*N,N-dimethyltryptamine, Induced Altered States,*

*and Religious Experience: A Study Beyond the Doors of Perception*

Consciousness happens to be one of the greatest mysteries that exists. What happens to it when we die? How can it be altered? What does it *mean*? Some will even argue if it even exists. I cannot give complete answers to these intensely difficult questions. Nor do I plan on explaining what the value of religious experiences are or the authenticity of induced states in comparison to the religious variety. My passion is to understand how religious experiences are triggered and for individuals to place their own meaning and value on such events. This methodology is much like Taves in that, “There is no necessary conflict between the humanists’ desire to describe the conscious meaning of religion for believers, and the social scientist desire to account for the believers understanding in terms other than the believers own.” (Taves, 7745) It is this later stance which I will take for this research. Language is something all groups, cultures, and societies use in order to relay and transmit information and make interpretations. The language for a theologian and language for a scientist are utterly different but unique in that they can both be used to describe any number of phenomena. (language in this sense means jargon or set of vocabulary) The goal for the scientist is to understand religious experiences in a language which makes the most sense to their language tool kit. So too does the theologian use language and vocabulary that makes the most sense to them. What remains constant is the existence of the phenomena. A phenomenon which can be interpreted in multiple ways and on varying different levels.

Throughout this research I will use the term altered state experiences to describe any and all experiences which facilitate a transformation in one or more areas of the consciousness-self. This consciousness-self includes ones Perception, Subjectivity, Objectivity, and Thresholds. The perception deals with an individual’s understanding of their being within the larger whole of the cosmos. Subjectivity relates to the identity and the Self of the individual. Objectivity relates the Self to the rest of their perception. Thresholds are the mental and biological barriers that, once entered into an altered state experience, one may pass through with ease to that altered state of being. The term of altered state experiences is synonymous with religious, spiritual, ecstatic, and mystical. These terms have all been used by other scholars in this field of study in order to describe and categorize these types of experiences, just as I have done. I have chosen to use this vocabulary to describe these experiences in order to make useful comparisons between those altered states that are induced in the secular realm and those altered states that exist in religious environments. This distinction is one that is pivotal in my research because it bridges together new age cognitive science and the decades long study of religious experience.

The subject matter of this research focuses on two types of altered state experiences. The religious experience and the secular experience. Religious experience has been studied feverishly by scholars such as William James, Ann Taves, James Martin, William Proudfoot, and Martin Buber to name a few. It includes those things like religious ritual, fasting, meditation, visions, and visitations from gods or angles. These scholars utilize two methods to describe the religious experience. The first is descriptive reduction. This method focuses heavily on the description that the subject gives of their experience. This method of analysis, when dealing with religious experience, can be troublesome because of socio-cultural and linguistic variables that may exist. These types of factors influence what I consider the subject’s language tool kit. This is the vocabulary, syntax, grammar, and verb usage that an individual uses to describe and relay information from an altered state experience. The description of what the subject interprets depends a great deal on the language tool kit being used. Although there may be vast differences in this tool kit similar objects or tools can be found to be used by different groups. This means that even though two altered state experiences may be described in completely different terms, one secular and the other religious, similar language tools may be used to describe and interpret the experience. It is these language tool kits that I will use to compare case studies for this research.

The method of explanatory reduction is another essential tool for my research and understanding of altered state experiences. What is being reduced from the experience is the modality, the delivery method, and the causation of such experiences. It is this method that allows for the subject to maintain the validity and truth of their unique experience, but also allows the observer to reduce, with their unique language tool kit, the experience into terminology that makes the most sense to them. This model allows altered state experiences to be understood and re-defined so that a larger section of the population might learn something about what this research aims at showing. It also allows the comparisons of experiences which one might never think to examine to have similarities. With the supplemental support of the descriptive reductionist method and the utilization of the explanatory method, this research is able to compare experiences that extend cross culturally and within different realms of the socio-cultural landscape.

