A Pharmacological Perspective on Technology-Induced Organised Immaturity: The Care-giving Role of the Arts

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Digital technologies induce organised immaturity by generating toxic sociotechnical conditions that lead us to delegate autonomous, individual, and responsible thoughts and actions to external technological systems. Aiming to move beyond a diagnostic critical reading of the toxicity of digitalisation, we bring Bernard Stiegler's pharmacological analysis of technology into dialogue with the ethics of care to speculatively explore how the socially engaged arts—a type of artistic practice emphasising audience co-production and processual collective responses to social challenges—play a care-giving role that helps counter technology-induced organised immaturity. We outline and illustrate two modes by which the socially engaged arts play this role: 1) *disorganising immaturity* through artivism, most notably anti-surveillance art, that imparts savoir vivre, that is, shared knowledge and meaning to counter the toxic side of technologies while enabling the imagination of alternative worlds in which humans coexist harmoniously with digital technologies, and 2) *organising maturity* through arts-based hacking that imparts savoir faire, that is, hands-on knowledge for experimental creation and practical enactment of better technological worlds.

Key Words: digital technologies, care, ethics of care, organised immaturity, socially engaged art, Stiegler

Although evangelists of digitalisation have long celebrated the beneficial potential of digital technologies for individuals, societies, and businesses (Varian, 2014), a growing number of scholars have set about critically dissecting the negative social and human implications of these technologies to expose the "dark side" of prevailing sociotechnological conditions (Trittin-Ulbrich, Scherer, Munro, & Whelan, 2021). For example, studies have shown how the present application of digital

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technologies tends to exacerbate inequalities related to gender, class, and ethnicity (boyd & Crawford, 2012; Eubanks, 2018; Pasquale, 2015) and how such technology is exploited to boost opinion polarisation and increase social control by capturing personal data and by inducing us to relinquish our individual freedoms (Birchall, 2021; Schüll, 2016; Zuboff, 2019). Organised as mechanisms of corporate surveillance and data-driven state governance, sociotechnological systems collectively and cumulatively erode our individual capacities for autonomous and responsible thought and behaviour (Ananny & Crawford, 2018; Galloway, 2017; Morozov, 2013; Zarsky, 2016). This erosion of autonomy through the totalising, reductionist, and infantilising effects of digital technologies has brought about what the editors of this special issue have termed technologically induced "organised immaturity" (Scherer & Neesham, 2021; Scherer, Neesham, Schoeneborn, & Scholz, 2020).

Critiques of digitalisation have shown a strong tendency to focus on uncovering hidden patterns of harm buried under the sleek surface of digital technologies. Often getting mired in a spiral of action-sapping suspicion and even paranoia (Parker, 2010; Sedgwick, 1997), such studies tend to impotently despair over the ever-worsening toxicity of digital technologies (Vinsel, 2021) and decry the state of organised immaturity. By contrast, in this article, we endeavour to answer the urgent call issued by the editors of this special issue for active scholarly exploration of new and potent ways to counter organised immaturity. In doing so, we offer what Sedgwick (1997) would term a "reparative reading" of organised immaturity using therapeutic knowledge of how we can challenge and overcome the dark side of digital technologies. Unlike "paranoid critical reading," reparative reading is not merely diagnostic but prognostic, focused on opening up the ethical possibility that a more robust, caring, and fairer world is achievable (Sedgwick, 1997). In our reparative reading, we draw on the pharmacological approach to digital technologies spearheaded by the French philosopher of technology Bernard Stiegler (2010a, 2010b, 2013, 2014, 2019).

Particularly fruitful for a reparative reading is Stiegler's baseline theorisation of digital technology as a *pharmakon*, that is, as a phenomenon containing within itself both the *venom* of and the *cure* to technologically induced malaise. Through this pharmacological lens, we set out the case for how toxicities of digital technologies, including loss of privacy, social control, suppression of autonomous reason, and polarisation of opinions, can be countered or cured by activating the remedial properties of technologies. These include their potential to facilitate bottom-up innovation, collective knowledge generation, collaborative and contributory economies, and collective arenas for social and political resistance.

In arguing this case, we premise that the remedial properties of digital technologies are neither naturally preprogrammed into nor effortlessly emanated from technological architecture but rather need to be deliberately, imaginatively, and caringly reactivated. With Stiegler (2010a, 2010b), we hold that the most effective way to achieve this activation is by mobilising the arts. In Stiegler's pharmacological approach, the arts constitute the most important element of "taking care," as they are "at once what *enables* care to be taken and that of *which* care must be taken"

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(Stiegler, 2013: 4). This care-giving role of the arts lies in their capacity to catalyse a therapeutic rethinking and remaking of the toxicity of digital technologies, while simultaneously such care-giving capacity must be in itself safeguarded and taken care of, for example, by public arts subsidies.

Drawing on Stiegler's ideas about the therapeutic and care role of the arts, and combining these with insights from the ethics of care literature (Alacovska & Bissonnette, 2021; Simola, 2015; Tronto, 1993), we develop a theory-driven framework to conceptualise how the arts can play a care-giving role in countering or taking care of organised immaturity. The literature on care ethics has long demonstrated that the arts function ethically (Gilligan, 2011; Held, 2006), primarily through what Judith Butler (2012: 135) has termed "an ethical solicitation" that prefigures and demands of us a *care-full* orientation and a hands-on caretaking approach to help remedy the harms inflicted by precarity, societal injustice, and care-less political systems (Alacovska & Bissonnette, 2021; Nussbaum, 2010). In exploring this ethical potential of the arts for care-giving, our focus is on the ways artistic practices can help tackle the harms of organised immaturity induced by digital technologies.

It is important here to clarify that our claims about the ethical potential and the care-giving role of the arts predominantly pertain to a specific form of art, namely, that of the "socially engaged arts" (Helguera, 2011). This umbrella term spans a range of more or less contested labels (Bishop, 2012), including "participatory art," "community-based art," "relational art," "collaborative art," and an equally diverse array of (sub)genres, such as "artivism," "art-based hacking," "new genre public art," "social sculpture," and similar (Harvie, 2013; Kester, 2011). As opposed to codified forms of artistic practice, such as those recognisable in traditional art forms of painting, sculpture, or, lately, video art or installation, Bishop (2012: 2) characterises socially engaged art (which she terms participatory art) as practices where "the artist is conceived … as a collaborator and producer of situations; the work of art … is reconceived as an ongoing or long-term project … while the audience … is now repositioned as a co-producer or *participant.*" The work of art in socially engaged art practice is therefore redefined from a finite and material object displayed in museums or galleries to a project-based, participatory, and collaborative process that purposefully aims to instigate social change within local communities and social situations through the use of artistic techniques and aesthetic tools (Harvie, 2013; Kester, 2011). Hence socially engaged art has often been termed post-institutional or "post-studio art" (Bishop, 2012: 1), which explicitly promotes non-aesthetic values like "empowerment, criticality and sustainability among its participants" (Helguera, 2011: 12). Socially engaged arts involve community engagement, political activism, and civic organising to readdress social troubles, such as inequalities, discrimination, injustice, poverty, and exclusion (Kester, 2011), and we may add also technologically induced organised immaturity. Given such orientation to social transformation, organisation scholars have argued for "the organisational turn of the arts" in which "art engages organisationally in sites and situations" to *organise* activities that help solve local and public issues of concern (Holm & Beyes, 2022: 236; see also Dey & Mason, 2018). In turn, the labour of socially engaged artists has

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been reinterpreted as "a labour of care" that "manifests itself as a labour of compassion, involving a hands-on practical maintenance and repair of 'a better world'" (Alacovska, 2020: 729). In their orientation, not only to expose and recognise social and political ills (Harvie, 2013) but to organise collective and compassionate activities to practically take care of them via a labour of care, the socially engaged arts provide an especially promising site for a pharmacological examination into the ways the arts can generate therapeutic conditions for alleviating technology-induced organised immaturity.

We theorise a twofold care-giving role of the socially engaged arts in responding to organised immaturity. Firstly, we argue that the arts can proffer *savoir vivre* in the form of a new type of transindividual knowledge that ethically solicits collaborative resistance to the corrosion of our individual freedom, privacy, and autonomy through the refusal and reversal of digital technologies, while also providing us with the imagination of how to live well with technologies. Secondly, we argue that the arts can furnish us with *savoir faire* in the form of a new type of hands-on, do-it-yourself (DIY) knowledge and practical know-how to tinker with toxic digital technologies and thus harness their curative power for the actual enactment of a more equitable and harmonious coexistence with these technologies.

