Digital temperance: adapting an ancient virtue for a technological age

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Abstract
In technological societies where excessive screen use and internet addiction are becoming constant temptations, the valuable yet intoxicating pleasures of digital technology suggest a need to recover and repurpose temperance, a virtue emphasized by ancient and medieval philosophers. This article reconstructs this virtue for our technological age by reclaiming the most relevant features of Aristotle’s and Aquinas’s accounts and suggesting five critical revisions needed to adapt the virtue for a contemporary context. The article then draws on this critical interpretation, along with empirical research analyzing the value and dangers of digital technology, to construct a normative account of digital temperance, a virtue that finds a mean between “digital insensibility,” the vice of deficiency, and “digital overindulgence,” the vice of excess. We conclude by showing how this virtue of digital temperance can help to promote human flourishing in a world saturated with tempting technology.

Keywords Temperance · Digital · Technology · Virtue · Aristotle · Aquinas

Smartphones and laptops enable us to access the world’s information, expand interpersonal communication, and construct digital identities that reach across the globe, connecting us to a worldwide network that removes barriers of accessibility, geography, culture, and language. Yet while these tiny devices connect us to nearly everything, they also pose potential psychological and physiological risks (Horvath et al., 2020). Empirical evidence affirms what many intuitively understand about the dangers of screen overuse and internet addiction: constant texts, email messages, social media notifications, and video calls flood our brains with dopamine, making our devices feel like mobile slot machines (Harris, 2014; Sherman et al., 2016). While such technologies can ease social interactions, they can also leave us with a lingering digital hangover—headaches often exacerbated by spending too much time on Facebook, Netflix, and TikTok.

Many in the current generation of technological teens recognize the dangers that accompany digital life. When we discuss Aristotle’s *Nicomachean Ethics* with undergraduate students, we are often surprised that many students consider the virtue of temperance as one of the most relevant to their lives, a fact that carries a level of irony in the university context. Although temperance has historically moralist connotations of chastity and teetotalism (Porter, 1944), our students frequently extend it past carnal concerns. Unlike Aristotle and Aquinas, who identify temperance as the virtue that orders an unrestrained appetite for bodily pleasures of touch and taste (Aquinas, 1947, II–II.141; Aristotle, 1999, 1118a25–28), these students also apply temperance to the digital pleasures of sight and sound. While they readily acknowledge the benefits afforded by laptops and smartphones, many find that their digital lives sometimes detract from their wellbeing. In light of empirical evidence suggesting there may be harmful technological habits and addictions (Young & Nabuco de Abreu, 2011), we seek to recover and repurpose the overlooked virtue of temperance to moderate unchecked digital appetites and encourage people to enjoy the pleasures of digital technology in the right ways.1

1 Although there is an emerging body of empirical literature on the harmful effects of technology overuse, it is still too early to make any conclusions about its long-term impacts. Orben and Przybylksi (2019), for example, have shown that while digital technology use and adolescent well-being are negatively correlated, the methodological challenges of analyzing these data sets are especially complex.
those who resist technology altogether, we affirm the value of particular technologies and the digital pleasures they create as long as those pleasures are enjoyed for the right reasons and in the right ways.

We are not alone in recovering temperance for our contemporary context. Environmental ethicists have marshalled the virtue to moderate use of the earth’s resources and resist the spirit of overconsumption driving the environmental crisis (Van Wensveen, 2001). Medical ethicists have emphasized temperance’s role in preserving physical health, appropriating the concept to help treat preventable medical conditions and addictions (Telfer, 1990). And a leading philosopher of technology ethics, Shannon Vallor, has proposed a virtue of “self-control,” akin to temperament, as one of twelve “technomoral virtues” for modern society (2016, pp. 123–125). Vallor, along with other moral theorists (e.g., Coeckelbergh, 2021; Harrison & Polizzi, 2022; Reijers & Coeckelbergh, 2020), have appealed to the virtue tradition to address emerging ethical issues raised by new digital technologies. In this article, we join this effort and seek to expand attention to temperament in a technological context by reexamining the virtue’s meaning in ancient and medieval accounts and drawing on these conceptual resources to construct a contemporary virtue of digital temperance for a technological age.

Our argument proceeds in two parts. First, we examine temperance from a historical perspective, critically outlining Aristotle’s and Aquinas’s conception of temperament to reclaim the most relevant aspects of the virtue while suggesting five critical revisions needed to address twenty-first-century concerns. Second, we draw on this critical interpretation, along with empirical research on both the value and dangers of digital technology, to construct a normative account of digital temperance, a virtue regulating the appetite for pleasures related to digital technology that finds a mean between “digital insensibility,” the vice of deficiency, and “digital overindulgence,” the vice of excess.

### Standard historical accounts of temperance

Before constructing a normative account, we analyze two influential historical interpretations of temperance, which is helpful for three reasons. First, since temperance has moralist connotations due to its historical uses, explicitly acknowledging and interrogating the ways temperance has historically been understood and appropriated can help to make the virtue more suitable and relevant for contemporary audiences. Second, critically engaging Aristotle and Aquinas can helpfully illuminate conceptual components of the virtue that can inform contemporary accounts, including, for example, the idea of temperance as a mean between vices of excess and deficiency. Yet Aristotle’s and Aquinas’s accounts also present conceptual difficulties that require reconsideration and revision, which points to a third reason to engage their interpretations: critical engagement shows how we must alter and adapt key conceptual features to account for digital technology in a contemporary context.

### Aristotle on temperament

Aristotle offers one of the most influential accounts of temperance, though his overly narrow account of the virtue’s function obscures its contemporary importance. In Nicomachean Ethics, Aristotle defines a moral virtue as a disposition to feel or act “at the right times, about the right things, toward the right people, for the right end, and in the right way” (1999, 1106b21–24). Since the moral life is undeniably complex due to shifting circumstances and competing priorities, Aristotle does not offer universal rules or principles to apply to individual cases. Instead, he suggests that moral virtues require the guidance of practical wisdom, an intellectual virtue that helps one identify the morally salient features of any given situation and prioritize the reasons for choosing one particular course of action over another (1144b–1145a12). With the aid of practical wisdom, most virtues of character find the “mean” or “intermediate” state between opposing vices of excess and deficiency (1106b17–18). Since individuals differ, this intermediate state is “not the same for all”; instead, it is “relative” to the person and the circumstance (1106a32–33; 1106b1–7). Nonetheless, Aristotle argues that each virtue disposes individuals to feel or act rightly and thus constitutes an important component of human flourishing (1097b–1098a20).