This is a comparative study will focus on the analysis of altered state experiences. My research will aim at looking into the variety of variables that can be observed in order to deduce a comparison of those experiences. These variables deal with the biological cause of such experiences and the shift in certain elements of the consciousness-self (perception, subjectivity, objectivity, and thresholds). It is hoped that by the end of this research I will be able to draw conclusions about these variables as they relate to altered state experiences. This approach to studying these types of experience’s will not come without its problems and shortcomings. It is not perfect by any means. But there is a pattern in the way and how these experiences are described cross culturally that begs for further analysis. Based on new breakthroughs in brain chemistry, neuroscience, pharmacology, botany, and chemistry, those studying consciousness and religious experience have new tools in which to explore its potency. These profound tools have allowed an analysis of how things change our consciousness and their effect on our biological systems. This will be key in my analysis of altered state experiences. This research only hopes to bring these arguments into the conversations of theologians, academics, and scientist alike. Unfortunatly there is just not enough data relating to biological and cognitive mechanism for these types of experiences. More importantly this study does not aim its goal at proving validity to any subject’s interpretation and description of any altered state experiences. There are inherent problems in studying altered state experiences in this way and the search for truth is one of them. I believe that one’s personal narrative should go unjudged and considered as true no matter its content. Each version and interpretation is but another version of reality. This research study focuses its case study on the experiences of the participants in Rick Strassman’s DMT study and the Jewish prophets like Ezekiel’s visions and Enoch’s ascent to the heavens. Both types of experiences have a profound effect on the subject’s perception of reality, their subjectivity as Self, their objectivity in the world, and the thresholds in which they are able to reenter the realm of altered state experiences. And possibly, both types of experiences even have a common biological and cognitive origination.

Case studies

In the following sections I will be exploring a variety of religious experiences and altered state experiences. I will be using examples from Ancient Jewish Mysticism as my data pool for religious experiences. For my case studies on altered states I will be using the study conducted by Rick Strassman and Aldous Huxley’s book *The Doors of Perception*. Conclusions will be drawn about the similarities and differences between the types of experiences in hopes to gain insight into the nature of how the experiences happen and what consciousness-self elements are effected. Unfortunately, I cannot measure the brain chemistry of long dead Jewish Mystics, nor can I talk to them directly. The existence of their experience is only recorded in writing and for me this should suffice. I believe that these written descriptions of such experiences are filled with large amounts of descriptive data that can be used as a window into their consciousness-self. I am less concerned that those visionaries like Ezekiel and Enoch, really did travel the heavens and see the Divine. My focus is in what kinds of lanuge tools are used to describe such an experience and to compare those language tools with those tools found in the altered state experience’s from DMT. In this research those altered state experiences induced by DMT and Ayuwascah, the visions and perceptions the produce, are just as valid and real as the prophet Ezekiel’s revelations of the heavens. The point is not to question truth or untruth but to recognize that each is a different language tool kit being used in their interpretation. In the following case studies, I will draw conclusions based on the similarities and differences in the description of these events.

Ezekiel’s Vision

 In this section my research turns to visionary epics from ancient Judaism. Ancient Jewish mystics happen to be one religious group that had a multitude of religious experiences that went documented. It is because of this do I have a wonderful catalogue of vivid detail about their religious experiences. This first case study focuses on Ezekiel’s Vision. Peter Schaefer brings up an interesting set of questions in his book *The Origins of Jewish Mysticism* that pertains closely to what I want to focus on in regards to my analysis of Ezekiel’s Vision. “What is it precisely that Ezekiel saw, and how does the content of his vision relate to the biblical context in which it is embedded? What kind of experience does it entail?” (Schaefer, 33) It is important for this study to note that Ezekiel’s interpretation of his vision was largely dependent on the context in which it happened or in other terms, was dependent on his language tool kit.