In theorising the twofold care-giving role of the arts pharmacologically, we contribute an analytical elaboration of the two social mechanisms that the special issue editors posited underlie the processes of solution finding to organised immaturity. On one hand, we argue that the arts "disorganise organised immaturity" via recuperating savoir vivre lost to digital technologies. The arts supercharge the collective struggle against toxic digital technologies, while stimulating the imagination of alternative technological worlds. On the other hand, we contend that the arts "organise maturity" via recuperating savoir faire. The arts carve out (organise) collaborative spaces of experimentation in which participants can reclaim freedom and exercise their autonomous reasoning by subverting and redeploying digital technology for the practical achievement of the common good.

We illustrate such a twofold care-giving role by drawing on socially engaged art practices that have lately proliferated in response to the unprecedented social challenges generated by digital technologies. Firstly, we focus on artivism as a practice that combines art with political activism to illustrate the arts' role in proffering the savoir vivre capable of disorganising immaturity. In particular, we discuss four examples of anti-surveillance artivism: Kate Bertash's *Adversarial Fashion*; Adam Harvey's project *CV Dazzle*; Zach Blas's *Facial Weaponization Suite*; and Sterling Crispin's *Data-Masks.* Secondly, to illustrate the arts' role in organising maturity via the provision of a new savoir faire, we mobilise examples of art-based hacking aimed at the participatory and community-based repurposing of digital technologies for the "common good." These examples include works of feminist hacktivism like Mirabelle Jones's *Diverse SF Wikipedia Hackathon* and Caroline Sinders's *Data Feminism*, as well as art projects drawing on open source artificial intelligence (AI), such as A. M. Darke's *Open Source Afro Hair Library* and Iaconesi and Persico's (n.d.) *IAQOS* (Intelligenza Artificiale di Quartiere Open Source) project, subtitled *A Young AI for the Neighbourhood.*

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A PHARMACOLOGICAL APPROACH TO ORGANISED IMMATURITY

As indicated earlier, thinking pharmacologically with Stiegler about how the caregiving role of the arts can counter organised immaturity entails reconceptualising digital technologies as both the poison causing this malaise and its potential remedy. Before elaborating how the arts can facilitate a therapeutic taking care of technologically induced maladies, we first present our pharmacological interpretation of organised immaturity as read through Stiegler's philosophy.

Stiegler's (2010b, 2019) philosophy of technology offers both an informative *diagnostic* of organised immaturity and a *prognostic* of how to counter this degrading sociotechnological state. In our reading of this diagnostic/prognostic, we conceptualise technology-induced organised immaturity as the outcome of an interlinked set of technological and societal processes that materially degrade both our individual and our collective capacity for savoir vivre and savoir faire. These processes, according to Stiegler, engender "systemic stupidity" and "cognitive proletarianisation" through our surrender of autonomous reasoning to technological systems, our loss of individuality to datafication—or what Stiegler termed "dividuation"—and our loss of "protention" in the sense of "know-how" for imagining and crafting better future worlds of harmonious coexistence with digital technologies. After elucidating these processes in more detail, we continue following Stiegler in charting prognostic ways in which we can recuperate our lost savoir vivre and savoir faire, including the process of "transindividuation" as an antidote to systemic stupidity and dividuation and the process of "de-proletarianisation" as an antidote to cognitive proletarianisation and loss of protention. (See Table 1 for a summary of the diagnostic/prognostic of organised immaturity as read through Stiegler's philosophy.)

According to Stiegler (2019), systemic stupidity emerges from a situation in which technologies now operate at a rate of proliferation and level of complexity that far outstrip the cognitive and perceptual abilities of the human mind, thereby effectively precluding reflexive, critical, and "care-full" thought. In Stiegler's account, this situation has been brought about by technoscientific elites, or what Alessandro Baricco (as cited in Stiegler, 2019: 94) has termed the "new barbarians" and "their more or less Californian 'business models.'" Stiegler (2019) used the term *computational capitalism* to describe the role of these technology giants in reducing culture to bite-sized consumable chunks and the steady replacement of authentic thinking with fast-paced, mathematically automated choices. He warned that the "mental, intellectual, affective, creative, and aesthetic capacities of humanity are massively threatened" by this form of technologically enhanced and marketing-driven capitalism (Stiegler, 2014: 10). In short, Stiegler held that computational capitalism leads to mental regression, moral degradation, and spiritless intelligence devoid of the collective imagination necessary to conceive alternative future modes of living well with technologies.

In the digitally enabled process of *dividuation*, a term developed by Stiegler (2019: 7) from Guattari's concept of "dividual," computational capitalism and automation have led to a situation whereby "individuals and groups are transformed

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Table 1: A Pharmacology of Organised Immaturity

Toxicology (diagnosing the toxic state of organised immaturity)	Therapeutics (care-giving treatments to alleviate organised immaturity)	Mode of care
Systemic stupidity Technologies short-circuit deep and reflected knowledge, undermining critical, abstract, and creative thinking and inducing herd behaviour by reducing autonomous thought to conformism, homogeneity of opinion, and mindlessness. *Examples: passive reception of online content, online "echo chambers," "fake news," online "radicalisation," and deference to self-declared "influencers" and celebrities*	**Transindividuation of knowledge and action** Reimagining collective resistance and compassionate action by forging "new long circuits" of activist thought and aesthetics to generate more robust (enlightened) tertiary retentions Participatory engagement in new collective symbol creation and cultural production Instilling individual and collective courage to refute the idealisation of mindless, misleading, and addictive digital media content Collaboratively dreaming up new, imaginative, and even oneiric forms of coexistence with digital technologies, thereby unsettling entrenched tech logics	**Recuperating savoir vivre (disorganising immaturity)**
Dividuation Individuals are turned into data providers or databanks, stripped of their identity, autonomous thought, and capacity for purposeful action. *Examples: loss of privacy due to datafication and marketing-driven content and loss of freedom as a result of all-pervasive surveillance*		
Cognitive proletarianisation In surpassing the pace and capacity of human reasoning, the speed of algorithmic decision-making has reduced reason to a range of automatisms, with a concomitant loss of self-determination. The exteriorisation of memory facilitated by digital technologies has further led to a loss of individual and collective memory and independent thought. *Examples: abandoning self-determination for the sake of digital convenience, obsessive-compulsive online shopping based on user-profiling technologies, and deteriorating linguistic capabilities due to auto-completion technologies*	**De-proletarianisation of knowledge and action** Developing the knowledge and competences needed to transform top-down relations of production into "a contributory practice" of bottom-up and participatory innovation Building our individual and communal capacities to reappropriate extant technologies and engage in the "living labour" of co-creation, "tinkering with" and hacking technologies for "a common good" Restoring people's hope that flourishing human–technology cohabitation is not only imaginable but feasible and practicable	**Recuperating savoir faire (organising maturity)**
Loss of protentions Repeated exposure to standardised, addictive, and ever more rapid		

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Table 1: continued

Toxicology (diagnosing the toxic state of organised immaturity)	Therapeutics (care-giving treatments to alleviate organised immaturity)	Mode of care
proliferation of clickbait and hyper-customised content leads to the near-complete destruction of individual and collective hopes, desires, and dreams about better and more flourishing futures.		
Examples: explosive growth of immersive online gaming as a form of escapism, addiction, and instant gratification; the proliferation of "vapid online videos"; and information overload		

Note. Based on Stiegler (2019, 2010a, 2010b).

into data-providers, de-formed and re-formed by 'social networks' operating according to new protocols of association." Dividuation occurs as individuals repeatedly exposed to standardised, addictive, and rapidly proliferating clickbait and mindless hyper-customised content are left with nothing to interiorise or to identify with meaningfully when building their self-identities. Processes of becoming mature, responsible, and autonomous "in-dividuals" are thus stunted because digital technologies tend to expose us to nonknowledge, to short-circuit, sterilise, infantilise, poison, and ultimately annihilate our "tertiary retentions," that is, the accumulated heritage of collective, transindividual, and intergenerational knowledge handed down via edifying culture, shared symbols, and quality media, including the fine arts. This erosion renders us "stupid" by reducing our capacity for discrimination in selecting what we retain in our memories, that is, our "secondary retentions"; what we pay attention to in the present, that is, our "primary retentions"; and what we aspire to in the future, that is, our protentions. For Stiegler (2013), the question of becoming a person (in-dividual) is a question of being in common with others and becoming-together. Such a process of in-dividuation, to Stiegler, occurs through a symbolic understanding of and feeling for one another, which can occur only via transindividual (as opposed to dividual) knowledge of living well together. Such transindividual knowledge is what Stiegler (2019) called a "savoir-vivre," knowledge necessary for collectively resisting digital toxicity and enabling the imagination of better worlds in which humans and technologies coexist harmoniously. In sum, to Stiegler (2014: 73), the loss of savoir vivre by digital technologies, which demolish transindividuation-stimulating tertiary retentions, culminates in the impoverishment of thought, which in turn breeds "di-viduals," that is, individuals who are docile and subservient—"sheep-like, tribalized … agents which tend no longer to produce symbols, but like ants, *digital pheromones.*"

No matter how grave, however, the systemic stupidity and dividuation are not beyond repair. By way of a cure, Stiegler (2019) proposed reharnessing and redeploying digital technology to recuperate the lost savoir vivre. Most notably, Stiegler

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proposed forging new circuits of transindividuation aimed at (re)creating the collective symbols, shared knowledge, and ethical sensibilities necessary to facilitate autonomous thought, enlightened individuation, and meaningful political participation. Such transindividuation in turn entails collective and popular resistance to the dumbing down effects of digital technologies through social movements, activism, and disobedience, including involvement in practices of socially engaged art. For the recuperation of savoir vivre, Stiegler (2019: 23) prescribed the (re)awakening of an individual's capacity at symbol production and the (re)creation of a shared participatory culture through community-based edification and collaborative participation in art production capable of generating shared "noetic"—that is, enlightened, robust, reflective, and critical—tertiary retentions and hence also of replenishing human thought.

