The State of the Art in OM Research

1 Introduction

Since 2016, new research has emerged that has the potential to make significant contributions to our understanding of consciousness, mental health and relationships. It focuses on a practice—Orgasmic Meditation, or OM—a partnered meditation practice in which one partner stimulates the clitoris of the other for fifteen minutes. Practitioners of OM, who according to the Institute of OM, may number in the hundreds of thousands, claim that regular practice brings many benefits. Some report a sense of a life transformed, others that symptoms of past traumas, or of long-standing depression, have evaporated.

The science is still in its early stages, but researchers have already confirmed that OM produces dramatic changes in brain activity, both in the long term and the short. There is emerging evidence that the practice may have a beneficial impact on mental health disorders. While scientific understanding of OM's effects is growing, it is clear that practitioners are harnessing the power of the sexual impulse in a way that allows them to produce profound effects on the neurology and physiology of both parties.

While the sexual aspect of the practice has drawn critics, some of the world's leading psychologists have made comparisons with other interventions that bring about altered states of consciousness and that were once seen as odd, dangerous or even wicked. Meditation, prayer and psychedelic drugs were once ignored by psychology, but since the 1990s, research has shown that these practices have real and powerful effects on the brain and on mental health. A growing body of research suggests that Orgasmic Meditation belongs to the same class of phenomena. It works by accessing the same neurophysiological mechanisms—one researcher has described it as, "mindfulness on steroids." According to another, it may even be a more direct and effective way of accessing the evolved capacity for spirituality on which these other practices depend.

The science of OM: An emerging field in psychology

Since the establishment of the Institute of OM Foundation in 2016, five major research projects have been carried out. These have resulted in nine academic articles—and more are on the way. A further five studies are already in the pipeline.

Research into Orgasmic Meditation not only supports the understanding of the mechanics and benefits of OM, but also pushes forward the scientific understanding of sexuality. These studies constitute the first attempt to study partnered sexual stimulation experimentally in decades—since Masters and Johnson. Partly, that reflects the reluctance of funding bodies and institutional review boards to support sex research. It is also a result of the difficulty of studying sexual activity in a way that conforms to the requirements of scientific instrumentation and rigor. Many studies of neurophysiology require subjects to be in a lab, usually wired up with multiple sensors, or to be inside a narrow cylindrical cavity inside a scanner—and then to be completely still. None of that is easy to combine with ordinary sexual activity.

For scientific research, the process under investigation needs to be standardized so that observations can be compared one to another. Sexual contact is usually improvised and varies wildly in form, rhythm and duration so is challenging to study. OM, by contrast, provides a strictly defined protocol, known as the Container, that ensures OM sessions are uniform in terms of duration and composition, decreasing bias or limitations in study settings when comparing results between study participants. Although the physical positions required mean that an OMing couple cannot carry out their practice inside a scanner, scientists have been ingenious in devising methods that do allow them to see what is going on inside OMers' heads.

What is OM?

Orgasmic Meditation (OM) is a structured attention training practice conducted between two people who follow a predefined set of detailed instructions. The practice involves one person gently stroking the clitoris of the other person for 15 minutes while both place their attention on the point of contact and notice what they feel.

The meditation was created by Nicole Daedone, who explains in *The Eros Sutras* that she was introduced to the idea in San Francisco in the late 1990s. In subsequent years she studied, developed and standardized the practice.

Though it has sexuality at its core, OM is expressly not a form of sex. Though it has "Orgasm" in its name, the goal is not for either partner to climax. In fact, OM is a goaless practice in which climax is not the aim. While sex is improvised and can be transactional, OM is neither. The strokee simply focuses on the sensation, the stroker on the action of stroking, and both on the sense of connection that this produces. If the OM partners are also sexual partners, as is sometimes, but not always the case, they are encouraged to separate their OM practice from their sex life in order to avoid confusing the two.

OM is a structured practice with a specialized vocabulary. Its details are minutely set out in a document known as *The Container*. An OM session begins with the partners setting up a “nest” of a blanket and a number of pillows. The strokee, or person being stroked, who must have a clitoris, removes her clothing from the waist down, and lies on the blanket, with a pillow under her head and one under each leg. The stroker, who may be male or female, remains fully clothed and sits on a meditation cushion on the strokee’s right-hand side with one leg crossing her abdomen and resting on the floor to her left, and the other leg threaded under her right thigh. This allows the stroker clear access to the strokee’s genitals.

