merrill Fabry, ‘Now You Know: What Was the First Credit Card?’ *Time*, October 19<sup>th</sup>, 2016, <https://time.com/4512375/first-credit-card/>.

13 For more on the history, see Lewis Mandell, *The Credit Card Industry: A History* (Boston: Twayne Publishers, 1990); David S. Evans and Richard Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing* (Cambridge, MA: MIT Press, 1999); and Bernardo Bátiz-Lazo and Leonidas Efthymiou, *The Book of Payments: Historical and Contemporary Views on the Cashless Society* (London: Palgrave Macmillan, 2016). See also the Wikipedia entry ‘payment card’ ([https://en.wikipedia.org/wiki/Payment\\_card](https://en.wikipedia.org/wiki/Payment_card)) for useful links and bits and pieces of history and technical details.

- used for secure financial transactions e.g. at ATMs.
- 1990 EMV (Europay, Mastercard, and Visa) chips technology created.
- 2008 Apple creates the virtual wallet that makes mobile devices to function as payment cards.

There are other security and insurance features developed to dispel the subjective mistrust of potential users and to objectively decrease the probability of misuse. Here, however, we are not concerned with the detailed history of technical and commercial developments but rather with an impact on human experience once cashless technology becomes widespread. As we have mentioned, the use of payment cards is increasing, with calls for entirely cashless societies. Although only few countries consider this step the trend is clear and payments cards will not go away any time soon.<sup>14</sup> On the contrary, cashless payments, whether by plastic cards or through increasingly advanced IoT technologies, will continue to expand and evolve.<sup>15</sup>

## Consumerism and Compulsive Buying

Shopping is an aspect of consumerist behaviour that may in some extreme cases lead to compulsive buying and even compulsive buying disorder. Today changes in the lifestyle have increased the complexity of the consumption patterns which results in an environment in which there are plenty of causes promoting compulsive purchasing. When the activity of shopping becomes a strong irresistible impulse with adverse consequences for the overall well-being, we speak of oniomania, from Greek ὄνιος (*ónios*) ‘for sale’ and μανία (*mania*) for ‘insanity’.<sup>16</sup> It is a personality trait that in plain words indicates that someone experiences an impulsive feeling to excessive shopping and overspending money. Currently, this trait is in its extreme form commonly conceptualised as a personality disorder. In ICD-10 (F63.8), it is coded as an ‘impulse control disorder, not otherwise classified’.<sup>17</sup>

There is no consensus on the precise definition of the disorder.<sup>18</sup> Some attempts at definitions or rather characterisations include:

- ‘an irresistible–uncontrollable urge, resulting in excessive, expensive and time-consuming retail activity [that is] typically prompted by negative affectivity’ and results in ‘gross social, per-

14 For a future of money, see, e.g., David Wolman, *The End of Money: Counterfeiters, Preachers, Techies, Dreamers—and the Coming Cashless Society* (Boston: Da Capo Press, 2012).

15 ‘The availability of Internet of Things (IoT) devices and data is driving development of advanced payments services. More than 30 billion IoT devices are connected to the internet today, and that number is expected to grow to 44 billion by the end of 2021. The advent of 5G and its ability to connect billions of IoT devices more seamlessly will drive consumers to become hyper-connected and digital-first, which in turn will lead to the emergence of innovative new products and services’ Mastercard, ‘How IoT Will Shape the Future of Payments’ (Global Open Network Whitepaper, 2021), <https://www.mastercard.com/news/media/wddjfrhn/how-iot-will-shape-the-future-of-payments.pdf>.

16 The German Jewish physician Max Nordau (1849–1923) traces the term to the French psychiatrist Valentin Magnan (1835–1916): ‘Magnan declares it to be a stigma of degeneration, and has invented for it the name ‘oniomania,’ or ‘buying craze.’ This is not to be confounded with the desire for buying, which possesses those who are in the first stage of general paralysis. The purchases of these persons are due to their delusion as to their own greatness. They lay in great supplies because they fancy themselves millionaires. The oniomaniac, on the contrary, neither buys enormous quantities of one and the same thing, nor is the price a matter of indifference to him as with the paralytic. He is simply unable to pass by any lumber without feeling an impulse to acquire it.’ Max Nordau, *Degeneration*, trans. Howard Fertig (New York: Fertig, 1968, first published 1896).

17 Black, ‘Compulsive Buying Disorder’, 17–27. Some authors argue that it is a variety of dependence disorder Bernhard Croissant and Daniela Croissant, ‘Kaufsucht – Aktuelle Überlegungen zur Klassifikation und Therapie’, *Der Nervenarzt* 78, no. 5 (2007): 575–579.

