

Meditation 2.0

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Introduction

Meditation is a spiritual practice with roots in the East, but has been imported to the West. In this process meditation has been secularized on a variety of fronts such as medicine and healthcare, business, sports, and so on. We can also see this trend of secularization happening through technology. Specifically, mindfulness-based mobile applications (MBMA) are being produced as well as wearable devices are being created for an increasingly competitive meditation market.

We wanted to understand the place, force and role of these meditation apps as they circulate in contemporary culture. As a way in, we both did an autoethnographic and semiological analysis of these apps. What we discovered were three major themes: Complexities and Contradictions; This Worldly Secular Salvation; The Sociology of Meditation Apps. In theme one we found that there are inherent complexities and contradictions in using meditation apps – that by using these apps they were both helping and hurting us, giving us relief from stress but simultaneously immersing us further into our devices which may be increasing our stress and anxiety. In our next theme, we found that these apps are offering “secular salvation” similarly to how religions provide salvation. The difference is that “secular salvation” is focused on this-worldly benefits such as stress reduction rather than the other-worldly benefits like Nirvana. Our last theme points to if and how these apps create human communities, specifically looking Stark and Bainbridge ideas around client cults.

Before getting into the findings and analysis section we have to set the context for understanding this integration of meditation and technology. Therefore, our literature review

will cover topics such as Biohacking, Neural Technology, Transhumanism because in many ways these apps are one expression of this larger techno-cultural movement. Then we discuss the history of Mindfulness Meditation, and the development and study of various technologically assisted meditation applications. After the Literature Review, we then outline our methods, and then we dive into our analysis and findings.

One final note: This senior project has been a collaborative effort. We worked together testing apps, sharing notes, research and writing responsibilities. In the findings and analysis section you will see a summary but also sections with our own personal insights as well.

Literature Review

Biohacking

To fully grasp and understand what biohacking means, we looked into how this is culturally and scientifically relevant today. Our senior project, **Meditation 2.0** delved into how the practice of meditation has changed and immersed itself into something that has completely differed in a modern setting, one that relies solely on convenience as well as innovation, which is ever changing. Biohacking is a relatively modern term, one that has arisen from this innate want to improve quality of life, and that as a species we are not content with what our biology limits us to. The goal is to overcome the limits of biology and propel our abilities into this higher state, thus leading into transhumanism.

Our definition of Biohacking is using organic as well as inorganic (or technological) means to better one's self and improve overall life function and expectancy. In a sense,

biohacking is modern eugenics, taking control of what is considered ideal, and replicating it through the use of convenience and technological innovation.

Dave Asprey, a self-proclaimed biohacker, and founder of Bulletproof 360 Inc, and Bulletproof Nutrition Inc, is a lifestyle guru whose job is to research and bring about new ways to improve health, both mentally and physically, through the use of both organic and inorganic means. This is his definition of biohacking “Biohacking is the art and science of changing the environment around you and inside you, so you have more control over your own biology” - (*Asprey, Well Good magazine*).

A popular example of biohacking would be through dietary needs and choices. There are countless examples of athletes and other wealthy people who meticulously choose certain types of food choices in order to help boost their needs, be it in sports, or general life function and longevity. It should also be noted that there is this increased need to supplement normal routines with an added twist, such as adding amino acid in coffee, or waking up with an alert from a sleep monitor. These two examples are both what I will be referencing: organic and technological biohacking, respectively.

It is a widely known fact that the Japanese have the highest rate of life expectancy in the world. There are many factors to measuring life expectancy in a country, such as GDP per capita, population size, education level, and other factors, such as crime rate, quality of life, as well as environmental factors. Quantitative information shows that life expectancy in Japan is at its record high. Men are expected to live up to 82.15 years, and women 87.32. For context, in the United States, men are expected to live up to 76, and women 81. The Japanese are known to live

longer due to their diet, which typically consists of eating fish, and lots of it. Their diet is low in saturated fat, while staying rich in antioxidants. According to the World Health Organization, Okinawa has the highest number of centenarians, which are those who are a hundred years old or older. This would be an example of cultural and locational biohacking, which is basically what I've explained above, regarding good public health practices. This is relevant in understanding the fact that biohacking has been around for a long time, and it's the closest thing to tying us into superhumans. Furthermore, it should be noted that biohacking is generally practiced upon those with the means and knowledge to fully understand it. There is an emphasis of biohacking within the big software conglomerates in Silicon Valley.

An example of biohacking which is both organic and inorganic would be cryotherapy, which is the use of cooling the body with nitrogen, simulating extreme coldness, in order to decrease inflammation, increase deeper sleep, as well as fight depression. I bring this up because cryotherapy has seen an increase in popularity as of recently. Biohacking the mind is more focused on technological biohacking, through the use of implants, to actually change the biology and capabilities of mind and body.

Neural Technology

Neural Tech is technology relating to the brain, such as implants. The goal of neural technology is to be more able to assess how the brain functions, as well as cure any ailments that are related to the brain, and motor functions, such as parkinsons. This is especially relevant today, as there is an emphasis on connecting A.I to the brain directly, since the digital age demands this need to be connected and we often use smartphones as this vessel that connects us.

Neural technology would be a direct link to this, eliminating smartphones as a mediator. There are several key figures regarding neural technology, one of the bigger ones is Elon Musk, who is among the most influential and somewhat controversial figures right now. Musk strives to create a direct link between A.I and the human mind, no longer needing to have a middle ground, which would be our smartphones and computers, through an implant in the brain. The concept of surgically implanting a device in the brain in order to create a cyborg-like device has been around for a very long time, but hasn't proved to be very plausible. This convenience is a huge selling point among the public eye.