Before the OM session begins, the stroker tells the strokee that they are about to apply “grounding pressure”, then places their palms on the strokee’s thighs. This step is known as a “safeport,” emphasizing its place in the structure of the practice—they are entering into the ritual time and space of OM. The stroker then shares a brief observation on the strokee’s genitals—this must be a value-free comment on aspects such as color, shape and so on—and the strokee gives acknowledgement, saying, “Thank you.” The stroker then puts on medical-style gloves and applies lube to the left index finger, which will do the stroking, and to the right thumb, which will be placed gently at the strokee’s introitus. In this position, the stroker will be able to feel contractions, which provide direct feedback on the experience of the strokee. The stroker lets the strokee know that they are about to make contact with her genitals—this is the second “safeport.” A fifteen-minute timer is set. The first strokes are downward; all subsequent strokes are an alteration between up and down. Strokes are applied to the upper-left quadrant of the clitoris, which is known as “the spot,” though some variation is allowed to accommodate different degrees of sensitivity.

During the stroking phase, the strokee can make requests for the strokes to be modified—for the strokes to be faster or slower, higher or lower, moving slightly to the left or to the right for example. After thirteen minutes, the stroker says “two minutes”, to let the strokee know that the session is entering its final phase. Once the stroking period is completed, the stroker applies the palms of the left hand, fingers pointing down, to the strokee’s vulva, closing her labia and applying a firm pressure. The stroker then uses a washcloth to clean the strokee’s genital area, with a single upward motion. The gloves are removed.

The partners conclude the session by sharing frames. A frame in this context is a felt-sense experience, a way to complete the OM by bringing the sensation world to the physical world. Frames are specific and avoid abstraction, and like the rest of the process, they should steer clear of romantic connotations. It is a way to build a sensory vocabulary, capturing moments when someone felt heat, pressure, radiation, vibration, shape, texture, color, or location. For example, “There was a moment I felt a light

buzzing in my chest." The OMers stand up and the strokee puts on any clothes she has removed, and they put away the nest.

OM has already had an enormous impact. Sixteen thousand people have received in-person training through OneTaste, while the most popular online training video has sixteen million views. The OM app, which was launched late in 2022, has nearly eight thousand registered users. The Institute of OM, which teaches the OM practice, estimates that the total number of people who have practiced OM is in the hundreds of thousands.

This popularity is itself a powerful testimony to the value OM brings to many people. Practitioners also frequently report dramatic impacts on their interior lives, their sense of self, and their relationships with others. For example:

- One woman, who had been depressed for years, told interviewers, "When I OM, I feel relaxed. My mind goes quiet and my body…comes alive."
- A former veteran, and a PTSD sufferer, who took up OMing with his wife as part of a study, said of his first experience of the practice, "I remember walking away like the whole weight of the world had been lifted off my shoulders. … it felt like there was an access to a very deep sense of knowing…. I didn't feel high but I felt clear. I felt so clear and in my body that things that typically upset me or made me angry or made me anxious didn't make me anxious and there was a deep seated sense of peace."
- A woman who had been OMing for 5 years at the time of her interview said of her previous attitude to life, "I was really rough on myself. I didn't care about what I ate. I felt I could let it all out when I drank, but the problem is that there's not enough alcohol in the world that can drown out what's true." When she started her OM practice, "it was like the veil was just peeled back. This opened a whole new world of intimacy for me. It started a new period of loving myself. Finding OM at the time that I did saved my life."

The Institute of OM has collected many such accounts. On the face of it, and from a subjective point of view, OM seems to have multiple and significant benefits. The ongoing task of researchers, then, has been to understand the nature of the practice, to test if the benefits that enthusiasts claim for it have scientific validity, and if it is efficacious, to attempt to uncover the biological and psychological mechanisms on which OM depends.

2 The studies

To date, there have been eight distinct scientific studies by researchers from diverse institutions and backgrounds. All the studies listed below received ethical approval from an institutional review board.

Do OMers have “mystical experiences”?

In an early study, which began in November 2017, Vivian Siegel and Benjamin Emmett-Aronson conducted a survey among OM practitioners. Participants were recruited through OM-related social media networks. The survey collected demographic information, and participants were queried about their OM experience, including current frequency and length of time of practice and with whom they practice OM. They were also asked about their experience meditating and using psilocybin. The study set out to establish whether OMers experienced a “mystical experience” during OM sessions.[1]

Siegel and Emmet-Aronson incorporated an established test for mystical experience, the MEQ30 (Mystical Experience Questionnaire made up of 30 questions) into their survey, and asked participants to answer the questions in respect of the single most powerful OM session they could remember. In the first round there were 780 analyzable submissions.