Turning to the concept of cognitive proletarianisation, Stiegler (2013) theorised that this form of impoverishment ensues from our outsourcing of know-how and memory to technological devices and to sociotechnological systems and authorities. Such outsourcing and automation have brought about an incalculable loss of savoir faire, that is, individual and collective knowledge and capacity to imagine or work towards a liberatory repurposing of technology and the achievement of a more enlightened social organisation of knowledge. Our growing addiction to mindless computer-based hyper-consumption has undermined our capacity for attending to self-maturation and the independent exercise of our reason and volition (Stiegler, 2010a). Lacking exposure to noetic tertiary retentions and succumbing instead to fast-paced marketing-driven content cumulatively obliterates our capacity for generating collective long-term projections or protentions of better futures *shared with* technology. Cognitive proletarianisation thus further obstructs any collaborative rethinking and courageous subversion of the toxic scope and logic of digital technologies. It thwarts the imaginative (re)deployment of digital technologies to the practical making and enactment of alternative technological worlds in which humans and technologies coexist harmoniously (Stiegler, 2019).

As a cure for this malaise, Stiegler (2010a) offered guidelines for recuperating the lost savoir faire through a process of de-proletarianisation. De-proletarianisation consists of collectively reclaiming technological knowledge, reappropriating and repurposing technologies for the exercise of autonomous thought and participation in public deliberation. De-proletarianisation thus entails a reconfiguration of collective intelligence as a precondition for the community-based reinvention of existing technologies. Such reconfiguration and reinvention could be facilitated, for example, through the use of open source software, participatory hacks, and contributory knowledge generation to re-energise our collective desires and protentions of a more just and harmonious future with technology. In sum, Stiegler (2019) proposed that de-proletarianisation is a necessary first step to enable the collective, practical enactment of ways to harness technology for the achievement of a future (protentional) common good.

In the following section, we elaborate on how care-giving artistic interventions, especially in the form of socially engaged art practices, have the ethical capacity to defang digital technologies and transmute their poison into remedies enabling the

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emergence of new forms of life-knowledge (savoir vivre) and work-knowledge (savoir faire). To understand and theorise the care-giving role of the arts in alleviating organised immaturity, it is important to grasp how scholars have theorised the "ethics of care" of the arts.

TAKING CARE OF ORGANISED IMMATURITY THROUGH ART

In what follows, we propose that the arts play a remedial role that takes care of organised immaturity, because the arts have the ethical potential (Held, 2006; Nussbaum, 2010) not only to invigorate a collective struggle against the toxicity induced by digital technologies (through transindividuation) but also to prefigure imaginative ways of practically enacting a flourishing coexistence with digital technologies (through de-proletarianisation). We thus conceptualise socially engaged art as an inextricable part of an ethics of care (Tronto, 1993) for organised immaturity, in which the arts play a care-giving role. The question remains, however, as to how the care-giving role of the arts unfolds in relation to organised immaturity.

To address this question, this section begins by introducing core concepts associated with an ethics of care perspective. Having brought the philosophy of the use-value of the arts into dialogue with this ethics of care perspective, we then proceed to map out some key ways in which the arts operate ethically and can drive caring dispositions, care-based knowledge, and care-full actions within situated circumstances. Our overarching thesis here is that the arts can provide us with both the collective caring imagination and the necessary savoir vivre to live well together against the toxicity of digital technologies. Moreover, the arts can facilitate our moral courage, caring competence, and the requisite savoir faire to caringly engage in the repurposing of the venom of organised immaturity, which jeopardises our basic liberties and rights, into a flourishing technological future (Stiegler, 2010b, 2019).

An ethics of care perspective emphasises interpersonal interconnectedness and mutual interdependencies as the starting point for ethical deliberations on the value of the "good" and the "bad" (Held, 2006). An ethics of care approach thus proceeds from a recognition of the vulnerabilities and unmet needs of concrete others rather than from considerations of abstract justice and the principled autonomy of the self (Gilligan, 2011; Held, 2006). According to Joan Tronto (1993: 105), any ethics that has caring at its moral core "involve[s] taking the concerns and needs of the others as the basis of action." Ethical action, thus, presupposes both ethical sensibilities alerting us to the harm, violations, and damage experienced by others (Borgerson, 2007) and a hands-on involvement in practices that aim to redress and heal the pain and suffering (Simola, 2015). Such practical involvement in reducing harm is not merely a matter of manifesting a caring disposition or a compassionate ethos (Alacovska, 2020) but further involves concrete acts of care-giving "aimed at maintaining, continuing and repairing the world" (Tronto, 1993: 104).

Following such theorisations of practical care enactment, we shall show that the care-giving role of the socially engaged arts is often a matter of "tinkering" (Mol,

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2008) and of articulating "good care" through collaborative, other-oriented (transindividual), and hands-on (de-proletarianised) actions explicitly directed at taking care of societal ills (Harvie, 2013; Kester, 2011), including organised immaturity. Actively caring thus entails deploying care-giving competences for the maintenance and reparation of the world in order that "we can live in it as well as possible" (Tronto, 1993: 103). More often than not, this care-giving competence is accompanied with the moral courage needed to undertake affective engagement and ethico-political involvement with a troubled world permeated with toxicity (de la Bellacasa, 2017). Indeed, practising good care necessitates the courage to "speak truth to power" and "the capacity to resist false authority" (Gilligan, 2011: 10, 12). This moral courage to speak in a different voice (Gilligan, 2011) and to imagine otherwise (Alacovska & Bissonnette, 2021), even at the risk of social ostracisation, censorship, and punishment, is thus inextricable from practices aimed at confronting and reconfiguring entrenched dynamics of harm and injustice (Simola, 2015). To persist in caring in the face of injustice and adversity is to act on the imaginative premise that better and more humane worlds are not only possible but practically achievable (de la Bellacasa, 2017).

We argue that what the arts make possible is precisely this imaginative premise for ethical involvement with "a troubled world" (de la Bellacasa, 2017). The socially engaged arts, in particular, enact and thereby furnish us with the capacity for a caring imagination of the possibility of other, "better worlds" (Alacovska, 2020), inspiring care competence and ethically courageous actions aimed at "achieving more authentic, responsive, resilient, and vital connections among individuals in order to support the health and flourishing of all" (Simola, 2015: 32). Harnessing this capacity of the arts to cultivate and nourish an ethics of care is vital, we argue, to countering organised immaturity in contemporary societies afflicted by economic, social, technological, and environmental troubles.

An implicit ethics of care underlies the theorisations of the use-value of the arts. The literary scholar Rita Felski (2020: 14), for example, has argued that aesthetic qualities "stir up ethical and political emotions," while the philosopher Martha Nussbaum (2010) contended that the arts function ethically by inducing and fostering empathy, that is, "the ability to see the world from another creature's viewpoint" (36) and "to feel their sufferings vividly through the imagination" (40). For Nussbaum, it is only through such arts-facilitated "positional thinking" of empathy that the needs, sufferings, and vulnerabilities of others—especially of others who are socially, economically, mentally, or otherwise remote from us—can become real, proximal, and co-felt and thus serve as an impetus for the joint creation of "a world that is worth living in" (143). Historically, this is why people have always turned to the arts in times of social, political, and economic crisis, not only as a source of courage to resist forces of domination but also as a means of imagining social change even in the direst of circumstances (Sayej, 2020).