18 See, e.g., Richard J. Harnish and Kenneth R. Bridges, ‘Compulsive Buying: The Role of Irrational Beliefs, Materialism, and Narcissism’, *Journal of Rational-Emotive and Cognitive-Behavior Therapy* 33 (2015): 1–16.

sonal and/or financial difficulties<sup>19</sup>

- ‘a behavioural addiction characterised by irresistible, intrusive, and senseless preoccupations to buy items, coinciding with uncontrolled buying episodes that lead to significant social or economic problems’<sup>20</sup>
- ‘a condition when consumers have the tendency to conduct repetitive buying excessively and display a shortfall of impulse control over buying.’<sup>21</sup>

Systematic medical preoccupations with this disorder are traced to Emil Kraepelin’s textbook (1924).<sup>22</sup> There was little progress, however, in the understanding this disorder as it stood at the fringes of the medical research until about thirty years ago.<sup>23</sup>

It is estimated that around 5% of the population in the developed countries suffer from CBD to the differing degrees.<sup>24</sup> Research into this phenomenon has explored the factors which may cause or be associated with compulsive buying behaviour. For instance, Achtziger et al. show that lower levels of self-control are associated with higher levels of compulsive buying.<sup>25</sup> Another research shows that hedonic motives are related to compulsive buying.<sup>26</sup> A research also shows an association between self-congruence as the driver of compulsive buying.<sup>27</sup> Brand attachment too, is considered to provide firms with positive consequences.<sup>28</sup> The list goes on to include many other items. It is thought that CBD is associated with high levels of anxiety and stress,<sup>29</sup> high levels of narcissistic values,<sup>30</sup> rigidity aspects of irrational beliefs,<sup>31</sup> high levels of materialistic values and

19 Stephen Kellett and J. Veronica Bolton, ‘Compulsive Buying: A Cognitive-Behavioural Model’, *Clinical Psychology and Psychotherapy* 16, no. 2 (2009): 83–99.

20 Gemma Mestre-Bach, Trevor Steward, Susana Jiménez-Murcia, and Fernando Fernández-Aranda, ‘Differences and Similarities Between Compulsive Buying and Other Addictive Behaviors’, *Current Addiction Reports* 4 (2017): 228–236.

21 Arnold Japutra, Yuksel Ekinci, and Lyndon Simkin, ‘Tie the Knot: Building Stronger Consumers’ Attachment toward a Brand’, *Journal of Strategic Marketing* 26, no. 3 (2018): 223–40.

22 Kraepelin, Emil, *Psychiatrie. Ein Lehrbuch für Studierende und Ärzte* (Leipzig: Barth, 1924).

23 Black, ‘Compulsive Buying Disorder’, 17–27.

24 Aniko Maraz, Mark D. Griffiths, and Zsolt Demetrovics, ‘The Prevalence of Compulsive Buying: A Meta-Analysis’, *Addiction* 111, no. 3 (2016): 408–419. Although the term ‘compulsive buying disorder’ is no longer included in the last version of DSM, namely DSM-5 (American Psychiatric Association, 2013), it does not imply that CBD is not considered ‘disorder’ anymore. For one thing, even within the DSM-5, CBD seems to be recognised, in a tacit way though, where the domain of compulsive ‘buying’ seems to be extended into ‘hoarding’ disorder. Hoarding disorder, as the book indicates is a new subject which is treated under the label ‘Obsessive-Compulsive and Related Disorders’. See, e.g., the end of the publication under the heading ‘Highlights of Changes From DSM-4 to DSM-5’. The inclusion of CBD into the broader category of ‘hoarding disorder’ is discernible, more explicitly, where we read (Hoarding Disorder, 300.3 (F42)): ‘Approximately 80%-90% of individuals with hoarding disorder display excessive acquisition. The most frequent form of acquisition is excessive buying, followed by acquisition of free items’. For another evidence of CBD to be taken as a disorder, one may notice the huge bulk of work in the psychology literature, even after release of DSM-5, where the debate of CBD is still going on.

25 Anja Achtziger et al., ‘Debt Out of Control: The Links Between Self-Control, Compulsive Buying, and Real Debts’, *Journal of Economic Psychology* 49 (2015): 141–149.

26 Monika Kukar-Kinney, Angeline Close Scheinbaum, and Tobias Schaefer, ‘Compulsive Buying in Online Daily Deal Settings: An Investigation of Motivations and Contextual Elements’, *Journal of Business Research* 69, no. 2 (2016): 691–699.