Results indicated that the respondents had indeed often undergone mystical experiences while OMing, with an average MEQ30 score on par with a moderate-to-strong intensity experience, comparable in strength to a moderate dose of psilocybin.

The survey was repeated. In the second round, it was distributed to OMing partners in order to investigate the extent to which the strength of one partner’s mystical experience, if they experienced one, was correlated to the strength of the other partner’s experience. This iteration resulted in 112 analyzable responses, and showed that the MEQ30 scores of partners were indeed highly correlated. This suggests that the experiences generated by OMing are shared by stroker and strokee to some extent, as practitioners have claimed.

Is OM more like sex or more like meditation?

In 2019, Siegel and Emmet-Aronson carried out another survey study. This time their aim was to establish the extent to which OM practitioners experienced their practice as being similar to sex, and the extent to which they saw it as akin to meditation. Respondents were recruited in the same manner as in the previous study. There were 220 responses. The survey was made up of a combination of qualitative and quantitative questions.

Results showed[2] that, on average, OMers strongly agreed that OM is like meditation, and strongly disagreed that it is like sex or fondling. This response was correlated to respondents’ experience with OM, showing that those who had the most experience

and higher number of sessions were more likely to see OM as being akin to meditation and did not associate it with sex.

Brain Imaging Research

In 2019, an OM study was led by Dr Andrew Newberg, Research Director at the Marcus Institute of Integrative Health, and a Professor in the Department of Integrative Medicine and Nutritional Sciences, and in the Department of Radiology at Thomas Jefferson University. His project sought to use imaging technology to understand what observable changes OM could bring about in the brains of practitioners. He recruited twenty couples who had been OMing regularly for at least a year to participate in the research.

Newberg had already spent many years using similar methods to study spiritual practices such as trance, prayer and meditation. He had shown that, at a neurophysiological level, these techniques for bringing about altered states of consciousness all looked alike in important respects.

Most brain imaging methods require subjects to lie down on a narrow platform that slides inside a cylindrical cavity in a large and noisy scanner. OMers do not make large-scale movements during a session, but their arrangement in the nest means that they cannot be scanned while they practice. Newberg devised an ingenious experimental method to work around this limitation.

OM pairs would be invited to his lab where a comfortable room without intrusive equipment had been prepared; a screen had been set up to give them added privacy. They attended twice. On one visit they would be asked to OM. On the other, Newberg's team would ask them to do everything just as they would in an OM session, except that the stroking action was to be applied to the strokee's thigh instead of her clitoris. In this way, the result of the very specific form of clitoral stimulation that is the essence of OM could be isolated from other aspects of the practice. When the practice was completed (whichever it was), the participants were asked to rest for fifteen minutes before being scanned using a scanner that produced both PET and MRI images.

The MRI images allowed for the comparison of brain activity *after* completing each of the two activities. That would be useful to the extent that the effects endured beyond the end of the meditation process. But Newberg wanted to confirm that by seeing what was happening while the process was ongoing.

This is where the PET images came into their own. PET uses a radioactive tracer, which is injected intravenously, and which shows up on the scan. For this experiment Newberg chose to use a radioactive sugar compound, FDG (fluorodeoxyglucose) as the tracer. After it is injected, FDG circulates in the bloodstream, crosses the blood-brain barrier and permeates the brain. As nerve cells use sugar for energy, they take up FDG. The

areas of the brain that are more active take up more of it, and those that are less take up less. This means the scan produced is a map of different levels of metabolic activity in the brain. The clever thing about this technique is that FDG only circulates freely in the brain for a few minutes. After that time, it undergoes a metabolic change and is no longer available for further absorption. So even if the scan is carried out some time later, it reflects the activity in different parts of the brain in the minutes immediately following the injection of the tracer.

In order to use this technique, Newberg's team prepared the subjects by inserting an intravenous catheter into their arms. Half way through the stroking phase of OM (or of the neutral thigh-stroking activity), the scientists injected both partners with FDG, freezing an image in the OMers' brains that would be revealed by the scan taken some time later.

Newberg found that the brains of both participants generally showed reduced activity in many brain regions.[3] This was surprising in a way because sexual arousal usually leads to a generalized activation of brain structures. This led Dr. Newberg to conclude that Orgasmic Meditation is similar to other meditations, akin with practitioners' claims. When compared to other meditation practices, similar areas of the brain showed a decrease in activity.

The following areas showed substantial reductions in activity after OMing, for both strokers and strokees: the frontal lobe, the parietal lobe, the anterior cingulate gyrus and the insula. Again, Newberg recognized this pattern as corresponding closely to what had already been observed in meditators and people engaged in prayer. Of note, areas of the brain usually activated during climax or sexual activity, did NOT activate during the Orgasmic Meditation process. In fact, areas activated in the strokees are more closely correlated with areas activated in meditation.