In turn, some of the most prominent ethicists of care, including Virginia Held (2006) and Carol Gilligan (2011), have stressed the role of the arts in maintaining caring (transindividual) relations as the primary mechanism of any ethics of care. For example, Held (2006) has argued that the arts enact a "mutually shared caring

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concern" (103) and should therefore become "the preferred domain of moral discourse out of which might come moral recommendations which could generally be accepted and acted on without the compulsions of legal enforcement" (120).

While we recognise that all art in principle possesses ethical orientations, it is the socially engaged arts that most explicitly and visibly enact the care-giving role of the arts in situ via transindividual (participatory and community-based) projects aimed at tackling (disorganising) social ills like poverty and social exclusion and hence also establishing (organising) the possibility for a better world to emerge (Alacovska, 2020; Bishop, 2012; Harvie, 2013). In these practices, it is often the enacted ethical orientation towards a suffering other, combined with the moral courage to engage in rectifying vexatious social troubles, that ultimately constitutes the work of art itself (Bishop, 2012).

Throughout the remainder of this article, therefore, we follow an ethics of care perspective in conjunction with a Stiegler-inspired pharmacological approach to organised immaturity to elaborate some of the key ways in which the arts can furnish us with the know-how, moral courage, caring competence, and imagination about alternative modes of being (savoir vivre) and doing (savoir faire) that are vital for taking care of possible better worlds and for "combatting without cowardice" (Stiegler, 2010b: 179) the impoverished technological world.

Transindividuation: Recuperating Savoir Vivre and Disorganising Organised Immaturity

In this section, we discuss how the arts dispense care in supporting the processes of transindividuation to collectively challenge organised immaturity. We argue that arts model and structure collective imaginings of, and care for, a possible better world (Stiegler, 2013) by making feeling, sensing, and knowing a matter of sociality and hence prefiguring modes of living with, relating with, and becoming a self through the other (Stiegler, 2014). This caring imagination lies in the power of the arts to catalyse transindividuation, because by generating collective knowledge, shared feelings, joint dreams, and shared ethical sensibilities, the arts can induce an individual's compassionate disposition towards shared pain and suffering in need of being taken care of collectively (Tronto, 1993). Individual ethical dispositions (shaped through transindividuation of knowledge, feeling, and dreaming) are a precondition for taking collective care of the toxicity of digital technologies, emboldening us with the determination to resist and "disorganise" toxic worlds and fuelling our imagination for building or "organising" more just societies in which we can live harmoniously with digital technologies (de la Bellacasa, 2017; Gilligan, 2011; Tronto, 1993). Proceeding from the self-evident premise that attentiveness to others underpins any individual's caring dispositions and caring actions (Gilligan, 2011; Tronto, 1993), we thus contend that the arts serve as the primary vehicles of transindividuation by compelling us to "act other-wise instead of self-wise" (Alacovska & Bissonnette, 2021: 138). As Iris Murdoch (2001) most famously argued, the arts are tools for "unselfing" that can teach us how to act courageously and compassionately in the face of a failing, corrupted, and perilous world—in our case, a world now further poisoned by technology-induced organised immaturity.

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Our conceptualisation of the ethical disposition induced by the arts and the vital tools with which they equip us to counter organised immaturity is consistent with Stiegler's concept of savoir vivre. For Stiegler (2019), savoir vivre fosters and requires of us the courage to adopt the "dreamlike" forms of thought and knowledge prefigured in the arts. Mobilising such ways of thinking and imagining for the purpose of a collective "knowledge insurgency," Stiegler argued, is essential to subverting toxic worlds. Achieving this mobilisation entails (re)energising resistance to organised immaturity, including collective efforts to destabilise and fiercely contest the immaturity-inducing sociotechnological conditions that currently prevail. According to Stiegler (2010b: 178–79), "to take care, to cultivate, is to dedicate oneself to a cult, to believe that there is something better … and that this 'better' *must* come." Art fosters such cultivation of hope and catalyses caring revolt. Such art-induced energisation of "caring resistance" (Gilligan, 2011), we argue, is a key contribution of the arts to mobilising the savoir faire needed to undertake the actual, hands-on, and practical collective endeavour of crafting and hence also *organising* new care-full and better worlds.

De-proletarianisation: Recuperating Savoir Faire and Organising Maturity

In this section, we discuss how the arts furnish us with the competence and capabilities, or the savoir faire, necessary for care-giving in a context of organised immaturity. We argue that the arts facilitate the process of de-proletarianisation urged by Stiegler (2019) as essential for defanging the toxic valence of digital technologies. More specifically, the arts help us to develop, nurture, and habituate the "capabilities" needed to nourish common humanity, including critical thinking and an imaginative understanding of the needs, vulnerabilities, and injustices experienced by others (Nussbaum, 2010) afflicted by organised immaturity. By enacting, supercharging, and reinstituting care ethics as an integral part of our everyday modes of being and doing, the arts can "make us do care" in practice (Stiegler, 2010a: 17). This is possible because "a person who feels, who listens, who looks [at a work of art] is more or less put into motion, moved by what he or she feels" (Stiegler, 2010a: 15), including feelings and hopes for the practical accomplishment of better sociotechnological worlds. As a form of ethical solicitation (Butler, 2012: 135), certain artistic practices impose ethical demands on us that "compel our concern and move us to act, that is to voice our objection and register our resistance" to anything poised to inflict harm upon and threaten collective vitality and ethical living and doing. Practitioners of socially engaged art, in particular, enact such ethical demands in their practices (Alacovska, 2020). This is an ethical endeavour that, as art theorists have argued, entails an increased "permeability *between* 'art' and other zones of symbolic production (urbanism, environmental activism, social work, etc.)" (Kester, 2011: 7). As such, the socially engaged arts impart the necessary know-how to provision care in contexts permeated with social injustice, discrimination, and exclusions and hence become a veritable form of labour of care (Alacovska, 2020). Through participation in artist-led experimental, contributory, and hacker forms of symbolic production in communities and collectives, participants engage in processes of de-proletarianisation (Stiegler, 2010a), including practices specifically

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aimed at repurposing, sometimes even hijacking and playfully usurping, extant technology for the practical accomplishment of mature and better technological worlds. Such participation in socially engaged art projects enables us to act as caring, free-thinking, mature, and accountable agents (Kester, 2011; Stiegler, 2010a). In these ways, such practices organise maturity by helping both artists and participants reclaim and tinker with the "means of production of knowledge" (Stiegler, 2019: 241), thereby recuperating our lost savoir faire, that is, the ethical sensibilities and capacity for caring actions that have long been atrophied by the poison of organised immaturity. In the following section, we illustrate these two modes of care-giving, aimed at disorganising immaturity and organising maturity, respectively, through examples from contemporary socially engaged arts practices and projects.

TWO MODES OF CARE-GIVING THROUGH THE ARTS

Disorganising Organised Immaturity through Anti-surveillance Art

As a subgenre of socially engaged art practices, anti-surveillance art initiatives have proliferated exponentially in recent decades, in line with the insidious and largely imperceptible invasion of facial-recognition technologies into almost all contemporary public spaces, from international airports and metro stations to city squares and local parks (Monahan, 2015). Anti-surveillance art encompasses a broad range of initiatives that directly engage with the "algorithmic anxieties" arising from the toxic normativities and "care-lessness" of facial-recognition technologies (de Vries & Schinkel, 2019). Anti-surveillance art provides practical creative solutions to disrupt and resist facial-recognition algorithms as a struggle against technology-induced anxieties (poisons), for example, systemic stupidity as well as racial injustice, gender discrimination, and loss of privacy immanent in the technological reduction of humans to tradable data traces (dividuation). Anti-surveillance art therefore represents a form of artivism that merges art with actual, political commitments to achieving freedom, justice, and social resistance (Asante, 2008).

In what follows, we discuss examples from anti-surveillance art to illustrate how the socially engaged arts help us reassert self-determination and autonomous agency while providing us with vital transindividual—that is, shared, contributory, and participatory—knowledge for living well with toxic digital technologies, or what Stiegler (2019) has called savoir vivre. Such savoir vivre, we show, consists of art-furnished tools, symbols, dreams, and moral courage for disorganising immaturity, which is collectively destabilising the dark side of technologies that usurp our individual freedoms and liberties. For all their aesthetic variety, what all anti-surveillance initiatives have in common is their anchoring in processes of transindividuation, including collective and care-full efforts to diagnose and compel us to recognise but also evade the ills that all-pervasive facial-recognition technologies inflict on every citizen.