27 Arnold Japutra, Yuksel Ekinci, and Lyndon Simkin, ‘Self-congruence, brand attachment and compulsive buying’, *Journal of Business Research* 99 (2019): 456–463

28 Matthew Thomson, Deborah J. MacInnis, and C. Whan Park, ‘The Ties That Bind: Measuring the Strength of Consumers’ Emotional Attachments to Brands’, *Journal of Consumer Psychology* 15, no. 1 (2005): 77–91; Hans Ruediger Kaufmann, Dan Alex Petrovici, Cid Gonçalves Filho, Adriano Ayres, ‘Identifying moderators of brand attachment for driving customer purchase intention of original vs counterfeit luxury brands’, *Journal of Business Research* 69, 12 (2016): 5735–5747; Japutra et al. ‘Tie the knot’, 223–240.

29 Black, ‘Compulsive Buying Disorder’, 17–27; Nancy M. Ridgway, Monika Kukar-Kinney, and Kent B. Monroe. ‘An Expanded Conceptualization and a New Measure of Compulsive Buying’, *Journal of Consumer Research* 35 (2008): 622–639; Richard J. Harnish, Kenneth R. Bridges, Joshua T. Gump, and Amanda E. Carson, ‘The Maladaptive Pursuit of Consumption: The Impact of Materialism, Pain of Paying, Social Anxiety, Social Support, and Loneliness on Compulsive Buying’, *International Journal of Mental Health and Addiction* 17 (2019): 1401–1416.

30 Harnish and Bridges, ‘Compulsive Buying’, 1–16.

31 Harnish and Bridges, ‘Compulsive Buying’, 1–16.

materialism<sup>32</sup> and high levels of substance use and eating disorders.<sup>33</sup> Self-attitudinal aspects of body image too, have been shown to be associated with compulsive buying.<sup>34</sup> Hui-Yi Lo and Nigel Harvey conducted research during which they realised that the use of payment cards rather than cash while shopping may contribute to the phenomenon of overspending, consumerism, and CBD.<sup>35</sup> In general, individuals with compulsive buying tendencies consistently demonstrate low levels of self-esteem and well-being.<sup>36</sup>

With payment cards and compulsive buying now introduced, we can turn to the theoretical framework of mediation.

## Mediating Role of Technology

Postphenomenology is primarily concerned with the study of *relations* between human beings and the world as mediated by technology.<sup>37</sup> As one of its main originators, Don Ihde (1934–2024) argues, the human–world relation is, in most cases, in fact a *human–technology–world* relation.<sup>38</sup> Crucially, technology is far from neutral; it functions as a mediating force that fundamentally restructures how human beings relate to their environment.<sup>39</sup>

Technology mediates perception. For example, a multisensory, embodied encounter between practitioner and client may be transformed into a predominantly unisensory, auditory interaction when conducted via telephone. What is given in perception, i.e., tone, gesture, bodily presence, spatial atmosphere, is altered through technological mediation.

32 Helga Dittmar, 'Compulsive Buying—A Growing Concern? An Examination of Gender, Age, and Endorsement of Materialistic Values as Predictors', *British Journal of Psychology* 96 (2005): 467–491; Harnish and Bridges, 'Compulsive Buying', 1–16.

33 Black, 'Compulsive Buying Disorder', 17–27; Ridgway et al., 'An Expanded Conceptualization', 622–639; Richard J. Harnish, Joshua T. Gump, K. Robert Bridges, Frederick J. Slack, and Karen M. Rottschaefer, 'Compulsive Buying: The Impact of Attitudes Toward Body Image, Eating Disorders, and Physical Appearance Investment', *Psychological Reports* 122, no. 5 (2019): 1632–1650.

34 Harnish et. al., 'Compulsive Buying: The Impact of Attitudes', 1632–1650.

35 Hui-Yi Lo and Nigel Harvey, 'Shopping without pain: Compulsive buying and the effects of credit card availability in Europe and the far east', *Journal of Economic Psychology* 32 (2011): 79–92.

36 Alishia D. Williams, 'Quality of Life and Psychiatric Work Impairment in Compulsive Buying: Increased Symptom Severity as a Function of Acquisition Behaviors', *Comprehensive Psychiatry* 53, no. 6 (2012): 822–828; Dittmar, Helga, Richard Bond, Mark Hurst, and Tim Kasser, 'The Relationship Between Materialism and Personal Well-Being: A Meta-Analysis', *Journal of Personality and Social Psychology* 107 (2014): 879–924; Harnish et al., 'Maladaptive Pursuit of Consumption', 1401–1416.