His vision starts with, “the heavens opened.” This phrase is one that resonates in many visionary religious experiences that followed the 2nd temple period. The use of this phrase most probably the effect of the apocalyptic literature of the time. In the case of Ezekiel, the opening of the heavens is his transition from the worldly realm to the spiritual one; A shift in the state of consciousness. Ezekial was able to break through what I might call a threshold. He emerged from beyond normal perception and was able to perceive a greater reality that existed between and outside the natural world. “…he is grabbed by God, singled out from other exiles and likely also *transformed into a state of mind – or, in some cases, of body – that enables him to perceive the vision.”* (Schaefer, 37) It continues to say, ‘the word of the Lord came to Ezekiel.’ The *word* is a cultural and linguistic tie to the Torah, or law. A tool from the language tool kit. Jewish mystics viewed the *word* of the lord as the *law* of the lord. If we were to use a different language tool kit, one outside of this particular religious culture and language, it might translate to say that *knowledge of the universe came to Ezekiel.* This is one example of cross cultural reductionism that deals with the descriptive nature of the experience. Major words which can be cross-culturally compared are italicized. His vision continues with what he actually *saw*, “As I looked, a stormy *wind* came from the north, with a large *cloud* and *flashing fire*, surrounded by a *radiance*; out of it – out of the fire – [appeared] something that looked like *hashmal*.” (Schafer, 38) In this next section we find words that are a bit abstract and related to light. The term *hashmal* is used which also brings into question what he really saw. *Hashmal’s* closely translated to some sort of electricity. The inclusion of such an observation and the obscurity of the vision leads the observer to concluded there is some difficulty in translating what is being seen to what his language tool box allows him to interpret. Later in his vision, Ezekiel describes the wheels and the appearance of creatures, “… I saw one wheel on the ground alongside each of the four-faced creatures… As for the appearance of the wheels and their design, they were like *chrysolite*…” (Schafer, 40) This term is another interesting choice for Ezekiel. A wheel made of crystal is what he describes. Surely no such wheel existed in his time. The question is why he choose to describe them that way. I would argue that he chooses a unique worldy material of great significance in order to preserve that same special characteristic of the wheels in his vision. Continuing on in his vision, “Above the expanse that was over their heads was the shape of a throne with the appearance of sapphire-stone…. From the appearance of his loins upward I saw the like of *hashmal*, having something with the appearance of fire surrounding it; and from the appearance of his loins downward I saw something with the appearance of fire; and he was surrounded by radiance. Like the appearance of the bow that is in the cloud on a rainy day…. When I saw it I feel on my face.” (Schafer, 43) A important question to ask is why he has chosen the words he has. Schafer gives many reason why the analogies and phrases are used. The most obvious is that they deal directly with socio-cultural and religious influences of his time. What is more important for this study is focusing on specific words like fire, sapphire, rainbow, and *hashmal*. It is these words that are used to describe the most obscure and abstract elements of the vision that provide insight into the mental transition of consciousness and possible cognitive states. Aldus Huxley relates these types of objects to the ‘other world.’ In Huxley’s ‘other world,’ the environment is populated with hyper vivid and patterned perceptions. His experiences were not triggered by the ‘hand of god’ but rather induced by chemical addition. The commonality that both Huxley and Ezekiel were transported what seems like hyper vivid worlds bring into question the biological or cognitive cause for the perception of a hyper vivid environment. This might also explain the words being used to describe such experiences. Fire, sapphire, rainbow, crystal, and *hashmal* are all earthy objects that hold a special or unique place within the perception of normal matter. They are distinct, different from everything else that can be compared to it. I believe Ezekiel uses these terms when describing his experience because he wishes to preserve the specialness and hyper vivid aspect to his experience. And this can only be accomplished with the language tool kit he has. Fire, sapphire, rainbow, crystal, and hashmal are his language tools to interpret and describe his experience. This, we will find, is not much different than the language kits used in the altered state experiences from Strassman’s study and Aldus Huxley.

The Spirit Molecule

 This case study focuses on the work of psycatrist Rick Strassman and the experiences that the volunteers had during his research study. This study was conducted in a controlled Enviornement located in a hospital. This study was conducted in the late 1990’s after psycadelic research was mostly dead. The focus of this study was on the biological effect from high doses of liquid DMT. This compound was chosen because of its profound effects. Amongst other types of alkaloid based psychedelics, DMT is far more effective in providing the volunteer and researcher consistent effects for study. It is useful in my research because of its profound effects on consciousness. What follows are the firsthand account of what the volunteers experienced when the compound DMT is introduced into the body. The participates come from a variety of backgrounds and professions. It is worth mentioning that these types of exeriences are not induced by those religious means (fasting, medittiaon, ect.). Instead they are triggered by adding chemical compounds to the biological system. As we will see, the description of the volunteers will include language from their unique language tool kit. There interpretations are all unique in their own right but similar in nature and form. Similar even to that of Ezekiel’s vision and Enoch’s ascent to the heavens.