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Footnote 1 (continued)

and when contextualized alongside other variables, the small effect size makes it difficult to justify any significant changes in policy. We agree that more nuanced longitudinal studies are required, but our overall argument does not necessarily hinge on the empirical literature. If someone anecdotally feels they are overusing technology, then they can still cultivate a virtue—digital temperance—to address any excess. Our argument makes important conceptual contributions to discussions about digital technology use even if the current empirical literature is not definitive on technology’s effects.

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Footnote 2 There is a debate about whether “the mean relative to us” should be interpreted as the mean “relative to individuals” or the mean “relative to us as human beings” (Brown, pp. 78). Leighton (1995) argues for the former interpretation while Brown (1997) argues for the latter interpretation. We accept Leighton’s view in this article and offer a person-relative view of digital temperance.
For Aristotle, the opposite of a virtue is a “vice,” which is also a stable habit or disposition but one ordered to the wrong ends or in the wrong ways (1999, 1106b22–24; 1109a20–b7). Between the poles of virtue and vice lie two other mixed states—continence and incontinence. Continence refers to a state where one internally struggles between wrongdoing and virtue, but ultimately does the right thing. The incontinent person, by contrast, knows what is right but fails to do it. Incontinence is closer to vice than virtue (1145b10–15; 1151a5–10).

Aristotle identifies temperance as one virtue that avoids opposing vices and mixed states like continence and incontinence. He defines temperance as the virtuous mean in regulating pleasures (Aristotle, 1999, 1117b25–28). Specifically differentiating “bodily pleasures” from “nonbodily pleasures,” he argues that temperance concerns neither specifically differentiating “bodily pleasures” from “nonbodily pleasures,” he argues that temperance concerns neither “pleasures of the soul,” such as the “love of honor and of family pleasures,” he argues that temperance concerns neither “pleasures of the soul,” such as the “love of honor and of learning,” nor other nonbodily pleasures such as story-telling (1117b28–35 to 1118a1–3). Temperance regulates only bodily pleasures. Aristotle further narrows the scope of temperance by focusing only upon bodily pleasures of touch and taste (1118a25–27). Temperance does not seem to regulate the pleasures of sight [such as “colors, shapes, (and) a painting”), the objects of hearing (such as “songs or playacting”), or the pleasures of smell (“apples, or roses or incense”) since, according to Aristotle, those who enjoy these pleasures are not typically described as “temperate” or “intemperate” (1118a3–28). Although he acknowledges that “it would also seem possible to enjoy these either rightly or excessively and deficiently,” he nonetheless limits the scope of his account to taste and touch, applying temperance to “eating and drinking . . . and the pleasures of sex” (1118a31–33).

Despite the already narrow definition, some scholars argue that Aristotle restricts temperance’s scope even further, distinguishing between the “common” and “distinctive” appetites (Curzer, 1997, p. 10; Young, 1988, pp. 528–531). “Some appetites seem to be shared (by everyone),” Aristotle writes, “while others seem to be distinctive [to different people]” (1999, 1118b9–10). Whereas common appetites concern universal, “natural” appetites for general species of pleasures such as food, drink, or sex, distinctive appetites refer to individual preferences for specific types of food, drink, and sex (1118b10–15). Concerning common appetites, Aristotle admits that “few people are in error, and only in one direction, towards excess” (1118b15–16). Although temperance regulates overeating or excessive drinking, for example, Aristotle deemphasizes common appetites and overlooks the related vice of deficiency—something akin to underconsumption or malnutrition (Young, 1988, p. 536). Rather, he focuses his account of temperance on distinctive appetites, by which “many make errors in many ways” (Aristotle, 1999, 1118b22–23).

Aristotle notes two ways people demonstrate the vice of excess in relation to distinctive appetites. Either they take pleasure in the wrong objects, or they take pleasure in the right objects but enjoy them too much. For example, a person might take pleasure only in unhealthy foods or take too much pleasure in healthy foods and eat too much (1119a16–20). On the deficient extreme, someone who takes pleasure in nothing is called “insensible” (1119a7–8). As with common appetites, Aristotle claims that this vice is rare since such behavior is “not human” (1119a8–10).

Ultimately, Aristotle identifies temperance as a virtuous mean between vices of excess and deficiency in regulating distinctive appetites. When the temperate person’s distinctive appetites are in accord with reason, they enjoy “the right things, in the right ways, at the right times” (Aristotle, 1999, 1119b16–19). Thus, the temperate person avoids both the “brutish” tendencies of the vice of excess (“intemperance” or overindulgence) and the inhuman quality of the vice of deficiency (“insensibility”) (1118a25–27; 1119a8–10). For Aristotle, temperance orients an individual toward a distinctly human form of flourishing in relation to goods that bring bodily pleasures of touch and taste.

**Revising Aristotle**

While Aristotle offers a useful starting point for reconstructing temperance for a digital age, his account requires significant revision in relation to digital technology. If the virtue of temperance is to be relevant for technology ethicists, its scope must account for a wider domain of pleasures. We thus broaden the virtue by (1) including nonbodily pleasures within temperance’s scope, (2) acknowledging the potentially harmful capacity of other bodily pleasures, including those of sight and sound, and (3) recognizing the importance of the “distinctive” digital appetites while acknowledging the danger of the unregulated “common” appetite for digital pleasures.

First, as Web 2.0 ushers in a new paradigm of digital goods, Aristotle’s dismissal of the unrestrained intellectual and nonbodily pleasures seems misguided in our technosocial context. Aristotle assumes that nonbodily pleasures

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3 While Aristotle says temperance is involved with both touch and taste, he later specifies his claim primarily emphasizes touch (1999, 1118b1-3).