With the creation of Neuralink, Musk and his team propose a seemingly painless procedure of inserting the implant, making a very small mark in the brain and compares it to getting minor surgery, like lasik. This implant is called the N1 implant, and it is unmanipulatable, allowing ease of mind to its users. As of right now, Neuralink is a private company, which means that there are no stocks available to the public, and that it is mostly self funded by Musk and those close to him. Musk strives to eliminate ailments in humans such as Parkinsons, and epilepsy, and bridge the gap of research between nonhuman animals and humans. In a press release, talking about Neuralink, Musk revealed to the public that him and his team have been able to have a monkey control a computer, and boasted about being able to read a rat's mind. He plans on testing on humans as early as 2020, which can prove to shift the future of technology and humans at an incredibly alarming rate. Neural tech will be the link to securing a future that molds humans and technology together, creating this early state of cyborgs in humans, proving that transhumanism is possible and plausible.

Transhumanism

Transhumanism is defined as the belief or theory that the human race can evolve beyond its current physical and mental limitations, especially by means of science and technology.

(Hexley, 7.) Transhumanism is key in understanding meditation as meditation itself is a form of transhumanism, by sharpening the mind. There seems to be a lot of talk regarding transhumanism as a practice. It's most likely due to us wanting to achieve total dominion over our biology. As a species, humans have closed off all comparison to other animals, and have since the anthropocene. Especially with this emphasis of instant gratification that is posed upon society today creates this need to be better, by any means. To create smarter and faster humans. As mentioned before, transhumanism is basically modern eugenics. The goal is to filter out what is beneficial in humans and destroy any ailments or signs of weakness by replacing or fixing with technology. A concrete example of this would be the use of prosthetics on those who don't have limbs.

A key player in understanding transhumanism, and the future itself, is Ray Kurzweil, a futurist, who is able to accurately predict the state of technology in the future. In other words, Kurzweil is a technological psychic. He is giving insider information from tech giants, and spreading them among the masses, helping the common people understand the state of where technology will be. Perhaps his most famous example of correctly analyzing the future of A.I, was in 1990, where he predicted that by the year 2000, computers will beat the best chess players. Seven years later, in May of 1997, Garry Kasparov, world champion was defeated by IBM's Deep Blue computer in a chess tournament. This is important, as he's one of the pioneers

in understanding the potential of A. I's and how this could affect the state of humanity. More recently, Kurzweil has understood that GDP is rising and we're overcoming poverty from a global standpoint, as literacy rates are rising, and we are technologically more advanced.

Understanding the state of humanity and technology goes hand in hand in really being one step ahead of the curve. There is a lot of promotion of transhumanism, as the media sort of fetishes it through the use of science fiction movies, and keeps relating the fact that this will be something that is attainable in the near future, like what I've said about Musk. It's important to relate this back to the use of smart devices and applications as well as wearable technologies because these are vessels that are granting us to become easily entrenched into this new area of transhumanism.

Transhumanism can be reflected back to biohacking, as the two are the same in a sense. Biohacking falls under the umbrella term of transhumanism, they want to better themselves, however transhumanism is moreso through the use of technology, and not just by organic means. There is a lot of room for spillover from the two. Transhumanism and meditation also are related, because of the fact that traditionally, meditation is seen as a way of gaining inner happiness, and that meditation is a vessel that grants us that ability. It leads to spiritual and emotional manipulation of the body. "Transhumanist meditation could be seen as a radical personal development technique, using social and neural technologies. It spans the intersection of technology and spirituality and, in doing so, unites the ancient and the modern." (Jaokar)

The mindfulness movement has been around for decades in the United States. Since then, it has created a generation of self-sufficient beings that are able to rely solely on themselves in order to clear their minds, lessen anxiety, and be more happy. Traditionally, mindfulness as a

practice is an offshoot of Buddhism. Meditation prior to mindfulness was typically seen as something only Buddhists and monks would do, so those in the West were not privy to the many benefits that are a result of mindfulness. Through the popularization of meditation and mindfulness in the West, these direct benefits were recognized, and have since become a staple in wellness, and biohacking the mind in general in order to lessen anxiety and stress, becoming more self-reliant upon themselves.

History of Mindfulness Meditation

Meditation is a practice that facilitates mindfulness. It is the tradition of sitting in silence or listening to music and focusing on the present moment. There are many different forms of meditation, but the form that gained the most popularity during the rise of the mindfulness movement was Transcendental Meditation. Maharishi Mahesh Yogi is noted as the founder of the Transcendental Meditation movement, which took place in the 1970s. Meditation took off from there and other forms of meditation were formed such as Mindfulness Based Stress Reduction (MBSR) which was developed in 1979 by Jon Kabat-Zinn. There were many other gurus and leaders who had an impact on the mindful revolution such as Thich Nhat Hanh, and even celebrities such as The Beatles who helped popularize meditation. Before this movement meditation was an unknown practice, but afterwards it became a trending topic. Meditation is now “a basic part of the spiritual landscape of North America; authorized by science, endorsed by Opera, marketed by Buddhists, appropriated by self-help gurus” (Wilson, 2014). Meditation and mindfulness are currently most highlighted within their connection to technology, and the foreseeable integration of them. Currently, meditation apps and wearable devices are becoming a

huge industry. This shows a separation of meditations, traditional spiritual roots, and a rise in secular doctrine. Meditation has recently been marketed as something that can fix all the problems, we face within a capitalist society. Mindfulness is the current state of the mindfulness movement, fully consumed by our capitalist society, stripped of its ethical and contextual roots. Technology furthers the Mindful movement by now offering meditation apps and devices which are almost all secular, which promise many health benefits. The denunciation of Buddhist roots helped gain the affirmation that anyone can be able to practice mindfulness, however, critics argue that the mindfulness movement is all an elaborate way of taking from the easily manipulated. More specifically, the middle class. With the mindfulness movement, there is just about any activity that can be tied with mindfulness, such as mindful eating, which causes a lot of stress, especially in the west, mindful sex, which is to help intimacy, and mindful parenting. All of these are tied with a hint of seeking to improve something that already exists, mostly in middle class leisure. Benefits have been seen in almost all aspects of the Mindfulness Movement. Mindfulness has immeasurable benefits and has started a trend that is being widely popularized in the west. However, the denunciation of Buddhism and making mindfulness accessible to “anyone” has challenged the mindfulness movement as being a generally class-based practice, pertaining to those with resources.