By rendering personal identities unidentifiable and undetectable to all-seeing technologies, anti-surveillance art strives to reimagine and reclaim our collective capacity to escape from our current subjection to repressive and dehumanising technological dividuation (Deleuze, 1992; Stiegler, 2019). In these ways, anti-

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surveillance imparts "noetic knowledge" (cf. Stiegler, 2019) that renders the operations of algorithmic systems "transparent and intelligible" (cf. Pasquale, 2015), while also furnishing us with the courage to *dream up* collective remedies against manipulation and exploitation. The main artistic anti-surveillance products that have so far been created for collective use, including "camouflage couture," concealing facial make-up, and cloaking masks, enact care by imparting the necessary tools and inducing in us the moral courage to resist (Gilligan, 2011; Simola, 2015) a regime of extreme visibility that in itself is largely invisible.

Two main types of technology-resistance strategies are commonly pursued in anti-surveillance art: poison attacks and adversarial images. Poison attacks are initiatives in which a collective draws attention to surveillance structures by polluting and compromising surveillance databases with "garbage information." Adversarial images, meanwhile, are used as a strategy to disrupt neural networks to distort what the object-detection algorithm "sees," typically through facial art and/or coverings worn by participants in political protests and acts of civil disobedience (Seabrook, 2020). For example, Kate Bertash's *Adversarial Fashion* functions as a poison attack on databases of individual vehicular movements. These databases have emerged through the proliferation of public and private optical readers that track and store information on car registration plates, with a single database often containing hundreds of millions of licence plate locations for use in predictive policing and in imposing restrictions on personal freedom of movement (Seabrook, 2020). This technology is subject to very few data privacy restrictions, and data security is far from adequate. Bertash's *Adversarial Fashion* sets out to corrupt these databases and thwart their unethical data practices by fashioning clothing and accessories adorned with licence plate imagery that generates numerous false positives to confound and disrupt the algorithm. Adversarial "fashionistas" thus refuse to relinquish their mature, autonomous, and critical-reflective reasoning for the enjoyment of allegedly "convenient" and "civic" surveillance technologies, which are publicly extolled by governmental authorities or corporations as tools contributing to "safer" neighbourhoods and crime rate reductions. Instead, they resist such technologies and explore imaginative and extraordinary ways to safeguard the basic liberties of mature individuals, that is, our privacy, freedom of movement, and independent judgement.

Other artists make use of adversarial imagery in the form of facial make-up or masks to conceal identities as a means of resisting techno-corporate pressure to reduce our subjectivities to "dividuals," that is, to mere aggregates of data exploited for the purpose of extracting information about sexual, racial, ethnic, and criminal identities (Stiegler, 2019). An interesting illustrative example of such art is Adam Harvey's project *CV Dazzle* (2010 to present). Inspired by dazzle-camouflage strategies employed in the First World War to confuse the enemy as to the size, direction, and type of military ships, *CV Dazzle* reverse-engineers the Viola-Jones Haar Cascade facial-recognition algorithm to devise a range of freely available camouflage techniques capable of thwarting facial detection and thus of restoring privacy and reclaiming agency. *CV Dazzle* includes Cubist-like make-up styles with sharply contrasting colours and asymmetric shapes designed to subvert computer

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vision to "protect your data" in the hope of reclaiming more control over your privacy (Harvey, 2013).

Counter-surveillance facial make-up is an act of "everyday resistance" in a world dominated by pervasive surveillance (Harvey, cited in Cerella, 2019). As such, it is also a manifestation of caring for "worlds worth living in" (Nussbaum, 2010) and of practically enacting new, often utopian and dreamlike ways of living (savoir vivre) with facial-recognition technologies (Nussbaum, 2010; Stiegler, 2019) in better, "more than human worlds" (de la Bellacasa, 2017; Tronto, 1993). This aim is evident in Harvey's own account of his art:

> One of the biggest challenges in discussing topics related to surveillance technologies is to avoid becoming fatalistic. My work aims to imagine new and expressive ways of adapting to this environment.… For me, experimental art projects become a gateway to other forms of related knowledge. (Harvey, cited in Cerella, 2019)

Another notable anti-surveillance artistic project is Zach Blas's *Facial Weaponization Suite* (2012–14), which prototyped a range of "amorphous masks" undetectable by security cameras for activists to wear at public protests and political interventions. By designing these masks in community workshops made up of participants from some of the diverse sexual, racial, and ethnic minorities that are most vulnerable to the negative consequences of facial-recognition technology, *Facial Weaponization Suite* aimed to empower disenfranchised communities and open "pathways to self-determination and autonomy" (Blas, 2016: 47). For Blas, anti-biometric masks are not simply about "defacing the face," hiding in plain sight, or evading surveillance: rather, these artworks are a form of transformative politics, which itself constitutes one form of a caring savoir vivre (Stiegler, 2019), that is, a mode of "performatively and utopically expressing ways to relate, be together, and live that no capitalist state or biometric can contribute to or foster" (Blas, 2013). According to Blas, anti-surveillance art constitutes a collective (transindividual) refusal to succumb to the normativity and totalising logic of biometric surveillance, resisting this logic "by creating amorphous, encrypted, incalculable, excessive and weird collective stylings of bodies and environments, with the goals of gaining autonomy and imagining into existence other worlds beyond measure" (Blas, 2013).

In another noteworthy anti-surveillance art project, *Data-Masks* (2014–15), the artist and technologist Sterling Crispin produced 3-D printed masks (see Figure 1) based on analysis of data used in biometric surveillance technology to expose the algorithmic processes that reduce the complexities of the human face to a standardised and calculable identity—a clear manifestation of what, with Stiegler, we term dividuation. Crispin (2014) conceptualises these masks as "shadows of human beings as seen by the minds-eye of the machine-organism." By reversing biometric logic, these masks become usable "in acts of protest, poetry, civil disobedience, and shamanistic ritual by the citizens of our global village as it becomes further blanketed by techno-sphere" (Crispin, 2014). Crispin's data-masks thus strive to counter the dividuation logic of digital technology that "sees human beings as abstract things, patterns and numbers, not as individual people whose lives matter" (Crispin, 2014).

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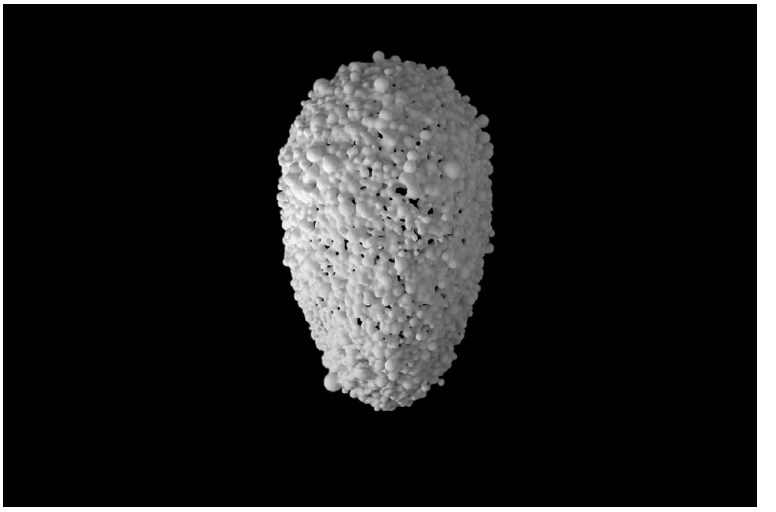

Figure 1: ***Data-Masks (Zuck-Blister)*** **by Sterling Crispin**
Note. Reproduced with permission from the artist.

Moreover, it proffers new forms of collective savoir vivre knowledge that enables the wearers of these masks to "make their lives matter," while critically and courageously refusing to be reduced to data-mining fodder.

For Crispin, as for Blas and Harvey, exposing an otherwise invisible system of technological surveillance and control not only serves to highlight and render visible the discriminatory and toxic effects of biometric data capture but also helps to diagnose the trouble and offer remedial solutions. Such solutions usually take the form of a call for collectivised and politicised action, as reflected in the following declaration by Crispin (2014): "We have the agency and duty to guide these systems toward solutions which give back to the human, and address the human as human."

All of these anti-surveillance artworks can be understood as affording a transformative therapeutics for the ills, anxieties, and malaise incurred by digital technologies (Collins, 2014). For while anti-surveillance art cannot completely safeguard privacy or autonomy in the face of ever-accelerating technological evolution (Monahan, 2015), the practitioners of this art nonetheless carve out spaces for thinking otherwise and for imagining worlds anew (de la Bellacasa, 2017) beyond the reach of all-seeing technologies and their tendencies towards dividuation. For anti-surveillance artists, therefore, art is primarily a curative or care-giving collective intervention that provides "an ethics of taking care that nourishes the senses and creates a new mode of existing" (Collins, 2014: 7). This occurs, above all, by imagining and thus enabling us to imagine new ways of coexisting (savoir vivre) with technologies (Harvey, cited in Cerella, 2019)—or, as Blas (2013) puts it, by "imagining into existence other worlds beyond measure." As manifestations of exhilaration and dreaming, anti-surveillance art practices have the potential to forge new and unexpected, courageous, and alternative ways of resisting and overcoming organised immaturity, including by disrupting our taken-for-granted, hyped, and

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unreflective use of technology. As such, this art is driven by and constitutes a political and activist commitment to turn digital malaise into "a matter of care" (de la Bellacasa, 2017).