4 The “distinctive” appetite has multiple names in the secondary scholarship on Aristotle. Young refers to it as the “peculiar” appetite (1988, p. 528), while Curzer calls it the “acquired” or “particular” appetite (1997, p. 10).

5 Young (1988, p. 536) specifies that Aristotle is not addressing anorexia.
such as learning and storytelling do not fall within temperance’s domain, but this restriction seems less relevant in a contemporary digital age when much learning does not come only from teachers and books and when storytelling does not require the presence of poets and actors as it did in ancient Athens. On the contrary, the internet available on digital devices offers a practically unlimited resource for knowledge, along with millions of hours of stories and entertainment. Such access is one of the most valuable aspects of digital technology, but it also creates unanticipated temptations. It is easy to get lost learning in the internet’s rabbit holes or waste a day “binging” the latest Netflix craze. When some people reflect on how they spend their time, “pleasures of the soul” and other non-bodily pleasures often comprise the objects of digital appetites, which requires broadening temperance’s scope beyond bodily pleasures.

Second, even among the bodily pleasures, temperance should not be limited only to touch and taste (Curzer, 2012, p. 67). Many addictive internet habits arise from pleasures experienced through sight and sound. Alongside binge-watching, for example, social media applications retain user attention through visual stimulation while streaming services feed their listeners constant earworms to keep the music playing. These digital products offer visual and auditory feasts for constant sensory stimulation. A contemporary notion of digital temperance should also relate to pleasures associated with these objects of both hearing and sight.

Third, temperance should focus not only on distinctive digital appetites but also on common digital appetites. It matters how much or how little people engage these devices, not only what type of specific content they consume. Consider screen addictions, which arise from the habituated overuse of digital goods in general. It would be potentially moralizing to say what particular types of digital content are worth consuming, but it seems that a general digital “gluttony” that reflects addiction or addictive tendencies may impact one’s capacity for human flourishing. In this case, a primary function of digital temperance is to regulate the general amount of content a person consumes on their devices, not just specific types of content.

Yet there still might be a need to regulate distinctive digital appetites. Although it is potentially harmful to value certain digital goods over others, it is still possible to offer strong moral objections to taking pleasure in certain kinds of online content, including illegal and morally reprehensible internet content such as child sexual abuse material (CSAM) or videos of sexual assault. In such cases, someone’s distinctive digital appetites must be reoriented toward morally permissible content. Here, the virtue of temperance can play a role in coordinating with the virtue of justice to ensure that others are treated justly and given the rights, respect, and dignity they are due.

Aquinas on temperance

In revising Aristotle’s conception of temperance, we join another influential philosopher who adapted Aristotelian virtue—Thomas Aquinas. Although Aquinas adopts certain aspects of Aristotelian temperance, he also makes significant revisions to the concept, some of which reflect his own historical and cultural context.

Following Aristotle, Aquinas defines temperance as a virtue moderating the pleasures of food, drink, and sex resulting “from the sense of touch” (1947, II–II.141.4; Chua, 2019). Aquinas’s increased emphasis on the pleasures of touch leads to an emphasis on sexual pleasures that reveals some of the historical context for temperance’s moralist connotations. Yet although Aquinas highlights touch as the primary bodily pleasure in need of regulation, he does not foreclose the possibility of a broader definition. While temperance is “chiefly and properly” concerned with touch, it also has a secondary role in moderating “other pleasures” (II–II.141.4 ad 1).

Like Aristotle, Aquinas sees temperance as a virtuous mean between vices of excess and deficiency. Insensibility is the vice of deficiency that rejects pleasures necessary for a person’s survival and wellbeing (1947, II–II.142.1). Conversely, intemperance is the vice of excess that reflects an inordinate desire for pleasures that overrule reason (II–II.142.1; II–II.148.1). Between these vices, the virtue of temperance inclines people to pleasures “in accordance with reason” (II–II.141.1). A temperate person understands that bodily pleasure is in “accord” with human nature; it is only when this pleasure overwhelms or consumes right reason that one regresses into “animal nature” (II–II.141.1 ad 1). Like Aristotle, then, Aquinas is chiefly concerned that intemperance is dehumanizing because it impedes the virtue—Thomas Aquinas. Although Aquinas adopts certain aspects of Aristotelian temperance, he also makes significant revisions to the concept, some of which reflect his own historical and cultural context.

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6 Although we use the phrase “common digital appetite,” it is important to acknowledge that we are appropriating this term for contemporary uses. Aristotle used “common appetite” in reference to universal biological needs for nourishment. An appetite for digital pleasure does not share this quality, but the language is helpful for capturing a similar general appetite for how much digital content a person consumes.

7 This claim closely reflects Aristotle’s view on actions—such as adultery or murder—that are morally prohibited “because they themselves, not their excesses or deficiencies, are base” (1999, 1107a10-19).

8 There may be some disagreement whether this is a case of injustice or intemperance. Someone might come across these videos because they simply stumble upon them. This person would need justice to resist watching these videos. However, if a person enjoys or takes pleasure in that sort of content, temperance could also be involved in regulating their appetite. Justice and temperance are interrelated in this case, but temperance maintains a unique function in regulating the enjoyment of morally impermissible pleasures.
distinctly human pleasures achieved only in accord with reason (II–II.142.4).

Although Aquinas discusses temperance as a general virtue, he expands Aristotle’s model by addressing the “subjective parts” of temperance as distinct “species” (II–II.143.1). Each species of temperance is directed toward a different “matter or object” relating to the pleasures of touch (Aquinas, 1947, II–II.143.1). The virtue of “abstinence” regulates the pleasures of food, finding a mean between a deficiency where a person lacks nourishment and the excess of “gluttony” where one overindulges in food (II–II.146.1; ST II–II.148.1). In relation to wine and other “intoxicants,” the virtue of “soberly” acknowledges that alcohol can be both “profitable” and healthy in moderation but harmful in excess since drunkenness “hinders the use of reason” (II–II.149.1). Finally, in regard to sex, the virtue of “chastity” allows sexual intercourse in the context of marriage but avoids the vice of “lust” (II–II.153.2; II–II.152.2). By defining more precise virtues as “species” of the general virtue (albeit in terms some might resist today), Aquinas offers a nuanced way to conceptualize the general virtue of temperance. In particular, the species categorization rejects treating all pleasures under a ubiquitous umbrella. Instead, it recognizes specific objects of concern, which is both conceptually valuable and practically useful since it enables people to target the specific objects of concern under specific virtues and vices. For instance, a person could be an exemplar of “soberly” in relation to drink yet also struggle with “lust” in relation to sex. Similarly, a person could be properly abstemious in relation to food yet intemperate in relation to drink. The species model allows for more differentiation in specifying temperance’s potential objects and what is needed to avoid various opposing vices.