37 Concerning the notion of mediation: in both philosophical and non-philosophical literature, the term is used in a variety of ways. In its broadest sense, saying that A and B are mediated by C means that, in order to move from A to B (or vice versa), one must pass through the medium C, typically a non-neutral element that affects both A and B as well as the very process connecting them. Different disciplines employ the term in more specialised senses. Perhaps the most familiar usage is found in conflict resolution within legal, political, diplomatic, and military contexts. The term also appears across numerous social sciences, including anthropology, sociology, economics, political science, and psychology. In our paper, however, we limit our focus to the meaning developed within the postphenomenological tradition in philosophy. Another important tradition using the concept of mediation is Actor–Network Theory (ANT) within Science and Technology Studies (STS), associated especially with the work of Bruno Latour (1947–2022) and Madeleine Akrich. For representative discussion, see Bruno Latour, 'Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts', in *Shaping Technology/Building Society: Studies in Sociotechnical Change*, ed. Wiebe E. Bijker and John Law (Cambridge, MA: MIT Press, 1992), 225–58; Madeleine Akrich, 'The De-Description of Technical Objects', in *Shaping Technology / Building Society: Studies in Sociotechnical Change*, edited by Wiebe E. Bijker and John Law, 205–224. Cambridge, MA: MIT Press.

38 Ihde, *Technology and the Lifeworld*; Don Ihde, *Expanding Hermeneutics: Visualism in Science* (Evanston, IL: Northwestern University Press, 1998); Don Ihde, *Postphenomenology and Technoscience: The Peking University Lectures* (Albany: SUNY Press, 2009).

39 Hence there is an affinity between postphenomenology and a longstanding tradition within the helping professions that understands human affairs, including psychological dimensions, in relation to the environment. This perspective contrasts with more traditional approaches in which the human condition is explained predominantly in individualistic terms, as is often the case within the psychodynamic tradition, see, e.g., David Howe and Darren Hill. *A Brief Introduction to Social Work Theory* (London: Bloomsbury Academic, 2024). From this standpoint, the idea that 'people can only be fully understood in relationship to their environment' effectively 'defines social work' (Howe and Hill, *A Brief Introduction*, 130). The term 'environment' encompasses not only social relationships, but also material contexts, including human-made artefacts, see Ehsan Arzroomchilar 'Why Disability Is Technologically Mediated?', *Human Studies* 47 (2024): 713–726. To offer a simple example, an elderly person who lacks the necessary skills to use smartphones may experience exclusion in a society where basic administrative tasks must be carried out through mobile applications. In this sense, artefacts are not merely external tools but active contributors to the shaping of the human condition.

Technology also mediates behaviour.<sup>40</sup> Conducting a session over the phone affords and constrains different forms of engagement than those characteristic of a face-to-face therapeutic encounter. Patterns of communication, attentiveness, and responsiveness are reshaped accordingly.

Moreover, technology mediates habits, values, and other variables that contribute to the formation of character, as will be discussed in greater detail in the next section. The mediating role of technology should therefore not be confused with that of a mere intermediary. Mediation implies an *active* and transformative force: technology participates in the reconfiguration of the person–environment relationship itself.

As said, relations are of central importance in this framework. Ihde distinguishes four types of relations that humans can hold with technology.<sup>41</sup> Although all four will be introduced below, the first two will be most relevant for our discussion in the next section.

First, by an *embodiment relation*, Ihde refers to a relation in which a person becomes so merged with a tool that the latter withdraws from focal awareness. A pair of eyeglasses is the paradigmatic example: once worn, they no longer occupy the centre of attention (except when they become dirty or damaged). One looks *through* them at the world rather than *at* them. A key notion here is *transparency*. The more transparent a tool becomes over time, as one grows accustomed to it, the more fully embodied it is, and the less it is explicitly noticed. Consider someone who begins using a cane. At first, the cane is fully present in her awareness. Gradually, however, it becomes incorporated into her sensorimotor system and recedes from attention, fading into the background of experience. Schematically, the *embodiment relation* can be expressed as:

*Embodiment relation:* (I – technology) → world

Second, by a *hermeneutic relation*, Ihde means a relation in which technology requires interpretation; it presents the world through a form of reading or decoding. There is a mode of ‘looking at’ or ‘listening to’ involved. When a physician examines an ultrasound image or when someone reads a thermometer to determine the room temperature, they engage in a hermeneutic relation. As in the *embodiment relation*, technology mediates the human–world relation; however, unlike embodiment, the tool does not withdraw from awareness. The world is not perceived *through* the artefact but rather *by means of* it. Ihde schematises this relation as:

*Hermeneutic relation:* I → (technology – world)

Third, in an *alterity relation*, the primary relation is not to the world through technology but to the technology itself, which appears as a quasi-other. For example, when purchasing a ticket from a ticket machine, an interaction unfolds: the machine prompts, responds, and guides the user. More sophisticated technologies, such as robots or interactive software, similarly command the user’s attention as entities in their own right. The schema is:

*Alterity relation:* I → technology (– world)

Finally, Ihde describes a *background relation*. In this case, we neither relate to the world through

40 Verbeek, Peter-Paul, *What Things Do: Philosophical Reflections on Technology, Agency, and Design*. University Park, PA: Penn State University Press, 2005; *Moralizing Technology: Understanding and Designing the Morality of Things*. Chicago, IL: University of Chicago Press, 2011.