For Judith Butler (2012), moments of art-inspired wonder, mystery, and enthralment, including "enchanted" encounters with the amorphous, flamboyant, and mind-boggling facial masks and make-up of anti-surveillance art, constitute a form of ethical solicitation. By inducing us to see, feel, and experience the harmful impacts of technology from the perspective of others, such encounters inspire deep, powerful, and caring attachments to the world. By inducing these attachments, experiences of art generate tertiary retentions that enable us to identify with intergenerational and intercultural others. It also resists systemic stupidity, that is, the mindless acceptance of technological convenience. To become "transindividuated" or "unselfed" by the arts in this way is also to become enamoured with an enchanted, just, and generous world to an extent that renders it difficult *not* to care about the misery, immaturity, and stupidity imposed by automation and computation. From this perspective, anti-surveillance art can be understood and appreciated as a crucial mode of taking care of (Tronto, 1993) a world whose very existence has been jeopardised and troubled by total surveillance, total control, and an all-encompassing loss of privacy (Zuboff, 2019). Such art has the capacity, we argue, to rouse urgent collective concern for a world marked by meaninglessness, immaturity, and stupidity, compelling us to see this afflicted world as a matter that *must* be taken care of (de la Bellacasa, 2017) and ultimately cured.

Organising Maturity: Arts-Based Hacking

In the preceding section, we have shown how art has the power to help us recuperate savoir vivre lost through technologically induced stupidity and dividuation by reviving our capacity for imagining how to live well together with technology in "better" technological worlds. But art also has the capacity to restore our lost savoir faire, that is, our eroded knowledge as to how to enact better technological worlds (Stiegler, 2019). By meaningfully recuperating savoir faire, we argue, the arts offer us the possibility of participating in the co-creation of meaningful tertiary retentions. This in turn enables de-proletarianisation through our recouping of the capacity to act and do in accordance with our autonomous reason and our desires for a better future (Nussbaum, 2010; Stiegler, 2019). The arts impart this de-proletarianising capacity by both inducing ethical sensibilities and generating practical acumen (Nussbaum, 2010), including new forms of know-how and DIY and "remaking" skills to employ and expand in community-based experimentation for the creation of new and better worlds (Tronto, 1993). In artivist practices, applying this savoir faire often takes the form of tinkering with care or hacking digital technologies (Mol, 2008). In generating savoir faire in these ways, the arts impart the necessary "care competence" (Tronto, 1993: 133) to organise maturity, equipping us with the wherewithal to confront, manage, and overcome the dark sides of digital technologies.

Arts-based hacking, including the artistic retooling and reappropriation of technologies for civic purposes and the greater social good (Schrock, 2016), provides an

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excellent case for observing processes of de-proletarianisation and the deployment of art-induced care competence. This form of socially engaged art enlists citizen-audiences as co-producers in the artistic process of technological subversion while collaboratively imparting hands-on capabilities and know-how. According to Bradbury and O'Hara (2019: 4), art-based hacking aims at "democratizing digital fabrication tools, technologies and making skills [available] that have been relatively unavailable to most people, within inclusive and predominantly informal spaces." By making these technical capabilities accessible, hacking enables the activation of the curative potency of technology, typically through the artistic deployment of technologies in collaborative and participatory practices like open source programming, DIY technology design within "maker communities," and "creative coding." In contrast to the popular association of "hacking" with illegal activities, hacking actually has its roots in programmer subculture steeped in transgression, free and open source software, and transparency (Coleman, 2012; Richterich & Wenz, 2017). This is reflected in an ethnographic study of hacker communities by Dahm (2017: 114) that found that "the individual pursuit of knowledge and skill seemed to be valued higher [by hackers] than the actual outcome." In certain key respects, hackers and artivists are alike, because both strive to uphold the values of freedom, open access, privacy, and social inclusivity (Coleman, 2012). As an activity that is at once playful and aesthetically oriented but also offers critical insights into our techno-social milieu, art-based hacking can also be conceptualised as a pedagogical care model for developing technical know-how (Bradbury & O'Hara, 2019). With Dufva and Dufva (2019), we see significant pedagogic value in such practice-based thinking—or what they term "digi-grasping"—as a means of equipping people to act on their embodied experiences of digitality to redress algorithmically driven gender bias, racism, and social exclusion.

This care-giving role is often quite explicit in arts-based hacking projects. For example, some artists cum hackers provide technological instructions for citizens, including in the form of reverse-engineering toolkits and programming guidelines, on how they can reappropriate the power of digital technologies to counter the in-built algorithmic bias of machine-learning technologies. A case in point is Caroline Sinders's *Feminist Data Set* project (2017 to present), which sets out as a self-proclaimed social justice art practice intended to "create technology that acts as harm reduction" in the face of opaque and unaccountable—or "black-boxed"—proprietary algorithms (Sinders, 2020: 6). The pedagogical aim of this project is to help (re) equip us with the know-how we need to counter the algorithmic biases and injustices arising from the pervasive use of digital technology in crucial areas of our lives, including the privileging of male applicants in recruitment and widespread discrimination against people of colour in facial-recognition and other surveillance and policing technologies.

The starting point of *Feminist Data Set* is the recognition that algorithmic bias is primarily contingent on the quality of the data sets on which algorithms are trained. On this basis, Sinders (2020) strives to make and help others make "better data," working communally with workshop participants to build intersectionally sound and diverse modes of data collection. The socially inclusive and better data generated by

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this joint process aim to inform and fuel more equitable machine learning as the most vital process underpinning the development of algorithms. Practically, this activity involves generating data from a multiplicity of voices, views, considerations, and anxieties of workshop participants, who are representative of social groups typically absent in algorithm development. This includes racially diverse, queer, and socially marginalised people, as well as persons with disabilities. Amassing better data in this way underlies Sinders's practical efforts at making a critical ethical software, including a "feminist AI system" (Sinders, 2020: 4) that promises to redress social inequalities in artificial intelligence. According to Sinders (2020), it is crucial to "carefully consider every angle of making, iterating and designing" (9) machine learning to "create some spaces of equity" (6). Inspired by the principles of the maker movement, Sinders argues that "ethical, communal, 'hackable' design and technology is a start towards an equitable future" (7).

The recent surge in usage of the terms maker and making, as well as the rise of "makerspaces," "fab labs," and DIY collectives, testifies to the dawn of a new era of arts-based technology customisation, citizen-led creative engagements with technologies, and practice-based accumulation of tech knowledge (Bradbury & O'Hara, 2019). Makerspaces are organised as a means of providing shared learning, access to otherwise prohibitively expensive equipment, and—critically—sites for enhancing our digital literacy (Braybrooke & Jordan, 2017; Richterich & Wenz, 2017). Arts-based hacking in makerspaces has thus far resisted pressures to turn these spaces into commercial venues and start-up enterprises, which would clearly be contrary to their aim of "enhancing and extending conceptual understandings of critical sociotechnical issues" (Ratto, 2011: 254) and of fostering a form of hands-on care through developing more equitable, fair, and inclusive anti-corporate digital technologies (Bradbury & O'Hara, 2019; Tronto, 1993).

To take another recent example from the sphere of "feminist hacktivism," Mirabelle Jones's *Diverse Sci-Fi Wikipedia Hackathon* (2021) taught workshop participants hacking skills to enable them to work creatively in combatting the exclusionary and discriminatory tendencies intrinsic in knowledge-crowdsourcing technologies predicated on a user-producer base predominantly composed of white males and replete with "hostility to women" (Paling, 2015). This project was structured around the question of who gets heard and who gets to shape the development of technology and its history. In addition to sparking critical thinking on the place of women in the evolution of technology, the workshop developed the participants' practical skills in programming and managing digital editing of knowledge, enabling them to play an active part in expanding the currently scant and gender-biased Wikipedia entries on female designers, engineers, innovators, and technologists (CATCH, 2021).