Yet a puzzle arises concerning Aquinas’ emphasis on the mean and his treatment of practices such as fasting. If a virtuous mean exists, it would ostensibly seem that fasting—abstinence from all food for a brief time or certain foods for an indefinite period—would look more like the vice of insensitivity. Aquinas reconciles this tension by emphasizing that “the mean and the extremes depend on various circumstances” (1947, I–II.64.1 ad 2). Since temperance is in “conformity with reason,” it takes practical wisdom or prudence to know the particularities of “where” it is right, “when” it is right, and for an “end” that is right (I–II.64.1 ad 2). Thus, following Aristotle, Aquinas holds that virtuous people will have a temperate mean that is relative to themselves and their circumstances (Chua, 2019, p. 10). For example, “athletes and soldiers” may have to “deny themselves many pleasures, in order to fulfill their respective duties” (II–II.142.1). While this denial may look like the vice of insensitivity to one person, it may reflect the virtue of temperance in another.

Revising Aquinas

Whereas Aristotle narrowly restricts the scope of temperance, Aquinas’s account allows the virtue to apply to a broader domain of pleasures. Two of Aquinas’ conceptual revisions of Aristotelian temperance are particularly useful in advancing a contemporary virtue of digital temperance. In addition to the three revisions to Aristotle suggested above, we (4) affirm the contextual validity of seemingly “extreme” practices such as digital fasting with reference to the person-relative and circumstantial nature of the mean and (5) adopt Aquinas’s species classification model for temperance’s sub-virtues with an expanded category for digital objects of pleasure.15

First, because temperance is a mean relative to each individual and circumstance, this variability provides a way to account for those who might have good reasons not to use digital technology. Those who lack access to digital technology or who are generationally distant from emerging

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13 On fasting, see Aquinas (1947, II–II.147). On virginity, see Aquinas (1947, II–II.152).

14 One complexity of Aquinas’s account is that, unlike Aristotle, he believes that certain moral virtues may also be “infused” by God’s grace (1947, I–II.63.2–4). In such cases, the rule and standard of these virtues is not the rule of reason but God’s rule. This means that, for the infused virtue of temperance, fasting for the sake of fellowship with God may be in accordance with God’s rule in relation to eternal goods, even as it seems discordant with what the human rule of reason would encourage in relation to the acquired moral virtue. For the sake of this argument, we are focusing only on the acquired moral virtue of temperance, not the infused moral virtue. For discussion, see Kent (2002, pp. 123–125).

15 In order to create a new species of temperance, we also first revise the scope of temperance proper, for example, to regulate pleasures of sight and sound, not just touch and taste. These revised preconditions of temperance proper must be already assumed before we can name a new species of temperance.
technologies, for example, may not necessarily exhibit the vice of insensibility since their individual circumstances, abilities, needs, and commitments may be different. Indeed, these people may exhibit temperance in certain areas of their life but never need to habitate this specific, digital manifestation of the virtue. Conversely, some people may have developed certain habits of digital overindulgence that need moderation. In their case, not using technology for a specified person—in other words, intentional digital fasting—may be a necessary corrective to habitate more moderate technology use.16

In addition to person-relative features of the virtuous mean, circumstances can also affect how people determine what is virtuous in a particular context. For example, in the context of a pandemic, such as that occasioned by COVID-19, many people may be required to take much of their work and relationships online. This does not mean an increased reliance on technology necessarily reflects the vice of overindulgence. In a pandemic, it might simply demonstrate a circumstantial variable that shifts the mean while those circumstances remain. Aquinas’ emphasis on the relativity of the mean offers helpful flexibility in attuning the virtue of temperance to particular circumstances and warns against the danger of creating broad deontological rules for internet use (cf. Vallor, 2016, pp. 27–28).

While all virtues have a mean that is relative to us, temperance has a specifically unique variability that may help us reclaim it from some of Aquinas’s moralist assumptions. For both Aristotle and Aquinas, temperance asks the question, “How do I affirm and nurture my own flourishing in relation to pleasurable activities?” Since the answer to this question is unique to each individual and situated in diverse generational and cultural contexts, temperance cannot easily be wielded as a tool for moralistic condemnation and judgment. Such relativity to persons and contexts does not mean that one must embrace moral relativism—people can still hold, with Aristotle and Aquinas, that there is a virtuous mean for every individual human being that promotes human flourishing. That mean simply does not have to look the same for differently situated individuals. Thus, instead of explicitly claiming that human virtue ought to individually manifest in universally prescribed ways, one can affirm the variability, individuality, and inclusivity of the virtue. Indeed, if the mean of temperance is truly contextual, then it might be difficult to create explicit, universal norms governing how humanity should always interact with these various pleasures. One need not assert hardline claims about matters of alcohol, sex, food, and technology or adopt Aquinas’s moral standards to find consensus on the need for a virtue of digital temperance. When discussing technological temperance, one should instead ask how pleasures of technology impact human flourishing in one’s unique and circumstantial contexts. This approach will prompt us to focus on questions such as “How do internet devices support or hinder human flourishing” as opposed to “What rules should universally dictate our technology use (or the lack thereof)?” (cf. Vallor, 2016, pp. 27–28).