The female strokees also saw significant changes in activity in the superior temporal lobe and the insula, which are associated with strong emotional bonds. Meanwhile, the strokers, who were all male in this study, showed altered activity in the supramarginal gyrus associated with cerebellum, indicating there is tactile stimulation combined with strong social bonding between participants.

In an extension of the study, Newberg's team compared the same participants with nineteen new subjects who had never practiced OM or any other kind of meditation. For this part of the experiment MRI and PET scans were taken again, this time in a resting state. The previous scans had been designed to measure the impact on the brain of an experienced OMer of a single session of OM compared to similar activity (the thigh-stroking substitute). Now the aim was to find out if any systematic differences could be detected between brains of the OMers and the non-meditators. Newberg concluded that the scans did indeed show significant differences. The OMing

participants had lower activity in the frontal lobe, the anterior cingulate, the temporal lobe, the parietal lobe, the thalamus, and the insula. This suggests that a regular OMing practice has long-lasting effects on brain activity. [4]

Psychophysiology of OM

A further study that began in 2016 investigated the effects of OM on the body and mind of experienced practitioners. This study used EEG imaging technology to measure brain wave patterns. Other tests were implemented in order to measure arousal and cognition. Subjects were also given cognitive and attention tests and questionnaires designed to gauge their psychological state. The study was conducted by Nicole Prause, a sexual psychophysiologist at UCLA who also runs her own private research consultancy, Liberos, and Greg Siegle, a psychologist at the University of Pittsburgh.

They recruited 250 people (125 couples) each of whom had practiced OM at least ten times before the study, and who had practiced at least once together. It is highly unusual for studies of this kind to work with such a large number of subjects, especially in the field of sexuality. The nature of the group raised its own challenges because the participants were distributed widely across the U.S. “We chased them all over the country.” Prause recalled at a conference on OM science in 2020, “We also developed a lab that was mobile, which is pretty unique for a physiology lab. We collected [data] in Los Angeles and San Francisco and New York, sometimes going into Airbnbs to set up the most typical psychophysiology setups we could.”

The OMers were given a private space to practice in. Before they began they would fill out a set of questionnaires. These recorded demographic data, sexual history, details of their experience with OM, and their mental health history. They also completed self-reporting tasks on emotional state and their sense of closeness to their OM partner and to other people, and computer-based cognitive tasks that assessed their ability to sustain attention, their emotional responsiveness and their reasoning ability. The self-reporting and computer-based tasks were repeated after the OM practice in order to provide a before-and-after comparison. They were also asked questions about their experience during the OM session they had just completed.

The thoroughness of this protocol meant that the researchers produced an enormous amount of data which will provide a rich resource for years to come. So far, they have published four research papers, each dealing with a specific finding.

One bears on a central claim made about OM by practitioners—that it produces a strong feeling of closeness or intimacy between the OMing partners. Prause and Siegle used a validated psychological instrument, the Inclusion of Other in the Self Scale (IOSS) to measure this effect. They found that measures of closeness between partners

did indeed increase substantially after a session. Interestingly, this effect was stronger in those partners who were not in a romantic relationship compared to those who were.[5]

Another interesting finding that was covered in an article published by the pair in 2022 contributes to settling a debate among physiologists. Humans experience high or positive affect and low or negative affect—in other words, they experience positive and negative emotions. They also experience high and low levels of arousal. In a highly aroused state, brain activity tends to increase, the sympathetic nervous system is activated, the heart rate accelerates, we tend to sweat. The question on which scientists disagree is whether positive affect is always associated with high levels of arousal.

Prause and Siegle collected subjective reports of the participants' emotional experience during the OM sessions. They also used objective measures such as skin conductance responses to measure physiological arousal. What they found was surprising. All subjects reported that their OM was accompanied by intense positive affect. But in terms of arousal the results were mixed. This corresponded to subjective reports, with some participants saying that the OM session was exciting, while others said it was relaxing, like a massage, and still others said it left them in a state of clarity, like meditation. The researchers' conclusion was that arousal and positive affect are not necessarily related, it is possible to experience intense positive effect while being in a physiological state of low arousal.[6]

Another published result to date is consequential for the treatment of childhood trauma. People who suffer trauma in childhood, including but not limited to sexual abuse, often have difficulties experiencing sexual arousal as adults. This can compromise sexual function and cause problems with relationships. Prause and Siegle evaluated participants for childhood trauma using an existing, validated 10-question test, and then compared the physiological measures of sexual arousal for each participant against their childhood trauma score. Surprisingly, data showed that not only were participants with elevated childhood trauma scores highly aroused during the OM sessions, they were actually *more* aroused on average than other subjects. [7]

Prause and Siegle continue working with the dataset collected in their OM study with a view to future publications, including how OM may impact cognitive performance.[8]

How and why does it work?