41 Ihde, *Technology and the Lifeworld*; Ihde, *Expanding Hermeneutics: Visualism in Science*.

the tool nor attend to the tool itself; rather, the technology forms the background condition of experience. A central heating system operating while one is having dinner is a typical example. It shapes the experiential environment without becoming an object of attention. Schematically:

*Background relation: I (– technology – world)*

Importantly, in all types of relationships, individuals' perceptual as well as behavioural experiences undergo substantial reconfiguration compared to experiences in the absence of technology. In this light, despite the diverse roles technology may play, it significantly contributes to the restructuring of the human–world relationship.

Another relevant concept for understanding different methods of payment is that of *sedimentation*, a term drawn from classical phenomenology.<sup>42</sup> Sedimentation refers to the process by which relations with technology become habitual: not only as habits of thought but also as embodied, perceptual dispositions. A highly sedimented relation is one deeply ingrained through long-developed bodily and perceptual routines.<sup>43</sup> When someone wears eyeglasses for the first time, she cannot yet sustain a full embodiment relation, since the glasses are not sufficiently transparent to withdraw from awareness. Over time, however, as familiarity increases, the relation becomes sedimented and the glasses recede from attention.

With this conceptual framework in place, we can now turn to its application to consumerism and the related phenomena such as CBD, and the use of payment cards.

## The Mediation of Cash vs. Payment Cards

As noted earlier, a growing body of literature suggests that payment cards may incline users toward overspending.<sup>44</sup> In this section, drawing on the framework of postphenomenology, we seek to provide a philosophical account of these empirical findings. As discussed above, postphenomenology maintains that our relationship with the world is most often mediated by technology. Through such mediation, technology can reconfigure how the world appears to us. By amplifying certain possibilities for action while discouraging others, it reshapes the way we are present in and engage with our environment. It may also mediate our dispositions, habits, choices, and values. Postphenomenology thus offers conceptual tools for bringing technological mediation into focus, i.e., for analysing specific technologies and exploring their distinctive mediating roles. What, then, does postphenomenology contribute to our understanding of different payment methods? How might it differentiate the mediating effects of cash from those of payment cards?

Before turning to these specificities, it is worth briefly reflecting on money more generally and the way it mediates our lives. Money shapes both perception and behaviour. It can transform the world from a collection of *things* into a collection of *goods*. From snacks in a café and clothing

42 See also: Robert Rosenberger, 'Embodied technology and the dangers of using the phone while driving', *Phenomenology and the Cognitive Sciences* 11, no. 1 (2012): 79–94; Robert Rosenberger, 'Multistability and the agency of mundane artifacts: From speed bumps to subway benches', *Human Studies* 37 (2014): 369–392; Robert Rosenberger, 'The Phenomenological Case for Stricter Regulation of Cell Phones and Driving', *Techné: Research in Philosophy & Technology* 18(1/2): 20–47.

43 Robert Rosenberger and Peter-Paul Verbeek, *Postphenomenological Investigations*, 25.

44 See, e.g., Martina Eschelbach, 'Pay cash, buy less trash? – Evidence from German payment diary data', *International Cash Conference 2017 - War on Cash: Is there a Future for Cash?* 25 - 27 April 2017, Island of Mainau, Germany, Deutsche Bundesbank, Frankfurt a. M., <https://www.econstor.eu/handle/10419/162908>; Elif Incekara-Hafalir and George F. Loewenstein, 'The Impact of Credit Cards on Spending: A Field Experiment' (April 13, 2009). <https://ssrn.com/abstract=1378502>; David B. Humphrey, 'Replacement of cash by cards in US consumer payments', *Journal of Economics and Business* 56 (2004): 211–225; Drazen Prelec and Duncan Simester, 'Always leave home without it: A further investigation of the credit-card effect on willingness to pay', *Marketing Letters* 12 (2001): 5–12

in a shop to land and property, objects increasingly appear as purchasable once money has been earned or made available. In this respect, various methods of payment, such as coins, banknotes, cards, cryptocurrencies, or check books, share a common function: they render the surrounding world as a field of commodities available for acquisition. Even human actions may come to appear as tradable *services* in the wake of monetary exchange. Money thus tends to transform the world into a vast marketplace; its display windows filled with *goods* and *services* designed to satisfy human desires.