A further variation of critical maker and art-based hacking practices employs art and technology to overcome fixed, derogatory, and abusive racial, ethnic, and gender stereotypes perpetuated by digital technologies, again by harnessing the contributory and participatory (curative) potential of technologies themselves. These practices aim at reappropriating and retooling harmful technologies to create an ethical and caring space for open source and creation and experimentation with

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remedial content, images, and imaginaries. Self-defined as "an artist and game maker designing radical tools for social intervention" (Darke, n.d.), A. M. Darke creates work that includes some paradigmatic examples of critical maker practices, such as the collaborative community project *Open Source Afro Hair Library*. By offering free access to a carefully curated database of 3-D models of Black hairstyles and textures for an online community of fellow artists, hackers, gamers, hobbyists, and amateurs, this project equips users with a "radical tool" with which "to address the lack of thoughtful representation of Blackness in games, virtual/augmented reality, and other 3D media" (Darke, n.d.). In an era when Afro hair has increasingly been the target of discrimination, including bullying, suspensions from school, and loss of employment (Goff, 2021), the *Open Source Afro Hair Library* sets out to redress the algorithmic bias imminent in online image search engines and 3-D asset marketplaces that generate a repertoire of demeaning representations of Blackness. In this way the *Open Source Afro Hair Library* removes barriers to accessing respectful, diverse, and thoughtful representations of Blackness, thus offering a new, crowdsourced, transindividual savoir faire for remaking equitable and inclusive digital worlds (see Figure 2).

Arts-based hacking practices further encompass effective modes of recuperating savoir faire through explicit anti-corporate action, including taking full control over algorithmic technologies via creative coding. Refusing to submit to technology-induced cognitive proletarianisation, and undeterred by the opacity of arcane black-boxed algorithmic systems, two Italian artists—Iaconesi and Persico—have harnessed AI to set in motion a radical process of de-proletarianisation by coding, building, and running a novel technological infrastructure. By designing and implementing open source and free-to-access AI, their work aims to facilitate

Figure 2: Jovan Wilson for Open Source Afro Hair Library by A. M. Darke
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transgenerational and transindividual arts-driven learning and exploration of the adverse implications of AI in communal life (Iaconesi & Persico, 2021). In their 2019 project *IAQOS*, Iaconesi and Persico (2021: 189) deployed a custom-made AI system as "an actor in the community, fully negotiable, with its knowledge graph always in plain sight for the eyes on the street." Working in a particularly ethnically diverse neighbourhood of Rome, the artists first set about raising awareness among residents of the dark sides of digital technologies, for example, by asking the question, "Did Amazon come to you for a workshop to decide what data Alexa could collect, or was there an instruction manual that told you what to do?" (Iaconesi & Persico 2021: 185). To upend the corporate harvesting of personalised data that typically proceeds without any consent or dialogue, for the *IAQOS* project, Iaconesi and Persico invited local residents to offer a "knowledge-gift for the artificial kid" and voluntarily feed its "gestation," "birth," and "growth" through workshop participation and daily encounters in bars, laundries, schools, and grocery stores (185). Locals enthusiastically embraced the newly born "AI child" as a member of their community, turning it into a veritable "community AI" by speaking to it in diverse languages, reading news with it, playing and dancing with it, writing homework with it, and testing its veracity or fakeness. From this commotion of community interaction with the AI, Iaconesi and Persico found that "a space opened up: to conceive new possible cosmologies where we can position ourselves as human beings in a world that includes data, computation and the many non-human actors and agents around us" (190).

In sum, art-based hacking constitutes a mode of taking and giving care by imparting "pedagogies of care" to develop people's capacities "to lead the kind of lives they value—and have reason to value"—in harmony with digital technology (Sen, 1999: 18; Stiegler, 2019). The participatory and contributory aspects of such projects reflect a recognition that the development of our individual capacities is often inseparable from acting together with others who value similar ways of living (Evans, 2002). This emphasis on collectivity further reflects a hope that the production of refertilised contributory and transindividual knowledge "enables 'learners' to participate actively in the collective production of knowledge or art" (Fitzpatrick, Alombert, Tron, Loughran, Citton, & Stiegler, 2019). The strategy of "contributory work" is thus to alter (refertilise) retentions and protentions otherwise stunted by digital technologies (Stiegler, 2019). Art projects that combine collective capacity building with a hopeful engagement with technological futures thus strive to take care of organised immaturity by offering resources for the de-proletarianisation of knowledge. As we have seen, this contribution is crucial because de-proletarianisation entails actively, *courageously*, and *hopefully* rejecting what is often purported to be the inevitable takeover and complete control of our data, privacy, and visibility by technology conglomerates (Fitzpatrick et al., 2019). These projects endeavour to facilitate our rejection of such control via arts-based emancipation through experimentation with toxic technologies, or what Mol (2008: 12) has termed caring by "tinkering." The contributory and participatory nature of arts-based hacking thus constitutes a salient example of care-giving that helps to organise maturity by turning citizens into co-creators of technologies and equal members

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of a tech design community. Doing so enables conditions of maturation and human flourishing in harmony with digital technologies, rather than in subjection to the "dark" aspects of these technologies.

DISCUSSION AND CONCLUSION

This article has examined some of the ways in which the arts, in particular, the socially engaged arts, can play a care-giving role in countering technologically induced organised immaturity by inspiring us with ethical sensibility and courage and by equipping us with the know-how to collectively take care of this trouble. Bringing Stiegler's philosophy of technology into dialogue with the ethics of care literature, we have tentatively charted two key modes of care-giving whereby the arts can help disorganise organised immaturity and (re)organise maturity.

To illustrate the first of these modes of care-giving, we explored anti-surveillance art as a form of socially engaged art practice belonging to the genre of artivism, showing how such art can help disorganise organised immaturity. The socially engaged arts achieve this, we argue, by facilitating processes of transindividuation whereby individuals can recuperate what Stiegler termed savoir vivre, that is, the capacity to imagine the possibility of creating more salutary and fulfilling technological worlds through collective care, courage, and resistance. Far from merely diagnosing the sociotechnical symptoms of organised immaturity, artivism sets out to "challenge, confront, and resist this otherwise inescapable fate of torture, injustice and inhumanity" (Asante, 2008: 175). Anti-surveillance art, for example, not only alerts fellow citizens to the harms of pervasive facial-recognition technologies but also deploys artistic expression in a collective endeavour to find a "cure" for this malaise, that is, to develop concrete solutions to data-driven surveillance through arts-based transgressive techniques, such as poison attacks and facial camouflage. These endeavours are not reactive but proactive, aiming to rekindle a caring imagination as a precondition for constructing new and alternative worlds worth living in (Nussbaum, 2010; Tronto, 1993). This includes worlds in which humans and facial-recognition technologies, for example, can coexist harmoniously.

To illustrate the second care-giving mode by which socially engaged arts counter technology-induced organised immaturity, we have shown how participatory and hands-on social engagement practices like arts-based technology hacking can help *organise maturity* through de-proletarianisation, by furnishing a new savoir faire for crafting in practice better technological worlds. Arts-based hacking practices carve out inclusive and contributory (transindividual) spaces for experimentation through tinkering with and retooling technologies. In this way, we argue, hacking imparts both caring knowledge (e.g., by raising public awareness of organised immaturity as a matter of public concern) and caring competences, such as hacking know-how for managing and reversing the dark aspects of digital technologies, thereby strengthening our collective capacities for autonomous reasoning and political participation. Feminist art-based hackers, for example, subvert the exclusion and discrimination induced by digital technologies by deploying artistic means of co-creation, as in the reviewed case of co-producing Wikipedia entries to subvert the male-dominated

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logic of knowledge-crowdsourcing. Other hacking projects contribute to organising immaturity by developing new open source AI technologies and making these freely available to local communities and neighbourhoods for playing, learning, and experimentation. As in the case of *IAQOS*, such projects put into practice visions (protentions) of a more equitable and participatory technological future that is radically different from the toxic present of organised immaturity.

As we have argued throughout this article, the care-giving role of the socially engaged arts in the context of organised immaturity lies in reactivating and catalysing the progressive, curative, and remedial potential of technologies themselves. Care-giving artistic practices facilitate the re-enchantment—reimagining, retooling, and repurposing—of digital technologies that are otherwise immaturely and passively accepted, unreflexively used, and uncritically adopted as tools of convenience and comfort (Stiegler, 2019). By ethically supercharging our relations with technology, practices like anti-surveillance art and art-based hacking can be understood as ethical solicitations to act caringly and as ethical demands to summon the moral courage to resist organised immaturity and take care of the ills inflicted by digital technology (Butler, 2012; Gilligan, 2011; Simola, 2015).