Second, given the prevalence of digital technology in contemporary societies, Aquinas’s species classification can help to distinguish a species of virtue that regulates the pleasurable objects of the digital age. Discussing temperance as a broad and general virtue dictating all conceivable pleasures might make it less helpful for articulating specific areas in need of analysis, regulation, and improvement. This is one conceptual advantage of Aquinas’s account of “specific” virtues that are “parts” of the “general” virtue of temperance: they individuate particular objects of pleasure that require specific virtues to regulate our attitudes, affections, and acts in ways that avoid specific vices. This specification offers valuable conceptual clarity and precision that, in turn, allows more judicious attribution of particular virtues or vices to oneself or others. Just as people can be perfectly abstinent with relation to food yet struggle with habitual drunkenness, so too can people exhibit sobriety in relation to food and drink yet allow their overuse of the internet to negatively impact their lives. While none of these individuals may be perfectly “temperate” in the general sense, they still have temperate dispositions in certain domains that ought to be acknowledged and affirmed. These domain-specific virtues may even make it easier to habitate temperance in other areas, including in relation to technology. Thus, Aquinas’s specification of virtues as parts of temperance provides valuable conceptual scaffolding to create a new species of temperance—digital temperance—and identify the ways that the virtue and its corresponding vices might shape our response to the contemporary pleasures of technology.

Toward a virtue of digital temperance

Critical engagement with Aristotle’s and Aquinas’s accounts has illuminated distinctive features of temperance that are helpful for constructing a contemporary account of digital temperance while also highlighting conceptual features that require significant revision. To summarize, our model revises and expands these historical accounts by:

(1) Including “nonbodily pleasures” within temperance’s scope

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16 Although Aquinas defines fasting proper as only involving food, he says that “speaking metaphorically, it denotes abstinence from anything harmful” (1947, II-II.147.2 ad 1).
(2) Recognizing the potentially harmful capacity of bodily pleasures beyond those of touch and taste, such as those of sight and sound.

(3) Acknowledging the danger of the unregulated, “common” digital appetites alongside the danger of the “distinctive” digital appetites.

(4) Affirming the contextual validity of seemingly “extreme” practices such as digital fasting with reference to the person-relative and circumstantial nature of the mean.

(5) Adopting a species classification model for temperance’s sub-virtues with expanded categories for digital objects of pleasure.

In light of these revisions, we propose a new species of temperance called “digital temperance.”

Digital temperance is the virtue that regulates appetites for pleasures related to digital technology and finds the virtuous mean between “digital overindulgence,” the vice of excess, and “digital insensibility,” the vice of deficiency. Importantly, the subject matter of this virtue is not digital technology per se, but the appetites for pleasures associated with digital technology. This specification explains why our argument is focused not on whether digital technology is morally good, neutral, or bad generally, but on whether and how we enjoy the pleasures of its use.

As the mean between digital overindulgence and digital insensibility, digital temperance offers a helpful framework for navigating a digital landscape saturated with algorithms programmed to retain user attention and encourage addiction (Vallor, 2016, pp. 123–124, 167). Colloquialisms such as “binge-watching” imply an addictive quality typically linked to food and alcohol, hence bringing us closer to Aristotelian objects of temperance than perhaps previously thought. Indeed, even if many have moved beyond the moral implications of the virtue of temperance, there is still a clear need for the prudential moderation of these emerging digital pleasures to promote human flourishing.

Yet while the concept of “digital pleasures” may seem intuitive, this species framing potentially risks superfluous categorization. Ostensibly, one might object that there seems to be nothing unique about the digital nature of these pleasures: information consumption, gambling, socializing, shopping, and storytelling all have nondigital counterparts. Thus, instead of conceiving of the digital world as its own unique domain, the objection goes, we should instead conceptualize it as something akin to vacationers staying at a hotel on the Las Vegas strip where they can indulge in a wide and varied selection of possible pleasures ranging from the casino to the variety shows. Presumably people would not need a special virtue called “Vegas temperance” to restrain themselves on this trip; they would instead simply need to exercise the species of temperance related to areas of potential temptation. If indeed digital pleasures are analogous to the pleasures of Vegas, then digital pleasures would only be unified by a shared “location” instead of a meaningful connection between the pleasures themselves, therefore making digital temperance redundant.

To respond to this objection, it helpful to differentiate between domain-general and domain-specific impulsive behavior. Drawing on empirical studies of self-control, Duckworth and Tsukayama (2015) have shown that it is possible for people to exhibit “domain-general” patterns across various domains requiring self-control while also demonstrating “domain-impulsive behavior” due to “domain-specific temptations.” They do not identify technology or the internet as a specific domain, but given recent empirical research on the particular temptations of digital temptations, it could easily be considered as such a domain since resisting its domain-specific temptations might require specific forms of temperance or self-control to avoid domain-impulsive behavior. Matt Stichter draws on this empirical research to suggest that virtues such as temperance might involve applying “general strategies across domains” and “more specific subskills to resist temptations in specific domains of temptation” (2018, pp. 87–89). This empirical and theoretical work helps to respond to the Vegas objection. Even if the pleasures available through digital technology can be experienced in other locations, the specific nature and temptations that accompany digital technology justifies identifying a specific domain (and a related virtue or set of subskills) in relation to these digital pleasures and the domain-specific impulsive behavior they might tempt. In particular, digital pleasures all share a common modality that leads to domain-domain-specific obstacles and temptations. Most prominently, the general accessibility and availability of digital pleasures allow people with access to indulge in digital content anytime and from nearly anywhere. This content is not only accessible...
but also functionally unlimited—one could spend all day binging online videos, for example, without ever running out of content. These characteristics are unique to the digital world and lead to certain types of digital pleasures, such as binge-watching or endlessly scrolling through social media, that do not have easily identifiable non-digital analogues. Yet even for digital pleasures that seemingly have non-digital analogues like pornography, gambling, video games, or shopping, there still seems to be a dissimilarity between the digital and non-digital variants of these pleasures due to the unique attributes of the digital modality in question. The ability to shop on the internet for any item, at any time of day, with a mere swipe of the thumb or click of a button, for example, creates new temptations that arise only because of the accessibility of the digital modality. In this case, the digital modality itself creates potential obstacles to flourishing that would not be an issue otherwise, even if the person were already predisposed to over-shopping offline.