 So what is it like to get blasted out of your own mind and into a constantly changing and infinitive space? The experiences vary depending on the subject but they all include changes in biological functions, like heartrate, audible sounds, physical sensations, and shifts in the consciousness-self.

“… and the next thing that would happen, besides my racing heart is this burning sensation would happen on the back of my neck… and then there would be a hum, and the hum would get louder and louder and louder and to the point where I broke apart everything I was or knew until you just had to surrender to the sound and then you were there. “(Antonopoulos Spiros – Yoga Studnt)

Another version goes something like this:

 “I would get a warm full feeling, a golden feeling in my chest before it went to my head. I’d feel this warm rod… start growing inside my central channel. It would slow down and put tremendous pressure on my sinuses… and when, I was afraid it was going to pop through my head – it was a very physical feeling, it popped through there [crown of head] then the psychedelic trip would start. I thought I died. I saw the white clouds with the gods and the angels. I thought I was dying and going out.” (Christian Meuli, MD – Family Physician)

 These are pretty vivid descriptions of what it’s like to be induced into an altered state. A few things to note. First, there are biological and physical sensations that are triggered by the altered state. Second, each person’s experience is different in subtle ways but both describe the transportation of the mind to another realm of reality. Which is very similar to those experiences described Ezekiel and Enoch. The sensation of dying is something that was felt by more than one of the volunteers.

 “So I didn’t know whether it was my birth I was re-experiences, my death which was yet to come. Because I know time crumbles, the linearity of time is totally meaningless in these states. You are at the godhead, a point where all time fold in on itself.”

 These types of descriptions further describe the temporal sensation of such altered state experiences. There is often the sensation that time stops completely and the subjective Self is no longer influenced by the worry of time. This shift in conscious understanding of time may come from the idea that time, in a way is a human construct. Or at least linear time as we know it. If these experiences shift ones perception of elements of reality, such as time, then so too is our subjective and objective relation to those realities. In these altered state experiences, one separates themselves from the earthly realm and to their worldly self. A complete transformation of the consciousness-self.

 “More and more layers of my humanity started peeling off. Finally… the last layer… and I can’t even describe what it is, somewhere in there is the last of that which defines you as a human being and it goes *wissk*, you are no longer a human being… you are no longer anything you can identify” (Patrick Dominguez – Shaman)

 Here we see this transition from an earthly Self to something of a quite indescribable nature. These transitions are examples of how compounds like DMT can create profound effects on consciousness. A similar transition was described in Ezekiel’s vision when, “…he is grabbed by God, singled out from other exiles and likely also *transformed into a state of mind – or, in some cases, of body – that enables him to perceive the vision.”* This transition from earthly consciousness to a type that can perceive this altered state experiences happens in both experiences. It is only after this transition does the subject enter the realm of infinite, divine, heavens, or whatever your language tool kit allows you to use. Here is an example of the same transition of the consciousness-self from another volunteer.

 “and so I went right into this white light, as soon as I went into it I lost any sense of being, different, any sense of what I was doing past, future… I felt like it wasn’t I, I was everything. I was the light… and white yellow light. Then I felt myself falling out of this light and as I fell out of it I could feel the light like it was a glow, like the sun is with flames coming out lapping out and I could already feel this tremendous separation.” (Christian Meuli, MD – family phisicia)

 As the volunteers get further into their journeys, their language tool kits begin to fail. The difficulty in interpreting these experiences is similar to the way Ezekiel struggled at describing his sapphire thrown, crystallite wheels, and the fiery *hashmal*. It seems as if, when undergoing an altered state experience, normal language just doesn’t suffice in describing the experiences of the subject. We find more examples of this difficulty

 “I looked around at my environment trying to absorb everything to understand. There were all of these machines or structures or things that I had never seen before that I had no idea what they were. I was like a caveman in a computer lab…” (Susan Blumenthal – Writer)

 This difficultly for language to sufficiently describe the experiences tends to be the source of the variety of descriptions that are made. We can find similarities in the way things are described and the nature of the experience which allow us to infer that maybe the types of experiences, Ezekiel’s vision and DMT experiences, have more similarities than differences. The most unique example that displays this type of similarities comes from one of the volunteers of Strassman’s study.