In this sense, money may be understood as an objective measure that assigns numerical value to things, enabling them to be compared, ranked, and exchanged. Moreover, it is not only tangible objects or actions that become commodified. Consider an artwork, for instance, a painting. It, too, appears as a tradable good. What is exchanged is not merely the canvas or the labour invested in it, but also its aesthetic qualities or cultural significance. Money, therefore, has the capacity to translate even abstract values such as beauty or cultural identity into numerical terms.<sup>45</sup>

Now, when it comes to specific methods of payment, each method plays a different role depending on its particular characteristics. Therefore, payment practices must be studied in their specificity. Of primary importance is the material configuration of cash, coins and notes, on the one hand, and payment cards on the other, as these configurations may solicit different forms of behaviour. Let us first consider cash. Coins and notes, above all, carry inscribed numerals. Numerals matter; they are signs that denote something beyond themselves and therefore invite interpretation and reaction. For the possessor of money, numerals convey meaning. The numerals printed on notes and coins indicate the value of things. If this is the case, the visibility of these numerals may affect the owner's perception and behaviour. Some empirical findings have indeed shown that numerals play a significant role in shaping pattern of behaviour.<sup>46</sup> For example, five \$10 notes may not have the same psychological effect as a single \$50 note; their meanings for the owner can differ. In another empirical study, Eschelbach analysed German consumer diary data and found that purchases made with cash are less likely to be perceived as unnecessary after the transaction.<sup>47</sup> Beyond numerals, the bodily and sensorial contact with coins and notes may also resonate with the possessor. When paying with cash, one may bodily feel that the money is diminishing or coming to an end, which may intensify the sensation of loss or 'pain of paying'. These observable and tangible dimensions appear to play a significant role when transactions are conducted with notes and coins.

Coins and notes, with their specific material configuration, may therefore mediate human behaviour in a particular way. As noted, the material properties of cash are integral to this form of mediation. A buyer first encounters the visual and sensorial qualities of coins and notes. These material characteristics may cause the world to resonate in a particular way: a world in which one earns money through effort, in which income is limited, where efficiency and labour are required to receive payment, where one must wait until the end of the month for a salary, and where economic uncertainty, such as unemployment during a recession, is possible. Such associations may form part of the background awareness of a buyer during payment and may generate an immediate sense of loss or discomfort. This 'pain of paying', in turn, may influence purchasing behaviour by discouraging extravagance or overspending.

45 See, e.g., George Simmel, 'Money in modern culture', *Theory, culture and society* 8 (1991): 17–31; Angela Condello, Maurizio Ferraris, and John R. Searle, *Money, Social Ontology and Law* (London: Routledge, 2019).

46 Amelie Gamble, Tommy Gärling, John Charlton, and Rob Ranyard, 'Euro illusion: Psychological insights into price evaluations with a unitary currency', *European Psychologist* 7, no. 4 (2002): 302–311.

47 Eschelbach, 'Pay cash, buy less trash'

In this sense, the key element appears to be the act of *reading* or *interpreting* signs: from the numerals inscribed on coins and notes to their weight and other material characteristics. Using the terminology of Ihde, one could argue that individuals hold a *hermeneutic relationship* with cash during the payment process. Observable material properties invite interpretation, and through this interpretive engagement a mediated world becomes present to consciousness. This mediated awareness may then function as a restraint on spending.

Things work differently, however, when it comes to bank cards. There are no meaningful numerals printed on cards; the numbers they display are static and unrelated to the amount of money available in the user's bank account. Nor does the weight of the card change during payment. In other words, the material appearance of the card remains entirely intact. Consequently, the mode of technological mediation associated with cards differs significantly from that of cash.

When someone pays using a card, the physical form of the card does not change in relation to the level of money in the associated bank account. Unlike cash, nothing in the card's materiality directly indicates the purchasing power of its holder. In this sense, cards tend to conceal what happens backstage. They hide the processes occurring behind the curtain, namely, the amount of money being spent and the remaining balance in the account. Payment cards therefore become *transparent* in the phenomenological sense: they withdraw from the user's attention and fade into the background.

As habituation increases, the use of the card becomes increasingly unconscious, and the backstage dimension gradually disappears from awareness. One may also speak here of the degree to which *sedimentation* has occurred. Cards become habitual; they become embodied, so to speak, as users connect to the world *through* the card without attending to it. In postphenomenological terms, one may develop an *embodiment relation* with the card during purchasing, provided that a sufficient level of familiarity has been acquired.

During payment, the purchased commodities and the accompanying sense of euphoria move to the foreground, while the world behind the card, namely the monetary value attached to it, fades into the background.