With these domain-specific obstacles in mind, we believe it is relevant to specify a new domain of “digital pleasures” given that their modality enables unlimited and often unrestricted consumption of digital content. Although a trip to Vegas might usher in new or more acute temptations that would not normally arise in a different location, these pleasures are not dissimilar enough to justify “Vegas temperance” as its own unique species. Ultimately, people would use many of the same strategies to resist harmful temptations in Vegas as they use to resist similar temptations elsewhere. Thus, instead of a location like Vegas meriting a distinct domain of temperance, it is more apt to think of locations as domains where certain temptations are reduced or magnified. As opposed to a mere location, digital pleasures all share a common modality that presents challenges unique to the digital age. Because of the accessibility and addictive design of online content, internet users might need to implement new strategies and subskills unique to the modality itself, such as using screen-monitoring apps, storing digital devices in less accessible areas, and utilizing digital content filters to mitigate the dangers of digital overconsumption, regardless of the type of content they consume. Identifying this specific domain of “digital pleasures” can help to better understand and practice the subskills required to resist obstacles and temptations of the digital age that are not conducive to human flourishing.

If the overconsumption of digital content is one vicious extreme, insensitivity is another. If temperance is to be a virtuous mean, it must also help its possessors resist the vice that passively abandons or actively rejects the pleasures of digital technologies outright. While denouncing social media and other applications with a luddite attitude may be tempting, digital insensitivity poses its own risks to contemporary conceptions of human flourishing. The internet supplies important social, political, and intellectual goods, housing sites and applications that allow people to connect with geographically distant family and friends, empathize across borders, organize against injustice, and access global knowledge. Temperate people need not denounce the goods and pleasures of digital consumption altogether. Instead, they can live within a virtuous mean where the internet contributes to flourishing of individuals and communities.

To understand the conceptual content and function of the virtue of digital temperance, it is helpful to analyze its opposing vices in more depth. Recent empirical work highlights some of the dangers that arise when outright rejection of digital technology or immoderate use become a vicious habit.

**Digital insensitivity**

We use “digital insensitivity” to describe a vicious disposition that orients an individual away from digital pleasures congruent with human flourishing in a technological society. This vice may take either a weaker or stronger form. In its weaker, more passive form, digital insensitivity involves the tendency to dismiss, abandon, or neglect digital pleasures in a way that hinders a person’s flourishing. In a stronger form, digital insensitivity reflects a more active rejection of, or resistance to, digital pleasures in a way that harms or hinders human flourishing. As in the case of “insensitivity” more generally, this vice of deficiency might be rarer in a digitally saturated society, reflecting, perhaps, the rarity of insensitivity at large. Nevertheless, since concerns about digital insensitivity seem to permeate much of the discourse surrounding digital technology (Bartlett, 2018; Jones, 2006), it is worth delineating the vice.

Several conditions must hold for a disposition to constitute a vice of digital insensitivity. First, individuals must typically have access and cultural proximity to digital technologies. Otherwise, they could not be said to rationally “reject” or “abandon” digital pleasures; they simply would not have access to them. Second, their own rejection of digital pleasures must negatively impact their capacity to flourish; those who intentionally renounce technology might not be insensible if, for example, their vocation, role, or personal commitments necessitate certain forms of digital abstinence. Third, those with the vice of insensitivity typically display a threshold tendency to possess or enact overwhelmingly negative thoughts, feelings, and actions toward the use and development of digital technology, dismissing the legitimate emotional, intellectual, social, moral, and professional goods afforded by this technology and allowing this dismal impact on their own capacity to flourish in a digital society. Finally, for digital insensitivity to count as a vice, it must reflect a habit of such responses, not simply a discrete act or resistance to a single object of digital pleasure.
As previously mentioned, it is vital to acknowledge differences in technological access due to diverse socioeconomic contexts and generational trends. Some communities have neither the infrastructure nor capability to access digital technology. These communities are not digitally insensible. Instead, they simply do not need to cultivate this particular species of temperance. For comparison, their approach may look similar to communities who avoid or limit access to alcohol for cultural reasons. Members of these communities are not insensible to alcohol; they simply do not need to cultivate the species of temperance concerning a particular object absent from their lives. Likewise, someone who does not have access to internet devices may not need to worry about digital insensitivity nor cultivate digital temperance.

Furthermore, negative and dismissive attitudes and judgements toward technology are not new to the digital age. Critics of technology have long offered helpful critiques of unregulated technological progress. Some alarmists stir the moral imagination by imbuing pop culture with visions of possible technodystopias (Postman, 1985, pp. vii–viii). Other critics, such as Martin Heidegger and Albert Borgmann, articulate an inhumaness associated with technological progress (Borgmann, 1984, pp. 40–48; Heidegger, 1977, p. 16). Since these critics argue that technology hinders some aspects of human flourishing, they might suggest that a temperate use of some digital technology might require avoiding it entirely. But as societies invest in new avenues to human flourishing enabled by new digital technologies, those people unwilling to use them may find themselves disadvantaged and thus potentially unable to flourish through non-technological means. Although it might be possible for these individuals to find alternative sources of pleasure that contribute to flourishing, they would likely need to be in communities where others are intentionally avoiding those technological pleasures. Otherwise, they might find themselves feeling more isolated or unable to participate in communal goods. Since such tight, nontechnological communities become increasingly rare in contemporary contexts, these individuals might experience more difficulty achieving common forms of human flourishing as technological progress continues to permeate society.

But if, as we assume, the pleasures of digital technology do not necessarily hinder human flourishing in the ways critics suggest, then one might explore the possible ways digital technology can enable certain human goods. Perhaps, for example, the internet and digital devices can accentuate emotional (Louie et al., 2016), intellectual (Dogruer et al., 2011), social (Lenhart et al., 2007; Mehra et al., 2004), moral (Lamb et al., 2019; Vallor, 2016, pp. 118–156), and professional flourishing in ways previously impossible. To ignore these potential benefits would be to actively dismiss a central avenue to human flourishing available to many in a technological society. Such neglect is the danger of digital insensitivity.

In some cases, the internet might be the only place where individuals can exercise virtues in certain circumstances. The COVID-19 pandemic provides a real-life thought experiment for the internet’s role in supporting the emotional, intellectual, social, moral, and professional health of society. In a pandemic, each person can be morally obligated to socially distance and stay home as much as possible. Social responsibility might mandate an avoidance of many physical pleasures; restaurants, bars, and large social gatherings could be rightfully restricted for the sake of public health. In such a context, online dating and virtual gatherings offer one of the few ways to preserve human interaction and companionship.