Technology-Assisted Meditation (TAM)

There are two types of Technology-Assisted Meditation devices. First are mindfulness-based mobile applications or meditation-based Mobile Applications (MBMAs). These are smartphone-based apps designed to help users with mindfulness and meditation.

Mindfulness-Based Mobile applications became popular in 2007. Today there are thousands of applications, with over \$150 million invested in these apps (Mrazek et al., 2018). The second are various Wearable Meditation Technologies (WMT). These include headsets such as the Muse 2 and VR headsets, that use neurofeedback technology that fully immerse you into a new reality, the sonic cradle, which isn't a wearable device but a technologically assisted experience, and binaural beats, which are technologically derived sounds used in meditation. Two of the primary question's scholars are asking about these technologies are: Do these technologically assisted forms of meditation actually teach people to meditate compared to traditional forms of meditation? And, what are the health benefits that come from TAMs and WMTs?

Mindfulness Based Meditation Apps Teaching meditation

Are Mindfulness-based mobile applications effective at teaching individuals how to meditate, or practice mindfulness? This is a relatively unexplored topic, although some researchers (Emmerik, Berings, and Lancee, 2017) found significant increases in mindfulness in participants after using the VGZ Mindfulness Coach application. The data from this study shows that this specific application is effective but leaves other apps unexplored. In a 2018 study, the advantages, and overall benefits of a technology-based meditation practice versus a traditional meditation practice are discussed (Mrazek, et al., 2018). Comparing MBMAs to traditional meditation practice can provide evidence into whether MBMAs are effective at teaching meditation. MBMAs allow for greater accessibility than a traditional meditation practice (Mrazek, et al., 2018). It is possible to download a free meditation app and start meditating instantly from anywhere, as opposed to having to pay for an in-person meditation session, which

can be expensive. Another advantage of MBMAs over traditional meditation practice is personalized learning. MBMAs can be personalized based on the ability, interests, and values of the individual users. This allows the user to receive instant feedback, which you can't get in a traditional meditation session (Mrazek, et al., 2018). Some research shows that high quality MBMAs are equal or even better at teaching mindfulness to individuals (Mrazek, et al., 2018).

Although there are many advantages to MBMAs, disadvantages exist as well, such as the lack of an interpersonal element to TAMs as a whole (Mrazek, et al., 2018). Communicating with others during meditation can be beneficial because it helps individuals know if they are meditating correctly. Also, going to a place and interacting with an instructor can help with consistency in the practice if you enjoy the instructor. Lack of these interpersonal elements affect people's engagement with the apps, which is something MBMAs struggle with. In order to keep people engaged, they instead have to constantly update and add new content to the apps and have a personalization aspect to them. (Mrazek, et al., 2018) They could also add some sort of achievement or streak aspect to keep users engaged and wanting to use the app every day. However, this may make us dependent on these apps, showing that these apps are not teaching us how to meditate, but instead they become another form of attachment to our devices. The effectiveness in teaching meditation of these apps will need more research to reach an objective answer, but currently the researchers are interested in the comparison of these apps to traditional meditation practice.

WMT'S Teaching Meditation

There are also various forms of wearable meditation devices, such as the Muse, intended to help the user reach a meditative state. The Muse allows for physiological states, such as stress and anxiety to become readable data. This helps the user become better at meditation by building emotional regulation skills. (Balconi, Fronda, Venturella, and Crivelli, 2017) On the other hand, research shows that the Muse failed to aid in short-term stress reduction compared to traditional meditation practice (Svetlov, Nelson, Anonenko, McNamara, and Bussing, 2019). Traditional EEG devices can cost thousands of dollars, but due to the boom in the mindfulness movement, companies such as InteraXon Inc. are starting to release consumer grade EEG devices. How do these EEG devices compare to research grade devices when it comes to inducing meditative states? A 2015 study tried to answer this question using the Muse. Researchers wanted to see if the Muse compares to research grade EEG devices. Results show that the Muse can effectively record EEG signals and can potentially be used as a research tool (Surangsrirat, and Intarapanich, 2015). The results show that the Muse can sufficiently track EEG signals which translates to its ability to help teach and aid meditation. In an article from Medium, McLain discusses whether EEG devices like the Muse can help us become better meditators. McLain argues that Muse is “a handicapped version of meditation”. He believes that part of meditation is being able to have the discipline to get yourself back into focus, rather than having the Muse to get you back, which he believes forms a dependency. McLain argues that Muse is not making us more mindful on our own, but that it's only making us mindful while using it. This is an interesting point: are these

devices truly helping us learn meditation, or are they teaching us to become more dependent on technology?

Another form of WMT is VR technology, which aims to aid users in the meditation process by allowing the user to choose what environment they want to be in, or what music they want to listen to. In an article from Forbes, Rogers says that “meditation, coupled with VR technologies, can be more precise and personalized and make the learning curve easier.” VR meditation is a fully immersive experience that helps keep distractions away and helps with focus (Rogers, 2019). At a mindfulness conference, the Oculus Rift VR headset was used by meditation experts. Participants showed improvements in state of mindfulness, and reduction in negative emotional states. (Navarro-Haro, et al., 2017) These results show that VR mindfulness is a huge player in the integration of mindfulness and technology, but there is not enough evidence for significant results to be found.