To summarise, behaviour is to a large extent interconnected with perception; they are indeed two sides of the same coin. A change in one is likely to give rise to changes in the other. Both behavioural and perceptual experience of the world may also be mediated by artefacts. Because bank cards are *transparent* and conceal the world behind them (mediating perception), they may invite more consumerist patterns of action (mediating behaviour), particularly when an *embodiment relation* has formed between users and the card. By contrast, coins and banknotes with their visible numerals and tangible sensory qualities (mediating perception), may invite a more thrifty attitude toward spending (mediating behaviour), given the *hermeneutic relation* people develop with them.

## Methods of Payment and Pattern of Spending

So far, we have argued that (1) each payment method gives rise to a specific form of technological mediation and may therefore encourage different patterns of purchasing behaviour; and (2) card-based payment systems may invite more consumerist forms of spending. Put differently, both cash and payment cards mediate the relationship between the buyer and the surrounding world, namely, the marketplace populated by a wide variety of commodities, but they do so in distinct ways. Importantly, the world enacted through card-based payment may appear more inviting or tempting to engage with.

If this is the case, there may be an association, we argued, between the use of payment cards and consumerism, and in some instances even leading to compulsive buying or even CBD. In other words, card-based payment may be positively associated with the condition of compulsive purchasing tendencies.

We do not claim, of course, that payment cards are the *sole* cause of CBD. It is likely that many factors, psychological, social, and others, contribute to the emergence of such compulsive behaviours. Moreover, our claim should be formulated in more modest terms than those used in clinical accounts of CBD. Nor do we suggest that the mediating role of payment cards *determines* users' behaviour. In line with the postphenomenological framework developed by Ihde, we reject technological determinism. Rather, our argument is that payment cards may incline users toward more consumerist patterns of behaviour, which in turn may contribute to overspending and, in some cases, to CBD or related patterns of compulsive purchasing.

Furthermore, the theoretical perspective we have outlined resonates with findings in the psychological literature, where restrictions on the use of payment cards are sometimes recommended as helpful for individuals suffering from CBD.<sup>48</sup> Such recommendations imply that willingness to pay is often higher when using cards than when paying in cash, suggesting a positive correlation between card usage and compulsive buying tendencies. In this respect, postphenomenological insights may provide a useful theoretical grounding for these observations in psychology. Limiting the use of cards during purchasing may therefore be beneficial, insofar as individuals suffering from CBD need to counteract the *transparency* of card-based payment processes.

## Conclusion, Discussion, and Suggestions

Payment by cash is no longer dominant in most countries, and it appears that we are gradually moving toward a cashless economy. Such a shift, from cash payments to card-based or other newer cashless payment methods, cannot occur without significant consequences. Artifacts mediate our engagement with the world, and any change in the artifacts involved is likely to alter the way this mediation takes place. The reason is that each technology affords specific characteristics that shape distinct modes of mediation. If we move from one kind of artifact to another, e.g., from paper money to payment cards, this transition will result in corresponding changes in our practices and experiences of payment.

Empirical findings support this impression. Several studies suggest that the transformation of payment methods has led to different patterns of purchasing behaviour.<sup>49</sup> In particular, people who use cards are more likely to overspend. Moreover, the difference is not merely quantitative but also qualitative. Consumers paying with cards are not only more likely to spend more, but they may also fill their baskets with lower-quality selections compared to those paying with cash.<sup>50</sup> For instance, the likelihood of purchasing unhealthy food increases significantly when payment is made by card.<sup>51</sup> Similarly, observes that when people make donations, payments made by card

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48 See, e.g., Lorrin M. Koran and Elias Aboujaoude, 'Treating Compulsive Buying Disorder', *Current Treatment Options in Psychiatry* 1, no. 4 (2014): 315–324.

49 Promothesh Chatterjee and Randall L. Rose, 'Do Payment Mechanisms Change the Way Consumers Perceive Products?', *Journal of Consumer Research* 38, no. 6 (2012): 1129–1139; Eschelbach, 'Pay cash, buy less trash?'

50 Dilip Soman, 'The Effect of Payment Transparency on Consumption: Quasi-Experiments from the Field', *Marketing Letters* 14, no. 3 (2003): 173–183.

51 Manoj Thomas, Kalpesh Kaushik Desai, and Satheeshkumar Seenivasan, 'How Credit Card Payments Increase Unhealthy Food Purchases: Visceral Regulation of Vices', *Journal of Consumer Research* 38, no. 1 (2011): 126–139.

tend to result in higher contributions than those made in cash.<sup>52</sup> Martina Eschelbach's analysis further shows that purchases made with cash are less likely to be perceived as unnecessary after the transaction.