In arguing for and illustrating the care-giving role of the socially engaged arts in the context of organised immaturity, we contribute a reparative reading (Sedgwick, 1997) of the toxicity of digital technologies to other studies that have explored productive responses to the dark side of technologies. In this approach, we differ from critical studies of technology that view surveillance capitalism as so all-pervasive and totalising that little refuge remains from the "datafied gaze" of machines (Morozov, 2013; Pasquale, 2015; Trittin-Ulbrich et al., 2021; Zuboff, 2019). Notwithstanding these powerful critical voices, a growing number of scholars are intent on challenging this negative prognosis and critically rethinking the toxicity of technologies, arguing that alarmism in the face of technology-induced harms amounts to little more than "criti-hype," that is, criticism that is parasitic upon and yet further inflames technological hype (Vinsel, 2021). Some scholars, including the editors of this special issue, have instead set about investigating possible "escape" strategies. For example, Kazansky and Milan (2021) and Markham (2021) have contended that grassroots activities in civil society are best suited to contesting surveillance imaginaries intrinsic to digital technologies, including technology like the Internet of Things or facial-recognition technology. With these scholars, we strongly concur that datafication can and must be resisted and challenged from the bottom up through social justice activism.

Our article contributes to this stream of scholarship by elucidating the care-giving role of the socially engaged arts as an under-studied potential counterforce to oppressive sociotechnical conditions. As an *art-full* response to technology-induced organised immaturity, socially engaged art practices render this malaise materially thinkable, feelable, and—most importantly—practically actionable. Such artistic practices, we argue, serve as a much-needed corrective measure by enacting ethical propositions about what type of life is worth living together with digital technologies (savoir vivre) and what type of actual technologies we would collectively desire to have and make (savoir faire) (Nussbaum, 2010; Stiegler, 2013). Far from

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constituting a mere "aestheticization of resistance" (Monahan, 2015: 162) or an ineffectual game of cat and mouse between technologists and activists/hacktivists, the anti-surveillance art and arts-based hacking projects explored in this article provide a material platform for consciousness raising, experimental engagement with better tech futures (as suggested in Markham, 2021), and hands-on therapeutic treatment of the malaise induced by digital surveillance and algorithmic control. Much aligned with our pharmacological argument, recent studies posited the power of artistic practices, such as those based on "artistic research of data sets," to stimulate critical and activist engagement against the harmful biases and exploitation implicit in machine learning (Thylstrup, 2022: 659).

In foregrounding the role of the arts in disorganising immaturity and organising maturity, we stride with recent scholarship within management and organisation studies that has argued the organisational turn of the arts (Holm & Beyes, 2022), that is, the power of the arts to intervene in troubled sites and places to stimulate social organising for achieving social change, for example, in ghettoised urbanities (Holm & Beyes, 2022). Other organisation scholars, such as Dey and Mason (2018), have shown how the arts facilitate activist entrepreneuring, an endeavour that aspires to help people overcome the constraints of collective imagination and envision that other, more robust and flourishing worlds are indeed possible and feasible. We have shown that the (dis)organising power of the socially engaged arts, in the context of organised immaturity, is contingent on the ethical potential of the arts to furnish the caring imagination, moral courage, and competence necessary for the collective, activist, and hands-on enactment of better technological worlds.

Our deliberations on the ethical role of the arts in taking care of organised maturity thus further resonate with scholarship that emphasises the necessity to disrupt normalised social imaginaries and remove constraints of imagination to overhaul the dark side of digital technologies. For example, our care-giving conceptualisation of the arts-driven solutions to organised immaturity dovetails nicely with the vision for "ethos-renewal" set out by Manuel Hensmans (2021: 8) and his advocacy of a "digital commons" that would function as "an open-source incubator for startups and socio-political activists." Such an outcome would thereby challenge "Silicon Valley's practices of data-algorithmic overload, opacity, and manipulation with transparent, intelligible, and critically informed alternatives" (8). As this article has shown, many practices of anti-surveillance art and arts-based hacking are ultimately ethical practices insofar as hacking, retooling, tinkering with, and reverse-engineering technology always involve an aesthetic dimension that restyles and resculpts the ingrained corporate principles of technology in radically new, collective, dispersed ways based on the ideals of free speech and individual autonomy (Coleman, 2012).

By emphasising the power of artivism as a participatory tool for everyday political resistance to organised immaturity, we also offer a novel deliberation on what Kellogg, Valentine, and Christin (2020: 383) have termed "algoactivism," that is, "individual and collective resistance to algorithmic control." Although organisational, occupational, and legal forms of algoactivism have been widely studied, arts-based modes of subversive, collective, everyday forms of algorithmic resistance

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have been overlooked, hindering our recognition of digital technologies as a potential solution to the organised immaturity they engender. In stressing the care-giving role of art in ethically soliciting our imagination, courage, and hopeful action to resist and remedy the dark aspects of technology (Stiegler, 2019), we echo Harcourt's (2015: 251) call for "digital disobedience." According to Harcourt, we can only battle the oppressive and antidemocratic influence of digital technologies if we regain the capacity to imagine new forms of political resistance and disobedience, including new ways of refusing to engage with the surveillance logic of expository and self-confessional social media. Resisting this malign influence, Harcourt argues, "calls for courage and ethical choice, for innovation and experimentation" (281), that is, precisely the qualities and capacities we have shown the arts can foster through their ethical and caring potential. However, whereas Harcourt has largely emphasised *personalised* strategies for evading digital surveillance and visibility, such as using encryption, in this article, we have rather highlighted a set of *transindividual*, *collective*, and *collaborative* ways in which the dark side of technologies can be contested by popular, playful, and enchanting artistic means to enable a wider and more mature public arena for political deliberation and protest.

An important implication of our argument about the care-giving role of the arts is that governments in liberal societies have an urgent duty of care to support the arts and an imperative moral obligation to enlist them as an important player in state-backed efforts to recover maturity. In this conclusion, we concur with vociferous calls from ethicists of care for substantial societal investments in the arts, including state-support schemes for artists (Alacovska & Bissonnette, 2021; Held, 2006). This support is essential to harnessing the care-giving role of the arts as guardians of civic values and catalysts of moral action (Nussbaum, 2010). At a time when state funding for education in the liberal arts is under constant threat, we further back urgent calls for democratic governments to invest in strengthening and supporting such education. In sum, state investment in the arts and in arts education is crucial to ensuring that the arts can continue to ignite and sustain our reimagination of worlds in which humans and technologies can coexist well with one another and to inspire us with the courage to fight for the existence of better worlds in the face of all-encompassing, totalising, infantilising, and apathy-inducing digital technologies.

Business organisations likewise have a responsibility to contribute to organising maturity, for instance, by taking the arts seriously and harnessing their care-giving potential. The ethical potential of the arts to impel other-oriented caring actions can be harnessed to direct the attention of technologists, designers, and managers to the harms inflicted by their technologies on citizens, potentially prompting these actors to undertake caring actions in their own work. As we have further highlighted, the arts have the potential to inspire organisations with the moral courage to take care of organised immaturity even in the face of conflicting demands on care in the workplace (Antoni, Reinecke, & Fotaki, 2020). This includes demands for technological prowess and economic profit versus wider demands for more caring relations and compassion. On this basis, we argue, any context of business ethics, including research related to the ethics of digital technologies, must consider the care-giving role of the arts. In thus advocating a remedial ethical role of the arts in business ethics

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contexts, we align with an emerging stream of business ethics scholarship, including studies published in this journal, that has emphasised the ethical potential of the arts to "transcend the damaged, unfree and false conditions" of contemporary workplaces and occupational existence (Reeves & Sinnicks, 2021: 517).

Last, but not least, we issue a note of caution that the artistic activation of the curative poles of digital technologies also risks being forcefully enclosed within the very same circuits of organised immaturity it sets out to cure. Indeed, a number of criticisms have recently been levelled at art-based hacking, questioning the care-giving role of these practices. For example, recent studies have shown that members of hacktivist communities increasingly originate from highly privileged social groups in terms of their education and wealth, opening them up to accusations of being exclusionary of cultural minorities and women (Annenberg, 2013), as well as criticisms that such practices constitute a sanitised and commercialised version of hacking (Richterich & Wenz, 2017). Anti-surveillance art has similarly been criticised for diverting political struggles towards an exhibitionist type of politics performed by highly educated, urban, and typically white professional elites (Monahan, 2015). In addition, although the growing number of artist-in-residence programmes in tech corporations like Facebook and Google may reflect an increasing recognition by corporations of the care-giving role of the arts, scholars have warned against the dangers of "art-washing" arising from the corporate deployment of the arts to legitimise the sale and adoption of harmful technologies (Turner, 2018). In recognition of the fact that the arts themselves are also a pharmakon, containing within themselves potentially poisonous qualities, we urge all future discussions and research on the role of the arts in contexts of organised immaturity to pay special attention to any commercial, corporate, or political tendencies aimed at blunting their progressive edge or abusing their power to perpetuate social inequalities and discrimination.

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