MBMAs and Healthcare

A great deal of literature testifies to the efficacy of meditation and mindfulness for a variety of physical and psychological stressors (Creswell, 2016; Mrazek et al., 2018). Nevertheless, there are a limited number of studies that specifically look at the efficacy of TAMs for health and wellbeing. Surveying these studies, we see some preliminary positive results. However, in the end, there are too few studies to draw any firm conclusions. Turning to the beneficial results, we see TAMs being tested out on healthcare workers (Heeter, Lehto, Allbritton, Day, & Wiseman, 2017), college students (Fish & Saul, 2019), and healthy adults (Economides, Martman, Bell, & Sanderson, 2018). Each study tested specific MBMAs with

positive results for each population. For example, in healthcare workers, there were significant improvements in compassion fatigue and burnout, while helping with connections to emotions, increased awareness of physical sensations, direct attention to bodily sensations, and increased active body listening (Heeter, Lehto, Allbritton, Day, & Wiseman, 2017). College students who used the Headspace application over a two-week period were found to have lower levels of depression and anxiety. The authors make the argument that the use of MBMAs can be a less stigmatizing experience compared to going to therapy or using medication, which is much more tedious and time-intensive (Fish & Saul, 2019). They also argue that meditation apps are a fun, inexpensive way to combat depression. Healthy adults also using Headspace were found to have lower levels of stress and irritability (Economides, Martman, Bell, & Sanderson, 2018). In general, MBMAs have been found to help with a variety of health-related issues such as distraction, stress, depression, and anxiety (Mrazek, et al., 2018). Headspace is making strides towards creating a prescription meditation program designed by health professionals by 2020 (Brodwin, 2018). This program would open a wave of digital medication and set a precedent for further meditation app companies to do something similar, which could increase the quality of future MBMAs.

Even with these initial positive outcomes, caution is warranted because there are too few studies and many of these applications are so new. Case in point is a 2013 study in which researchers analyzed fifty MBMAs to see whether these apps provided health benefits. Their conclusion was "... an almost complete lack of evidence supporting the usefulness of those applications." (page #1). They had a difficult time finding clinical trial research which validates the health benefits of these MBMAs (Plaza, Demarzo, Mercadal, and Campayo, 2013). The situation is not much

different today, with too few studies to draw any firm conclusions. There also isn't much research into how these mindfulness-based applications compared to traditional mindfulness practice in terms of health benefits.

WMTs and Health Benefits

Technologies outside of Mindfulness-based mobile applications exist as well, such as the MUSE biofeedback, binaural beat technology, and VR headsets. Like MBMAs, many of these technologies are so new there has been limited research. Nevertheless, some positive signs are evident. For instance, Binaural beats were found to decrease anxiety and increased quality of life (Wahbeh, Calabrese, and Zwickey, 2007). Another device, the Sonic cradle, which suspends the individual in a hammock-like chair in a darkened room and controls sounds with their respiration, also shows some early positive signs. The goal of the Sonic Cradle is to teach individuals how to meditate by giving them an isolated stress-relieving experience. According to one study, the sonic cradle helped with mental clarity and to gain a deep meditative state which allows for the health benefits of meditation to become apparent (Vidyarthi, and Riecke, 2014). Another form of WMT is neurofeedback assisted, technology-supported mindfulness training (N-tsMT). These devices have been found to provide moderate benefits in attention, levels of calm as well as decreased stress, anxiety, mental fatigue, and increased vigor (Bhayee et al., 2016). In other words, again, there are signs that these devices can help with well-being, yet these technologies are just too new with too few studies to draw any firm conclusions. VR headsets have also been found to produce health benefits such as less sadness, anger, anxiety,

and feelings of relaxation. (Navarro-Haro, et al., 2017) These results were found at a mindfulness conference where meditation experts tested out VR technology.

Methods

In this study, we used both autoethnography and semiology as our methods.

Autoethnography is a form of qualitative research where the analyst use's self-reflection, and personal experience to contribute to an area of research. Semiology is a method that offers the researcher a guide to analyze images and text in a systematic way in order to see how those images and text connect with broader systems of meaning.

Autoethnography allowed us to use our personal experience, and self-reflection to analyze various technology-based meditation devices and apps. In this study we got hands-on experience with seven meditation apps. We planned on testing wearable devices, but due to COVID-19 we were unable to access the two devices we intended to use. The seven apps we used were Insight Timer, Calm, Headspace, Ten Percent Happier, Oak, Simple Habit, and Buddhify. The meditation apps had expansive libraries of guided meditations, which ranged from aiding in sleep or even meditations aimed at helping users deal with mental health issues such as depression and anxiety. We used these devices for one week, while using them , we systematically analyzed our experiences with the apps.

By doing semiotic research we were able to code and dissect images and text from the websites for the apps we researched. This revealed how these companies are portraying a desirable human in the 21st century. We answered questions such as: “How do these meditation apps/devices portray normative cultural expectations?”, “What do these apps/devices tell us

about the ideal human in the 21st century?” and with these answers, we were able to connect and contribute our analysis to the greater ongoing discussion of meditation and its integration with technology. In the course of several weeks, Christian and I dedicated time to use the applications as they are intended. The applications we used are Insight Timer, Headspace, Calm, Buddhify, Ten Percent Happier, and Oak, Simple Habit. Some of these were paid for, and some were free. We flipped between using their guided meditation features, or simply using a timer to help us with counting our breath, and timing our meditation sessions. We recorded our different thoughts and reactions through journaling, and had to answer a set of questions weekly. Christian and I were tasked with looking deeper into the implications of these apps, and what they were really promoting, making a connection between meditation, mindfulness, and the sociology behind it.

Findings and Analysis

Our findings revealed three primary themes: Complexities and Contradictions in Meditation Apps, This Worldly Secular Salvation Through your Phone, and The Sociology of Meditation apps. In this section, we lay out our findings and analysis of the research we conducted with an introductory synthesis of each theme. After the synthesis paragraph, each author provides their particular understanding of each of the sub themes which were derived from our primary themes. For example, the first major thematic section is called, “Yes They work! And...: Untangling Complexities and Contradictions in Meditation Apps.” We will begin by giving an overview of this section followed by the sub themes broken down by author, represented with either CB (Christian Battaglia) or BT (Bradley Tse).

Yes They Work! And...: Untangling Complexities and Contradictions in Meditation Apps.

There are certain inherent complexities and contradictions in using meditation apps. What we found is that these meditation apps are both helping and hurting us, they help us by providing meditation techniques, but simultaneously they are immersing us further into our devices which may be increasing the very stress and anxiety that the apps are attempting to help with. We benefited in terms of our personal happiness, dealing with stress, and becoming more relaxed. These applications lead to a greater sense of our wellbeing. We both think that this is due to being overstimulated by technology. It's ironic as meditation apps can be seen as both the cure and cause.