Although OM research is in its infancy, the studies described above are starting to show that the practice of OM has significant effects on brain, body, well-being and relationships. And while research is still being conducted, the results that have been found are starting to confirm to some extent the claims that have long been made for OM by those who have experienced it.

Scientists have advanced theories that may explain the mechanisms of how OM works. There are two main proposals. The first is based on the observation that sexual activity, especially with a partner, has a healing effect on body and mind, and that OM provides a distinctive and especially effective way to access those benefits. The second theory is based on the idea of peak states otherwise known as mystical experiences. These altered states of consciousness have been studied in relation to other spiritual practices and have shown to have beneficial effects. These two approaches are distinct, but they are not mutually incompatible.

Fundamental role of sexuality for well being of brain, body and relationships

> In order for us to enter into a State of Orgasm, we must feel safe. This is especially true for women. Why? Because her internal guard dog - the center of vigilance - is about to go off duty for a while. …The consistent structure of OM creates a sense of regularity that our bodies learn to trust over time allowing us to increasingly let our guard down and open up to what we're feeling.… A strong container we can trust enables us to feel safe enough to experience a fuller range of experiences in connection in and out of the nest. — The OM Container Document

The denigration of anything to do with sex in popular and political culture explains why so little sex research has been done since the middle of the last century and, ultimately, why we still know so little about sexuality. Nor has this attitude been limited to lay audiences—in the world of medicine, psychotherapy, and psychoanalysis, sex has been considered potentially harmful, especially outside of romantic relationships.

As psychiatrists Thomas Lewis, Fari Amini, and Richard Lannon argued in their 2000 book on psychotherapy, *A General Theory of Love*, modern psychotherapy inherited, through the influence of psychoanalysis, Freud's negative view of sex. Freud, they point out, "was convinced that onanism and *coitus interruptus* were responsible for anxiety, lassitude, a plethora of hysterical symptoms—the emotional dysfunctions of his day."[9]

Prause agrees. "There are so many theories," she says of modern psychiatry and psychotherapy, "there's the whole idea, especially with 'hookup culture,' that really people are having 'cheap' sex, that it's not good, it's bad for you. And that people must be being tricked into it because it's a really poor experience for everyone. Underlying these theories is the idea that, if you don't have a romantic history with someone, you're not going to get psychological benefits from this other person."

That is why she thinks the OMing couples in her study were interesting. She and Siegle knew that, in theory, OMing doesn't need to be done with a romantic partner. But they expected that most of the people they recruited would turn up with someone they were in a relationship with. That turned out not to be the case—around half of the pairs were just OMing partners, they were not dating or living together or married, and that was the main element of their relationship. Far from having the negative effects that hookup theory would predict, these couples experienced just as much positive emotional response as the other couples. The effect of increased closeness was actually greater for these participants. This lack of negativity could also be seen in the lack of mixed affect typically produced by pornography use, and the positive impact on arousal for people with adverse childhood experiences, as discussed above.

Prause attributes these positive outcomes to the combination of the intrinsic power of sexuality to promote psychological health and the rigid Container in which OM is packaged, which takes the danger and guesswork out of the process. "What is going on here," she says, "is that what makes sex exciting and fun is that you don't know what's going to happen next. It's always a negotiation and an improvisation." Sexual contact is usually tied up with complex personal relationships, whether they're romantic or not, and all the expectations and frustrations they bring. OM couldn't be more different in this respect, Prause explains:

> With OM, you know exactly what's going to happen, it's highly structured. You know how long it's going to happen. You know what is and isn't allowed because it's written out. You're trained to do it. So it may be that to have a very structured container allows them to just have a nice experience without having to worry what's happening next. Especially for people who've experienced an assault, they'll say—I want to know what's going to go on, I don't want it to be up in the air as much, because that feels out of control to me.