Besides upending social life, the COVID-19 pandemic has also required many people to take their work and education online, requiring new models of remote work and education. This virtual model has evolved into a default mode for much communication, networking, and collaboration. If people refuse to use the internet during such a crisis, they may compromise an aspect of their emotional, social, moral, or professional flourishing. A pandemic accentuates the potential risks of digital insensitivity in a technological society.

Digital overindulgence

Despite the benefits of technology in many cases, it would be disingenuous and perhaps even dangerous to paint an overly idealistic picture of digital life, even in a pandemic. During the COVID-19 pandemic, many people experienced “Zoom fatigue” as their social and professional lives shifted online (Wiederhold, 2020). While Zoom has allowed people to stay connected, it has also revealed the dangers of overuse. Apart from internet exhaustion, empirical evidence surveyed below reveals the dangers of overindulging pleasures associated with social media, video games, and the internet. If Aristotle and Aquinas are correct that humans are more naturally attracted to pleasures than averse to them, then the vice of excess—digital overindulgence—will be the more common temptation. Thus, it is necessary and timely to delineate

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20 This example implies that technology itself is not a requirement for human flourishing or the good life, just as the absence of alcohol is not necessarily a hindrance to flourishing, nor is the absence of sex a hindrance to flourishing for asexual, abstinent, or celibate individuals. Pleasure in the general sense can be an essential part of human flourishing without requiring a specific pleasure.

21 This does not imply that the internet can replace all physical human interaction, only that flourishing may require the use of the internet in certain circumstances such as a pandemic.
digital overindulgence and show how it can adversely impact human flourishing through the overuse of digital devices, the overconsumption of specific software applications, or the consumption of morally wrong applications and content.

Digital users in technologically advanced societies are perhaps the most familiar with a general overuse of digital devices. Even if people do not have an addiction to a particular application, they often become addicted to the devices themselves. Between smartphones, laptops, tablets, and televisions, individuals have a multitude of screens to hold their attention. While this overuse of devices certainly has intuitive relatability, empirical evidence also warns about the dangers of screen overuse and addiction. Studies have shown correlations between cell phone overuse and unhappiness in students (Lepp et al., 2014). More broadly, people have reported that their cell phones negatively impact their energy levels, stress, romantic relationships, and attention spans (Wood, 2019, pp. 233–234). Surprisingly, even those who pioneered these technologies are now warning about their intentionally addictive consequences (Bowles, 2018). 22 A digitally temperate person would avoid overusing these devices since such overconsumption could threaten or diminish human flourishing.

Some people are not addicted to their screens generally but still have addictive tendencies toward the pleasures of specific applications or content. Some might use social media in a healthy capacity yet be addicted to video games. Others might rarely use a laptop or television yet have a debilitating online gambling addiction. In these cases, someone might not be addicted to digital technology qua digital technology but have addictive tendencies to particular pleasures experienced through digital technology. These pleasures may be many and varied, yet their availability through the digital modality still places them in the realm of digital overindulgence even if they may also reflect other types of vices or addictions.

Although there are many possible internet addictions, a few have emerged as potential areas of concern. Some studies suggest that cybersex addiction—relating to pornography or adult websites—may have harmful effects on a person’s romantic and intimate relationships (Harper & Hodgins, 2016; Park et al., 2016). Other studies suggest an inverse relationship between gambling and internet shopping addictions and a person’s financial wellbeing and interpersonal relationships (Clark, 2014). Other studies explore the correlation between social media and online dating addictions and the harm to real-life romantic relationships and friendships (Coduto et al., 2020). Furthermore, gaming addictions can have detrimental effects on a person’s time management and productivity (Griffiths & Nuyens, 2017; King & Delfabbro, 2009). Yet an individual does not need to have a pathological condition to overindulge in the use of digital technology. The habitual and inappropriate overuse of any of these applications could also qualify as digital overindulgence when it endangers flourishing. 23 While such applications may not be harmful in moderation, an addiction or inappropriate use of any one of them may not be conducive to human flourishing for many individuals and thus might benefit from the regulating functions of a virtue of digital temperance that is relative to each person and their circumstances.

Of course, listing harmful content and applications has the danger of being overly moralizing, but some internet habits generate widespread moral concern. Some internet content should be avoided entirely. Following Aristotle, focusing on distinctive appetites can provide a helpful framework to orient ourselves away from immoral and harmful objects. Such digital objects might include, for example, child sexual abuse material (CSAM), “snuff films,” and stalking applications. Temperate people would orient their appetites away from this type of content entirely; in such cases, there is no room for moderation. Furthermore, the consumption of this content has moral implications for other virtues including justice and compassion. The virtue of temperance would need to co-operate with these and related virtues to ensure that any pleasures being enjoyed are consistent with individual and communal flourishing.

Digital temperance

Between digital insensibility and digital overindulgence lies the virtuous mean of digital temperance, the virtue that regulates the enjoyment of digital pleasures in the rights ways, in the right contexts, and in the right amounts. This virtue typically involves resisting digital addictions, avoiding the intentional pursuit of the digital world’s intoxicating effects, and prudently using digital technologies as required for flourishing. Yet digital temperance cannot only be an absence of the negative characteristics of the vices. A virtue must also be exercised for its own sake with the right desires and motivations. Although it may be admirable for a person to overcome internet addiction, they may still have desires more aligned with mere continence rather than true virtue. 24 By continence, we mean a disposition of knowing what is

22 For more information on one such organization fighting technology addiction, see the Center for Humane Technology (https://www.humanetech.com).

23 This distinction is purposely vague. As mentioned before, these vices are relative to the individual, so one person’s overuse might fall in another person’s virtuous mean.

24 For more on continence and incontinence, see Aristotle (1999, 1145a–1154a).
right and doing it, but with internal conflict and struggle incompatible with complete virtue. In the digital case, a continent person would, for instance, use their device the right amount yet also struggle against desires and temptations to overuse it. This person is not vicious but still does not have a stable and settled disposition congruent with complete virtue.