We've found out that the meditation industrial complex or McMindfulness is a highly competitive marketplace that relies on the commodification of mindfulness as a whole, bringing it from traditionally eastern religions all the way to the western hemisphere, through commodification and secularization. In this sense, mindfulness is stripped down to its core. With this complexity, we tackled our first dilemma which is the question of if these apps really help our problems, or simply pacify us into accepting our flawed society.

Below we outline these complexities in more detail, starting with these apps as both the problem and the cure, and the complex issue of McMindfulness.

Complexity 1: Problem and Cure (BT)

Regarding meditation and the technology behind it, there seems to be this underlying complexity or tension in which, on the one hand, our phones and technology more generally are fragmenting attention and increasing rather than decreasing stress and anxiety. Meditation apps

are taking that very problematic technology and offering it as a cure – highly ironic. This is one complex issue a project like this seeks to untangle. In a highly stressful environment that is dependent upon technology, we must think about the pros and cons of these tactics. In other terms, can we really solve the “masters” problems with the “masters” tools? Yes, these applications are promising things to the user that are beneficial to them, these can fall into a variety of different benefits, but we can just put this under the umbrella term of reducing stress, and whatever that may entail. As I mentioned above, I have found real benefit in reducing stress through these applications. Yet, much of this stress stems from not only work, but a technological environment in which we’re constantly bombarded by an endless stream of digital information. There is a skit from comedian Dave Chapelle which goes “Modern problems require modern solutions.” I believe that this quote is accurate in this context especially as we are literally using technology and what’s available to us to solve problems that arise from the use of technology, and what’s available to our employers, and other institutions which we are dependent upon.

Complexity 1: Technology as Problem and Cure (CB)

For our research we used seven meditation apps over a week-long period, the apps include Insight Timer, Calm, Headspace, Buddhify, Oak, 10 Percent Happier, and Simple Habit. While using each of these apps one of our main objectives was to see if these apps were effective at teaching meditation and if they provided any positive impacts on our lives. After meditating with each of these apps we found that at least in the short term that they helped us become more relaxed, less stressed, and provided an overall experience of greater well-being.

We also realized that a lot of the stress and anxiety that we feel is due to overstimulation from technology use, which is becoming more and more an essential part of not only our but everyone's lives. I am constantly interrupted from notifications on my phone which then draws me into the virtual world of social media and other platforms. We are becoming much more dependent on our phones, and during this research I realized how dependent I truly am on my phone.

So, while these meditation apps were great at lowering levels of stress, anxiety, depression etc. they are still applications on a smartphone which means they are embedded in the very devices that are causing the stress and anxiety we are trying to avoid. Meditation apps do have health benefits, but are these benefits cancelled out due to the fact that the "cure" and the "source" of the problem seem to be one and the same? After completing this research, this, and many other complexities remain, leaving us with more open question questions than final answers.

Complexity 2: The "Real" Benefits of McMindfulness?(BT)

The commodification of Mindfulness through big business, or what I will refer to as the Meditation Industrial Complex, or (MIC) is one that has evolved into a practice which is highly machiavellian in nature. There are many ways in which this complex competes with one another, in hopes of getting more users. There are several ways in which the meditation industrial complex seeks to draw its users in by legitimization as well as the secularization of these applications themselves. (I will expand upon this more in the next section) As a practice, mindfulness existed specific to eastern religions such as Hinduism, Islam, and Buddhism, but

was then brought to the western hemisphere as a result of Jon Kabat-Zinn, who essentially brought the mindfulness revolution to America in the 1960s, and made it an acceptable and highly accessible practice to all, despite it formerly being exclusive to religion.

As aforementioned in the section above, we have experienced great and real benefits as a result of using these apps daily for weeks, and found it easier to deal with stress, anxiety, and a variety of different emotions. This is one of the major goals that the MIC seeks to accomplish, creating beings who are able to rise above the fact that we are living in a digital wasteland full of distraction. The MIC recognizes that we are to be at the beck and call of our employers and that we are living in a highly competitive time period which leads to high rates of stress and anxiety, that are inevitable to avoid as a result of the social climate of living in the modern world. I always had kept the thought in the back of my head that although these benefits are real and inherent, there also exists that sense of appropriation of religion through the secularization aspect of mindfulness. I feel as though the meditation industrial complex strives to create a sense of acceptance of where somebody may be, even if they're unsatisfied with their occupation. There is this sense of constantly being content with oneself that is pushed through these guided meditations, and being gentle with ourselves. From a metalevel analysis, these applications can be seen as a vessel to strive for the pacification of people in the 21st century to accept lowly positions and be content with them as opposed to having been previously trained against by society, to strive for greatness and higher positions. As a college student and fast food worker, these applications helped me mitigate these inevitable stresses in a seemingly productive and healthy way. And so I personally feel as though the MIC wants the best for us, and that by constantly using these applications as intended, we are able to see these real benefits no matter

what position we have, if any, they are designed to help us regardless of status. I will delve deeper into this when I talk about the Democratization of Mindfulness.

Complexity 2: The “Real” Benefits of McMindfulness? (CB)

All the apps that we used during our research are in competition with each other and are a part of the capitalist marketplace. When Meditation was brought here from the East it slowly evolved into what it is today, a commodity which is what seems to inevitably occur when something with value is released into a capitalist society. From this standpoint, meditation apps can be seen as a manifestation of the larger trend of McMindfulness: a stripping down, secularized, and commodified, form of meditation that’s more about pacification rather than personal and/or collective healing.