As Prause and Siegle note in their article on sexual arousal in those with adverse childhood experiences, not only is the potential positive effect of sexual contact for its own sake denied by most therapists, but "some therapies explicitly work to reduce the occurrence of non-romantic sexuality. …[L]iterature on emotion-focused therapy describes sexual partners without secure romantic attachments as reflecting 'promiscuity,' sex addiction therapists have been known to refer to non-romantic sexual relationships as 'acting out,' and some trauma therapists have been observed to describe low commitment sexual partners as symptoms of trauma, comparing it to suicidality." Prause and Siegle conclude, "While OM is clearly not sex, our data suggest pathologizing non-romantic sexuality might cause harm by reducing opportunities to connect."[7]

Dan Kriegman, who alongside a career as a psychotherapist specializing in trauma has published several books on evolutionary psychology, agrees with Prause on the positive potential of sexual contact. “We’re social animals, right? We’re *sexual* social animals,” Kriegman explains, “Those are two of the primary motivations in our biology. To connect, to not be alone. If you put any human being in solitary confinement, they go insane. We need social connection. There’s a system of social connection that is vital to our sense of who we are and our well being and our stable functioning. And then there’s a sexual connection that is one of the central joys of being alive.”

In his 2003 *The Book of War*, Kriegman traces the evolutionary biology of racism, religious hatred, nationalism, terrorism, and genocide. He concludes that one of the main things that drives these scourges is male sexuality. In other primates, such as chimps, males form bands and try to dominate other groups. Human males, he says, have the same tendencies—they try to gain power over other groups in order to get access to material things and, most importantly, sexual access to women. Historically, he points out, that is what conquerors have always done.[10]

In trying to explain OM, Kriegman points out that not all primates behave equally badly. Another species, closely related to chimpanzees, is famous for its very different sexual behavior. Bonobos are divided from chimps and gorillas by the Congo River. Whereas the chimps are ruled by aggressive dominant males and their violent bands, the bonobos live in relative tranquility. Their lives are characterized not by violence, but by frequent sexual contact, not only for reproduction, but as a social interaction that, like grooming in other primates, serves to cement relationships and defuse potential conflicts.

“What OMing does,” Kriegman concludes, “is it moves us from one side of the Congo River to the other side. Well I really think that we might be better off if we organize things the way the bonobos do. We might eliminate a lot of war and conflict. And this might be a model that, rather than denigrating it as a pernicious cult, should be promoted as a lifestyle that is conducive to peace.”

Mystical experience and the origin of ritual

An alternative line of explanation begins with a scientific concept that first emerged over half a century ago in response to increased interest in altered states of consciousness. In 1960, British philosopher Walter Stace proposed that the experiences reported by mystics belonging to different traditions through the ages were a distinct and unified phenomenon that deserved scientific study.[11] Stace noted that all such experiences seemed to share a number of characteristics: they bring about a sense of unity—both inwardly, in the sense of a feeling of being internally integrated, and outwardly, in the sense of feeling interconnectedness with other beings and with the universe; they are

associated with a sense of sacredness; people who are in the midst of a mystical experience feel that they are gaining access to profound knowledge, but the experience is difficult or impossible to convey to others in language; the sense of space and time is lost; the world is infused with gentleness, tranquility, awe, and joy. Stace's concept was given greater scientific precision when it was codified into a validated psychological scale by Ralph Hood in 1975. [12] This would make it possible to measure objectively the extent to which any given experience conformed to the formal concept.

In those same years, there had been a great deal of excitement about psychedelics, in the lab as well as on the street. It had been proposed that they were an easy way to access the kinds of mystical experiences that Stace had identified, and there was hope that they might provide therapeutic outcomes in the ways shamanistic rituals using mind-altering substances had done for centuries. Early studies showed positive results, but later in the 1970s, the nascent scientific field of psychedelic studies was abandoned as the substances it depended on were increasingly associated with the counterculture and were subject to prohibition.[13]

It wasn't until the late 1990s that a small number of research teams around the world risked ridicule and shame by rekindling interest in what, thanks to the so-called "war on drugs," had become an embarrassing topic. They eventually succeeded in getting funding and ethical approval to run experiments in which psychedelics were administered to volunteers.

One of the teams that pioneered this work was led by Dr. Roland Griffiths, a professor of neuroscience, psychiatry and behavioral science at John Hopkins University, where he founded, and for many years was director of, the Center for Psychedelic and Consciousness Research. Beginning in 1999, his team was one of the first to begin research on psychedelic substances using modern neuroscience methods.

Griffiths was initially inspired by experiences he'd had in his own meditation practice and this drove him to investigate the relationship between psychedelic states and other kinds of spiritual experience. He found that the concept of mystical experience developed by Stace and Hood matched what he was observing in his experiments, which initially focused on experienced meditators to whom he gave high doses of psilocybin. He developed the MEQ30—the mystical experience questionnaire that was applied in Siegel and Emmert-Aronson's study of OM. Griffiths' work extended to therapeutic applications of psychedelics—his team's research proved that they can be helpful in the treatment of psychological distress among cancer patients, for substance abuse disorders, and for major treatment-resistant depression.