Shannon Vallor addresses this distinction in her brief account of the “technomoral” virtue of “self-control” (2016, pp. 123–125). When discussing the virtue of self-control, she defines it as an “umbrella notion that captures both the self-restraint of moral continence and the deliberate cultivation of right desire that yields genuine temperance” (p. 123). Vallor later broadens her definition of the virtue to describe it as “an exemplary ability in technosocial contexts to choose, and ideally to desire for their own sakes, those goods and experiences that most contribute to contemporary and future human flourishing” (p. 124, emphasis original).

Vallor’s account of self-control is a welcome intervention in discussions of technomoral virtue. Yet her account remains brief, and the inclusion of continence under the umbrella of self-control could make the virtue itself a bit difficult to grasp (cf. Dennis & Harrison, 2021). For example, a person could have an addiction to their mobile phone but not overuse it solely due to screen-monitoring applications. They would act in ways that accord with continence, but not with the ease or reliability of a settled habit. While the distinction between continence and virtue makes the attainment of true digital temperance more difficult and uncommon, the rarity of this virtue speaks to its necessity in our digital age instead of a reason to move the definitional goalposts. Most people will fall into the category of continence, incontinence, or mixed traits—they will be neither entirely vicious nor virtuous (Miller, 2013, pp. 207–213).

To illuminate an unsettled and mixed disposition, consider a person, Mark, who possesses neither digital temperance, digital overindulgence, nor digital insensibility. Generally, Mark uses his phone, laptop, and television a healthy amount without addictive tendencies. He performs well at his job, has a steady romantic relationship, and reports general feelings of wellbeing and satisfaction in most areas of his life. However, like most of us, Mark has internet habits that he dislikes. Sometimes when he is with his partner, he will default to looking at his mobile phone during a lull in the conversation in ways that he regrets and his partner finds upsetting (Roberts & David, 2016; Wood, 2019, pp. 233–234). During the workday, he sometimes allows social media to distract him from tasks he actually wants to accomplish. When he takes the train on his way home from work, he stares at his phone instead of talking to a stranger or admiring the beauty of the scenery, even though he typically enjoys both. Finally, although he feels compelled to protest injustice, he instead chooses to binge-watch the latest episode of his favorite television show rather than engage in activism.

Although Mark does not necessarily possess the vice of either digital insensibility or overindulgence, he also cannot be an exemplar of perfect digital temperance. His own incontinence clues us into his state of mind—he has internet habits that he feels diminish from an aspect of his life he desires, but they are not severe enough to warrant sufficient action or concern. Mark’s example aligns with internet habits and behaviors familiar to many of us: he has an inconsistent and unsettled disposition that detracts, albeit infrequently, from his capacity to flourish in his own context. This example highlights the importance of placing digital temperance as a virtuous ideal that is rare in our technological contexts. The high bar for virtue acknowledges that almost all of us have room to grow in temperance and thus discourages us from being arrogant or complacent in ways that may inhibit flourishing. Most people have digital habits that they dislike and want to overcome, even if they do not definitionally possess either vice.

If digital temperance is rare, however, some might question the value of specifying a virtue that is so difficult to achieve. While possessing full and complete virtue can indeed be demanding, maintaining a high standard of what constitutes full and complete virtue provides an aspirational ideal toward which to strive and a critical standard by which to measure our thoughts, feelings, and actions. In this way, this standard provides a goal to pursue in attempting to habituate the virtue. Therefore, if digital temperance is neither an absence of the vices nor mere continence, a more precise definition is required. We define digital temperance as the virtue that disposes individuals to enjoy digital pleasures for the right reasons and in ways that are consistent with, or constitutive of, human flourishing. On this account, digitally temperate people might typically desire and act in ways to maintain their attention on their relationships instead.
of their devices, ensure their devices do not hinder their productivity, stay engaged and aware to the physical world around them, and use their devices to develop or express other virtues such as honesty, wisdom, justice, and courage. While this is not an exhaustive list, each of these habits will be unique to the virtue as opposed to a mere avoidance of the vice. Digitally temperate people will have consistent, stable, and settled virtuous dispositions that separate them from the merely continent or incontinent.

To illustrate a person with the virtue of digital temperance, consider Sophia. Like many working professionals, Sophia spends most of the workday on her laptop. Every Friday evening, she bonds with her family during movie night and always stays engaged with the film instead of responding to emails. She occasionally uses social media to stay connected with her friends in other parts of the world, but she only checks it occasionally. When she hikes with her partner, she is not even tempted to look at her phone because she cherishes the quality time with her partner among the beautiful scenery. Sophia knows when digital technology will be a distraction or substitute for something she values more in her life, but she also knows when she ought to use digital technology to secure the goods she prioritizes. In this way, Sophia’s digital temperance contributes to her own flourishing and that of her friends and family. Although Sophia’s particular virtuous mean will be relative to her own flourishing and that of her friends and family. Although Sophia’s particular virtuous mean will be relative to her own technosocial context, the virtuous mean of digital temperance is available to anyone who interacts with digital technologies, even if it might look different for each person and set of circumstances. [27]

Conclusion
Since the internet and digital devices are now a pervasive part of technologically advanced societies in many parts of the world, the use of digital technology is only likely to increase as the “internet of things” expands and connects our watches, glasses, appliances, and cars online. As technology expands, we can celebrate and affirm the ways it connects humanity in an accessible global network and provides new objects of pleasure, the likes of which Aristotle and Aquinas could never have foreseen. While we celebrate these advances, however, we are also aware of their risks and dangers—risks and dangers that the virtue of temperance can help us to recognize and resist. By cultivating the virtue of digital temperance, we can use digital technology in ways that contribute to human flourishing. In this context, temperance is not an outdated virtue from the past but a necessary component of a life well-lived in an increasingly digital age.

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[27] Although this is not a “thick theory” of digital temperance that yields concrete rules for digital consumption, our account allows for flexibility as these digital technologies continually evolve. A thick account of temperance risks becoming outdated due to new, unforeseen technological developments. While we might not be able to predict these new technologies, we expect that the digital modality and its related digital pleasures are here to stay.
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