Granted, I personally found that the apps are beneficial, as I imagine many people do because they are all quite popular and a new meditation app seems to be born almost every day. But are the popularity of these apps merely a band-aid covering much bigger personal and collective issues that are affecting us in more serious ways. In a classic conflict perspective, I could argue that it’s the social organization of society that is the source of our stress and anxiety. However, rather than seeing our stress and anxiety as a manifestation of a sick society, we turn on our personalized meditation app and gently breath, reduce our stress, quell our anxiety, and, once finished, return to work. To put this whole issue another way, do these apps present us with an illusion of feeling good when in reality we remain stuck in tough situations that demand social transformation rather than personal management? Do meditation apps simply numb the pain rather than fix the actual situation?

Again, this is a complex issue and to come to some objective answer is quite difficult. Personally, all I can say is yes, they do seem to help me deal with my stress and anxiety and I'm also aware there's more going on in my stress and anxiety than the promoters of these apps seem to recognize or that these apps might be able to ultimately solve.

This Worldly Secular Salvation Through your Phone

These apps offer a type of "Secular Salvation" from stress, anxiety, depression, and other day to day issues and problems people face. This is quite different from the traditional religious context in which meditation was often taken up to transcend this world. The promotion of this secular salvation is also not through religious myths or reference to great religious leaders rather legitimized through science, celebrities and corporate leaders. Below we outline this idea of "secular salvation", as well as the legitimization through science and brand value in more detail starting with "Secular Salvation".

Secular Salvation (BT)

These meditation apps make it clear that there is a distinction between mindfulness, and religion. They strive to be accessible to all regardless of religion. There is an emphasis on creating a sort of secular salvation within the users themselves. This comprises being able to find happiness and higher power through their own clarity and minds, promoting healthy sleep schedules, and to be free of any additional stress or anxiety that is brought on by the social climate of society, and the implications that arise because of this. This falls into the idea of transhumanism, that we as humans are flawed, and are constantly looking for ways to improve our flawed nature, through the use and availability of technology. So although these applications

do not rely on reaching a traditional “nirvana”, they do seek to create and instill a sense of transcendence within the user to achieve their own nirvana, which can be goals that are laid out by the apps themselves, or the ones that the users choose when starting these applications. In fact, upon signing up for most of these applications, there is a lot of data collection and one of those is through users picking their own individual goals that they want to accomplish. There are several different categories or problems that these meditation apps promise to work out for its user, i.e spending habits, diet, or relationship problems.

Secular Salvation (CB)

All of these meditation apps are offering more than just guided meditations or meditation courses, they are offering therapeutic ideals such as reduction in stress, anxiety, depression, etc. The apps do not mention traditional otherworldly goals such as reaching Nirvana. What these apps are offering instead is a “salvation” in this world, a salvation that offers people an optimal psychology free from stress, anxiety, depression, and sleep issues.

During our research we found that on both the apps websites and the apps themselves they projected certain ideals which constitute what it means to be a kind of best human in the 21st century; someone who is unstressed, well adjusted, and a psychologically sound and productive person. The fact that the ideals are shown on the websites and in the apps shows that there is a soteriological component to these apps – that is, the apps are offering a secular and technological path to “salvation”.

We see an example of this portrayal of the ideal human specifically on Headspace's website where the first line of text on the homepage is "Mindfulness for your everyday life, Stress less, move more, Sleep soundly." This is a prime example of issues many of us face, and through using the Headspace platform they are promising to "save" us from those issues through technological means. Meditation apps not only promise healing from issues such as anxiety but also promise human enhancement; that is, making a "better" more optimal person. That is, by using a meditation app you are attempting to tweak aspects of yourself that may be holding you back, such as stress, anxiety, depression etc. This links these apps to transhumanism, the notion that we are becoming, through technology, not just more complete humans but more than simply complete humans or upgraded and technologically enhanced humans.

Secular Legitimization (BT)

Again, all of these applications in the meditation industrial complex relate to one another through meditation and it as a practice. These practices, be it guided or not deal with some form of appropriation of ancient and current religions in the eastern hemisphere that have been appropriated. Instead of relying on religious texts and testimonials, or the figure of Buddha, there is an emphasis on which application strives to have the better credentials and most of this is through the use of science. Because mindfulness is now seen as a commodity, we must see these applications as a business, looking into their business models and how they draw their customers in, through promises backed by science and statistical information, and credentials from their creators, and the teachers who are the ones doing most of the meditations.

For instance, we can look at Ten Percent Happier, and its etymology. Ten Percent Happier is clever in the way that it chose its name. Backed by science they are able to draw its users in through that narrative that skeptical consumers can consider mindfulness a scam, however, they have the scientific data that shows our users have shown an increase in overall happiness. Additionally, we can look at the way the other top applications provide science based testimonials. There is an emphasis on having a science based team as per each application. For instance if we look at Calm's blog, there is a scientific advisory board, backed by a staff of highly qualified Ph.D and MDs. "Calm is committed to developing evidence-based sleep and mindfulness resources informed by ongoing, rigorous scientific research, as our part in supporting the health of our community, and the world." - (Calm Science Blog) On the same page lies several publications that highlight the scientific based research of benefits through using the Calm app.

Legitimization is a crucial part in understanding the way in which the meditation industrial complex exists. The top applications are in constant battle with securing the most users, which is typical of big business. As aforementioned, the meditation industrial complex is highly machiavellian in nature. A great example of this would be the sort of dilemma of ethical business practices that Headspace's CEO, Andy Puddicombe engaged in in order to create his empire. Headspace is an application that is sort of founded on Puddicombe being the center of its application. Most of the guided meditations are led by him, several times a day, and there is a community blog in which he and users are able to interact. Essentially, Puddicombe was studying for a degree in business, and dropped out in order to pursue a life of Tibetan monkhood, he then achieved the title of Monk and despite taking an oath of poverty, and living

a life of humility as is tradition, he then left the monkhood and in turn created Headspace. This basically meant that Puddicombe established those credentials, and once he achieved them, found a way to profiteer off of his title, drawing more users in because of the attractiveness of having a more authentic teacher of mindfulness. It's ironic as he dropped out business school, and dropped out of monkhood in order to achieve the best of both worlds.