Griffiths had speculated that the mechanisms that bring about positive outcomes in people that undergo mystical experiences have to do with the profound shifts in self-view and world view and the increased insights into relationships that they bring

about. Subjects in studies conducted by his team and by others working on similar phenomena worldwide also reported an enduring curiosity about their own mind and consciousness, and a greater tolerance for discomfort that improved their psychological resilience.

In the years before his death in 2023, Griffiths became interested in OM. At the 2020 OM Science Conference, in which he participated, impressed by Siegel and Emmert-Aronson's article, he argued that OM looked as if it had the "same flavor" as the practices he had spent decades studying, and that it might be a complementary technique for exploring mind and self. Since mystical experiences produced by other techniques, he went on, had been associated with positive outcomes in healthy people and in those suffering from psychological disorders, it was reasonable to expect that OM has the potential to bring about similar benefits.

Dr. Andrew Newberg, who carried out the brain imaging study on OM described above, is another world-leading expert and pioneer in neurotheology. He relates his experience with OM research and his interpretation of the meaning of OM in his fascinating 2024 book, *Sex, God and the Brain* [14]*.* He describes how he was inspired by an early collaboration with a French psychologist, psychiatrist and anthropologist, Dr. Eugene D'Aquili. D'Aquili had published a book, *The Spectrum of Ritual*, in which he had claimed that rituals are absolutely essential to human experience and well being. A specialist in human evolution, he noted in the book that ritual is not only a human phenomenon, arguing that the animal origins of spirituality could not be ignored.

Most animals are capable of ritual, in the form of mating rituals. In many species, individuals do not routinely come close to each other—they are instinctively defensive. When a male and a female animal come together to decide whether to mate, they perform elaborate rituals that engage spatial, emotional and sexual neural circuits. These mating rituals are powerful shared experiences that—when successful—work dramatic transformations in the neurophysiology of both potential mates simultaneously. If the animals' brains and physiologies resonate with each other, if they are well matched, then their defensiveness will subside and they will achieve sexual union.

The inevitable inference was that human ritual is an evolutionary development that has its origins in mating rituals and therefore in sex, that it is based on the same evolved levers—sensory, spatial, emotional and, yes, sexual—that we have inherited from animal ancestors and that are still capable of driving powerful changes in the brain. This is the source, Newberg argues, of religion's power to inspire a sense of connection, awe and bliss. The feeling of oneness that evolved in connection with mating can be evoked using those same levers and applied to other things—to nation, humanity, even to the universe.

Newberg and D'Aquili planned a program of research to investigate the nature of human spirituality. Unfortunately, D'Aquili died at an early age and did not live to see the implementation of the plan by his young collaborator. Newberg explains in *God, Sex and the Brain*, that the impact of sexual arousal on the brain was always intended to be at the heart of his research on spirituality. However, for many years he found no practical way to apply the imaging methods in which he specializes to sexuality. Instead, he studied all kinds of spiritual activity from meditation to prayer, pioneering a new discipline, which he dubbed "neurotheology." He found that all of them shared important characteristics, including for example, reduced activity in the parietal lobes, associated with a reduced sense of self and an increased feeling of connectedness.

When he encountered OM, Newberg realized he had found the perfect opportunity to answer the questions that he and D'Aquili had posed many years ago. A spiritual practice that incorporated sexual arousal: perhaps, he reflects in *God, Sex and the Brain*, this would turn out to be the missing link that establishes the connection between sex and ritual. Sure enough, the results of his study confirmed his expectations. In many respects, the brains of OMers looked like the brains of people who had undergone other kinds of spiritual practices that led to mystical experiences. For instance, several regions of the brain's Default Mode Network showed reduced activity in OM, just as had been shown by Newberg and other scientists in studies of a variety of meditative states such as concentration, open monitoring and loving-kindness. There was also the familiar reduction in activity in the parietal lobe.

So Newberg's favored explanation of the efficacy of OM brings together aspects of the other explanations we have seen so far. Like Prause and Kriegman, Newberg agrees that the sexual aspect of Orgasmic Meditation allows it to tap into uniquely powerful, evolved mechanisms in human physiology and psychology that have been wrongly denigrated by popular culture and even by the psychiatric establishment. Like Griffiths, he agrees that OM triggers the same neurological processes that produce mystical experiences in response to other spiritual practices. But he goes one step further than Griffiths in arguing that OM is the spiritual practice that most closely mimics the ritualized sexual processes—mating rituals—that he believes underlie all spiritual practices and give them their transformative potential.