In this paper we have attempted to provide a philosophical explanation for the view that paying with cards rather than cash may contribute to overspending. Such behavioural changes, we have argued, *might* in turn be associated with extreme cases such as CBD. Drawing on postphenomenology, we have analysed the different modes of mediation involved in cash and card payments—namely coins and banknotes on the one hand, and payment cards on the other. We argued that card use typically involves an *embodiment relation*, whereas the relation to cash is primarily *hermeneutic*. When using coins and banknotes, individuals must interpret their material and visual properties—especially the numerals printed on them—in order to grasp their value. This interpretative engagement may lead people to experience payment as somewhat 'painful', which can in turn restrain spending. By contrast, payment cards tend to conceal the background processes that determine the available balance. The result may be a comparatively painless form of payment that increases the willingness to pay. Cards are therefore *transparent* in the sense that they recede into the background of attention, which may open the way to overspending. From this perspective, our analysis supports the idea that certain restrictions on card usage may be beneficial, particularly in cases where CBD is diagnosed or suspected.

As already mentioned in section 3, approximately 5% of the population in Western societies suffer from CBD.<sup>53</sup> It is plausible to assume that the proportion of people who display consumerist tendencies, without necessarily reaching the clinical threshold of the disorder, is considerably higher. In this sense, consumerism may affect a substantial portion of Western societies, and likely societies beyond the West as well.

Our postphenomenological analysis also offers additional insights. First, it invites reflection on newer payment technologies. If, as our analysis suggests, transparency and the resulting experience of painless payment are predictive factors, then the more transparent a payment method becomes, the greater the likelihood of overspending, and, in extreme cases, the emergence of CBD-like conditions. Online shopping platforms provide a clear example, given their design and ease of use. Even more striking are mobile payment systems, where materiality is further reduced and transparency correspondingly increased. However, because empirical research on these newer payment tools remains limited,<sup>54</sup> it would be premature to push this argument too far.

Second, our analysis also has prescriptive implications. The question becomes how we might mitigate the undesirable consequences of payment cards while preserving their advantages. Although completely prohibiting the use of cards or other highly transparent payment methods such as smartphone payments, might offer a temporary solution for individuals suffering from CBD, less radical and more sustainable approaches are worth considering. Postphenomenology provides some guidance in this regard. One possible strategy would be to reintroduce a hermeneutic dimension into card usage. This could involve incorporating visible features into payment interfaces that more clearly reflect the financial realities behind each transaction. In other words, cards need not remain as transparent as they currently are in order to remain user-friendly.

Several possibilities can be imagined. For instance, transactions could be temporarily paused

52 Adriaan R. Soetevent, 'Payment choice, image motivation and contributions to charity: evidence from a field experiment', *American Economic Journal: Economic Policy* 3, no. 1 (2011): 180-205.

53 Maraz et al., 'The Prevalence of Compulsive Buying'.

54 See, e.g., Joe Boden, Erik Maier, and Robert Wilken, 'The Effect of Credit Card versus Mobile Payment on Convenience and Consumers' Willingness to Pay', *Journal of Retailing and Consumer Services* 52 (2020): 1-10.

until the user confirms a notification message from the bank on their smartphone. The message could present the transaction in different formats. For example, through a visual graph indicating both the amount being paid and the remaining balance. Alternatively, it might display a single numerical ratio showing the relationship between the amount spent and the remaining funds. One might even imagine using this ratio as the PIN code required to authorise the payment, thereby simultaneously strengthening security and restoring a hermeneutic engagement with the transaction.

These examples merely illustrate potential directions for redesigning payment technologies in ways that reduce transparency without sacrificing usability. Many other possibilities could emerge through creative and sustained collaboration among relevant stakeholders—including consumers, suppliers, public health officials, governments, engineers, policymakers, investors, and philosophers acting as facilitators. Our aim in this paper has not been to propose a fully developed technical solution to the problem of payment cards and compulsive buying disorder. Such a task would necessarily require a larger interdisciplinary effort. Rather, our intention has been to illuminate the problem and to provide a conceptual framework that may guide future attempts to address it.

Third, a further contribution of our analysis is a call to take environmental variables, especially the role of technology, more seriously. Approaches that remain largely individualistic, such as certain strands of psychodynamic theory, may overlook important contextual factors when environmental variables are left out of consideration. This limitation can prevent such approaches from fully addressing all relevant dimensions of clients' conditions, as illustrated in the case of excessive consumerism and CBD. By contrast, frameworks provided by postphenomenology and ecological and systemic perspectives, may be better equipped with the conceptual tools needed to address such (public) health conditions, as they explicitly account for the broader technological and environmental contexts in which behaviour occurs. Our central claim is that the material configuration of payment instruments mediates the phenomenal experience of value, and that this mediation, in turn, shapes characteristic patterns of consumerist behaviour. If this account is correct, it may offer valuable guidance to helping professions and for the design of future public health interventions.

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