Another way that the meditation industrial complex and their applications seek to establish a form of legitimization is to have celebrity endorsements, and celebrity investors. To name a few, Matthew McConoughey(Calm), Ellen Degeneres(Headspace),Dan Harris(Ten Percent Happier co-founder). As with all, celebrity endorsements, they exist to create or add a sort of value to the brand themselves, we don't really know for sure if these celebrities and their testimonials are legitimate, there isn't really a log of how often or how beneficial these applications are to them, it's subjective.

Secular Legitimization (CB)

Meditation apps do not merely rely on faith, or sacred texts to provide legitimacy like religions do, instead they use science to provide legitimization for their "secular salvation". The companies provide scientific research done by some of the top universities in the world showing that their apps provide the healing and enhancements they are promising. An example of this can be found on the Headspace website, where they not only have an entire page dedicated to "The Science", but also on the front page they have a section that says "Headspace loves science" where they provide a statistic stating that by using their app for ten days your happiness can

increase by 16%. This is problematic because quantifying happiness is troubling, due to happiness being a subjective, how does one define personal happiness?

These apps not only use science to provide legitimization but apps like Calm use famous people such as Lebron James, and Matthew McConaughey as another form of legitimization. In addition, some of the founder's act as figureheads, such as Andy Puddicombe with Headspace, once a monk turned meditation teacher, both famous people and founders turn into authority figures which create trust in what they are selling to you.

The Sociology of Meditation Apps.

We found that these apps are not only providing meditation courses but a sense of community engagement amongst like-minded people. This idea of community leads us to believe that the apps are at the beginning stages of potentially becoming a "cult." We drew upon Stark and Bainbridge's concepts of client and audience cults and found that some of the apps we analyzed fall into the category of being a client cult. The meditators and teachers can be seen as a relationship that parallels the patient-therapist relationship which establishes the idea of client cult as stated by Bainbridge. We also discuss the democratization of these apps, and how they seek to establish a borderless and non-bigoted future of like-minded, liberal, and a democratized community. Below we outline why we think these apps are becoming more like cults, and we discuss the democratization of meditation.

Client Cults within Meditation Applications: (BT)

Some of the applications that we've tested have shown a highly effective way to make the user base feel consolidated through the use of a sense of belonging and in turn forming like minded individuals with similar goals in mind. It seems as though these applications in and out of themselves can be seen as their own religion basically, as aforementioned they produce a sort of secular salvation, a religionless transcendence that is brought through the user's own experiences with the applications, and achieving their respective goals. When looking at top applications, such as Insight Timer, and Headspace, there was an emphasis on a sense of belonging and after each meditation session, there was a number shown on the screen on how many people meditated with you at the same time. With Headspace, there's daily group meditation sessions with Puddicombe, the CEO as the one who leads these sessions. With these applications, there is an overwhelming emphasis on community and building relationships with other like minded users and leaders.

"Client cults" offer more specific compensators and are more organized than audience cults. They may claim to heal, to cure mental dis-ease (Dianetics, Scientology), to clear the mind of obstacles to the unhampered pursuit of one's goals (EST), or to induce calm and serenity by their practice (Transcendental Meditation, yoga). Stark and Bainbridge write of client cults that "here the relationship between those promulgating cult doctrine and those partaking of it most closely resembles the relationship between therapist and patient or between consultant and client. Considerable organization can be found among those offering the cult service, but clients remain little organized. Furthermore, no successful effort is made to weld clients into a social movement. Indeed, client involvement is so partial that clients often retain an active commitment to another religious movement or institution." (Bainbridge and Stark, 1985)

With this definition, we can look at such claims that are brought by applications, like curing anxiety and stress, providing mental clarity, and these claims of healing the damage brought on by the inevitable stresses of society. Headspace is a great example of how these applications are veering towards the edge of becoming client cults. Andy Puddicombe, the CEO who established credentials is the one who leads the meditation sessions, which can be symbolically seen as “sermons”, and creates that consolidation of keeping like minded people together. He is the therapist and the users are the patients in these situations, who are paying for the service. Bainbridge and Stark would argue that this is more so a client cult rather than audience cult, as it's more structured.

Creating Community and Client Cults (CB)

Some of the meditation apps we researched such as Insight Timer and Headspace were more than just timers, guided meditations, or courses, but aim to create a community. Such as on Headspaces website we see text like “Join over 60 million”, showing that by subscribing to the service you are joining a community of people who are virtually connected through the Headspace platform. Or on Insight Timer after each meditation you are told how many people meditated with you, as well as a section on the homepage of the app called “Community” where you are shown what meditations people are doing at the time, as well as a map showing where in the world people are meditating from with stats of how many meditators total, today, and now. There are also friend and follow features, with both users and the teachers on Insight Timer. So, if we consider the fact that these apps are trying to provide salvation and promote community, they begin to look less secular and more like the emergence of a religion.

More specifically, we could say these apps can be considered as what Stark and Bainbridge (Bainbridge, Stark, 1980) call Client Cults. Client Cults are defined by Stark and Bainbridge as loose organizations with medium levels of commitment that offer specific compensators such as healing, curing mental disease, clearing the mind of obstacles, inducing calm and serenity. The therapist-patient relationship is considered a Client Cult by Stark and Bainbridge. Client cults are different than Cult Movements, which are comprehensive organizations that demand high levels of commitment (e.g. Branch Davidians, Manson Family) and Audience Cults which are much less organized, require no real commitment and offer vague compensators (e.g. astrology).

We argue that these apps are at the beginning stages of a client cult, due to the app's pursuit in helping to provide the secular salvation described earlier. These apps are similar to client cults because they are mostly organized well, with specific categories for guided meditations and courses, and they also have a specific price for either a yearly or monthly membership. The apps are also claiming and promising that by using their app you will have less stress, anxiety, and depression which is a claim to heal or cure mental disease and induce calm and serenity. These apps are also set up in a way that the user is being helped by a teacher, but the teachers act as therapists which help you reach the secular salvation they are proposing.