4 Conclusions

Future research may shed more light on the *why* of OM. More work is also planned on the *what* and the *how*.

Newberg and his team at Thomas Jefferson University will undertake another study of OM, focusing this time on the effects of Orgasmic Meditation on the dopaminergic

system that regulates the release and uptake of dopamine in the brain. Dopamine is a neurotransmitter associated with reward. Research has linked dopamine dysregulation to alcohol abuse and addiction. It is also the leading neurotransmitter affecting Parkinson's and Alzheimer's. Newberg's previous research found that OM does have an effect on the dopaminergic system—the task in the new project will be to quantify that effect and understand it better.

Prause will be starting a new study on the effects of OM on depression. She already found in previous work that OM increases feelings of happiness and decreases feelings of anxiety, and proposed on that basis that it might reduce depression scores. Her new project will aim to gauge the effectiveness of OM's unique combination of meditation plus arousal, which she describes as the "the OM equation for healing depression."

Other researchers, such as Kreigman, have studies in progress investigating the efficacy of Orgasmic Meditation as an intervention for PTSD.

The hope is that these studies will build towards an understanding of how OM might be able to make an impact on the current global mental health crisis—and it is a crisis. Over 90% of U.S. adults agree that the U.S. is suffering from a crisis in mental health.[15] As of 2023, the U.S. Substance Abuse and Mental Health Services Administration reported that nearly 1 in 6 adults were suffering from a substance use disorder, nearly 1 in 4 had a mental illness and around 1 in 16 had a serious mental disorder. The Veterans Affairs Agency reported that in 2020, 13M Americans were suffering from PTSD. Similar statistics are reported around the world.[16]

Psychiatry and psychotherapy have made great advances in the past half century, but it is clear that something is not working. Pharmaceutical solutions, such as the widely used SSRIs, take the edge off the worst symptoms and can allow people whose lives would otherwise be seriously affected to live in a more balanced way. But while they reduce the amplitude of the negative effects of patients' disease, they also blunt their ability to feel all kinds of emotions, including joy and sexual excitement. This leads to poor compliance and harmful cycles of adaptation and withdrawal as patients attempt to live without them only to relent when their symptoms return.

A variety of psychotherapeutic treatments have now been proven to be as effective as, or sometimes more effective than, pharmaceuticals. But they are expensive and require sustained commitment to a program of treatment before effects can be appreciated. Patients on these programs often fail to complete and fall back into their disorder—whether it be PTSD, depression or substance abuse—with an added sense of hopelessness. Clearly, innovative solutions are desperately needed. OM might be a valuable addition to the tool box.

Arthur Schopenhauer once said, “All truth passes through three stages: First, it is ridiculed; second, it is violently opposed; and third, it is accepted as self-evident.” Orgasmic Meditation has its critics and that is understandable. It challenges a core assumption of modern culture and psychiatry: that sexual contact outside of romantic relationships is bad and harmful. In fact, OM asserts that sexuality can be healthy and beneficial.

Other practices that are highly valued today for their contribution to well being have already been through all three stages. Who could imagine today, for example, that yoga was once seen as a dangerous threat? Yet it was violently opposed when it came to the West, and not so long ago.[17] Psychedelics, which were prized by traditional cultures for millennia, were considered a danger to the fabric of society and are still banned in most jurisdictions as part of an all-consuming war on drugs.

Only in recent decades do we see mindfulness and yoga and meditation making their way into mainstream American society, with healthcare coverage for yoga classes and corporate training on mindfulness techniques. Those who look and sound like the early pioneers of those practices and who were treated as cult leaders and profiteers are now heralded as sages and gurus. It is now clear that substances such as psilocybin and ayahuasca have powerful therapeutic applications in the treatment of depression and trauma.

In both cases, mainstream society was deeply prejudiced, only later to realize that what we had cast out as evil was in fact the very medicine we needed. In both cases, it was science that played a big part in opening eyes, minds and hearts to enable us to reach a deeper understanding.

Looking to the future of OM studies in 2020, and comparing it to the research on psychedelics to which he made an enormous contribution, Roland Griffiths commented that OM raises fundamental questions for multiple branches of knowledge, including biology, psychiatry, behavioral science and therapeutics.

Ultimately, the meditation practice has great potential for consciousness, health and interpersonal relationships. According to Griffiths, “There’s this sense in OM of the core sense of unity, this interconnectedness of all people and things.” Science will continue to explore the myriad potential benefits of OM, and how harnessing the sexual impulse in this way affects the neurobiology and physiology of practitioners.

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