Another interesting aspect of a client cult is that clients have partial involvement and are usually committed to another religious movement or institution while being a part of the movement. This point also applies to the apps we studied because they aren't a big part of people's lives, and for most do not replace religion because of how limited it is as a practice. Due

to its secular qualities you can be Christian and still use a meditation app and you will most likely stay with your religion because these apps cannot replace a religion due to its limited qualities of only providing meditation, and mindfulness which in itself is just a portion of its inherent religions of Buddhism and Hinduism. So, these apps have similar qualities to a client cult, but whether or not they will become full blown client cults or even cult movements is still unknown due to the current evolution of these meditation apps.

Democratization of Meditation (BT)

These applications and the literature behind them portray a commonality within one another. There is an emphasis on acceptance and creating a borderless and highly diverse community. In fact, the meditation industrial complex has several “levels” of meditation that are accessible to all, beginner or master level alike, all of the applications that we’ve observed were catered towards beginners. When looking at the media behind these applications and their websites, we would be tuned to the way that their models are portrayed. In all of these depictions, the models were simply being, and portrayed attractively and healthy looking. What I mean by this is that all models displayed seemed to be happy, healthy, and diverse. There really were no race barriers and gender norms were diminished, sort of solidifying the idea that these applications want a borderless future with their target audience. It’s basically saying that their target audience is everyone, with the exception that they have to be willing to accept everyone as well. This can be seen as admirable and great, but we must also question if this is a fallacy in

order to attract more minority groups and more liberal people, or if they want to ban bigots in general from this practice.

All of the apps that we've researched have ties to spirituality in one way or another, but this is a given because of the fact that mindfulness as a practice does. None of the apps however were specifically catered towards those who identify in a specific religion, because that would be counterintuitive for two reasons: mindfulness is an appropriated and commodified version of spiritual practices as is, and the fact that there is that necessesant want of the creators of these apps to create not only a borderless society, but one who can adapt to multiple different lifestyles and values be it spiritually and mentally.

Democratization of Meditation (CB)

Meditation apps in general are revolutionizing how we think about meditation. Anyone is able to learn meditation by just downloading an app and getting started. Meditation apps compared to traditional meditation are allowing a greater number of individuals to gain access to meditation, due to their convenience, and also due to their reasonable prices compared to an in-person meditation session, which may not be offered everywhere.

These mediation apps are reaching a wider audience of people as well compared to traditional meditation. Because of its secularization, you don't need to be associated with any religion to start, and there isn't any reference to religion in almost all circumstances. These apps

are secularized for that very reason; by stripping meditation from its roots these apps were able to create something that is attractive to a vast swath of society.

In our research we also found that on the websites of these apps' meditation was being promoted in a diverse, nontraditional, and fun way. The companies are trying to get the attention of a wide audience by catering what they do in order to gain their trust and attention. In particular many of the apps display racially and ethnically diverse individuals on their websites, and the teachers are also diverse. Meditation apps are changing who has access to meditation as well with apps like Insight Timer having many free options for those who can't afford to purchase a membership. While many other apps don't have much to offer for free, they are reasonably priced if the user feels like it is a worthy investment.

Closing and the Future of Mindfulness

Through our findings, we've learned that the meditation industrial complex wants the user to achieve their own respective goals and can also be seen as a form of secular salvation. We learned that meditation applications can assume the fulfillment and role of being a client cult. Furthermore, we've learned that meditation applications are also highly ironic, and we've addressed that through the various contradictions and complexities of them as a practice. Finally we found that meditation is being democratized through its integration with technology.

Meditation 2.0 gave us a sense of what the meditation application industry wants out of its users, and the further implications that arose as a result of them simply being. Here are some

thoughts of how we think these meditation apps will evolve and become further implemented into our society.

In a progressively accepting world that is now treating mental health with compassion and empathy, we can see an influx of therapy patients in developed and even undeveloped societies. Even a rudimentary form of therapy can be beneficial, but most people do not seek out therapy, as they either cannot afford it, or are ashamed of their mental health afflictions, however how small or big they may be.

We feel as though the meditation industrial complex suffices as a form of therapy, and even calls for consolidation among many cohorts of people, and that feeling of coming together as aforementioned is so necessary as a human being. The feeling of belonging is something that has been around since the pleistocene and is obviously now very much needed in the current anthropocene. In the future, we will obviously see a higher rate of meditation application users, and a shift in mindfulness that will be placed in different environments, be it work, school, and in other public institutions. There will be an emphasis on the importance of connecting mindfulness technology to the human. I feel as though meditation apps and mindfulness in general will be the key in establishing a sense of belonging through like minded people, and that there will be an increased rate of group therapy and a rise in client cults, which all lead to an increased sense of belonging, understanding of others, and consolidation of oneness as beings.

The meditation industrial complex has completely shifted the way in which the ideal human in the 21st century should be viewed through the use of popularizing a fundamental and ritualistic practice that offers substantial benefits to those who practice.

Meditation apps are changing how we view meditation, we know that based on past literature there isn't enough analysis out there that steer towards objective answers in terms of their efficacy, but based on both of our personal experiences we discovered that these apps have some health benefits associated with them. But these apps are limiting; they can only take you so far in the realm of meditation. These meditation apps can start you on your journey with meditation, but once you become skilled at meditation by using these apps for a while I believe that you will want more from meditation, especially if you have completed all of the courses and guided meditations available from one of these apps. So, while these apps are beneficial they are only a gateway into meditation, they can only take you so far before you are going to be wanting more from your secularized version of meditation, which may lead people into searching deeper into meditations more traditional roots and begin to put the puzzle pieces together. The rest of the puzzle pieces are the aspects of meditation and mindfulness that are left out since its secularization, which may provide a deeper understanding that some may desire further down the road in their meditation journey. These meditation apps define what it means to be the ideal human in the 21st century, but whether they can help you achieve that or not I still can't answer for everyone but what I do know is that these apps can spark interest in self-help and may lead people into many different directions such as religious exploration, biohacking, and transhumanism.

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