 “There was no I there was just a sense of a witness being suspended in his incredible valted space, like a cathedral made out of stained glass out of all imaginable colors. Unbelievable brilliance saturation of color… and there were these winged beings, I don’t remember exactly what they looked like but were like… angles? Something like angles that were majestically kind of flying through the space but here was something about the quality of how they were moving. I had never seen anything like it before… there was a sense that there was another realm there… at some point there was this implicit sense this is the divine realm. It was not like a thought but it was like this implicit kind of grocking recognition.” (Robert Weisz, PhD – Psychologist)

 This descriptive interpretation of his DMT experience has a few key elements that are worth comparing with Ezekiel’s vision and some that differ in the way the experience is described. First, it is unique that Robert uses the term angle, but he isn’t quite sure if that’s really what he sees. There is a definite description of a winged being in Ezekiel’s vision. Explanatory reduction might argue that they both saw the same thing, or there is a natural element that is being reflected in these altered states (the combination of a natural element like a birds wing with human characteristics), or that there is a similar neurochemical biological process that illicit the same types of perceptions. These arguments would be difficult in proving. Beyond the ability to pull out similar descriptions of objects being seen, so too do Robert and Ezekiel describe the unique way in which these beings move, ‘I had never seen anything like it before.’ Beyond the two distinctly unique characteristics that can be found in both experiences, there is also the sense that their environments are hyper vivid. Ezekiel and Enoch both describe hyper vivid textures and colors. This can similarly be found in the DMT experiences as well. Both in Roberts experiences and in Antonopoulos’ experience.

“The texture of the place seemed like animated Mexican tile, it was hyper vivid in color… pointing towards earth but nor really being from earth.” (Antonopoulos Spiros – Yoga Student)

“There is one state in it [his experience] I call it the hobbi horses, and they are interlocking reticulating vibrating hobbi horses. They interlock and form a visual pattern that seems infinite in scape… you know words start to escape you.” (Andrew Stone – Software Developer)

 These hyper vivid environments are inhabited by both of the subjects in altered state experiences. The complexity in their color, saturation, shape, and vividness can sometimes escape language entirely. When comparing these two types of experiences, the DMT experience and the religious experience, a great deal of openness and the ability to reduce the descriptions down to the basics proves to be the best method. Some of the most important similarities I want to focus are also the most basic. They deal with the most basic language tools being utilized by the DMT experiencer and the Jewish prophet. What I find fascinating from this research is that, out of an incredibly difficult experience to describe and within different realms so society and culture, I can find similar language tools used to describe what have always been considered two completely different kinds of experience. The use of language tools like fire, clouds, sapphire, crystalline, light, radiance, and concepts like the separations of the self and the shift in the perception of reality are all commnalityies than can be found cross culturally and within different realms of the socio-cultural landscapes. The similarity in the difficulties of describing these experiences and in the way and nature of the interpretation points to a possibility that there are greater similarities than just in the language tools used. What might actually be occurring is that the brain of both subjects are undergoing similar biochemical and neurological mechanism that help facilitate their altered state experiences. similarities between religious experience and those experiences that are induced. To find a common origin of all altered state experience. Maybe there is a similar cause to these experiences. Maybe not similar in the fact that they are caused by either a knock on the head, an ingestion of a drug, or a visitation from a god. But similar in that the brain is making the perception of such experiences possible. And what these experiences do to things like perception, subjectivity, objectivity, and thresholds is profound. The argument that similar brain chemistry and neurological mechanisms may facilitate such experiences comes from a few observations. First, that the brain in a normal resting state does not illicit these types of experiences. That something has to trigger the brain for it to illicit such a response. Second, there are commonalities cross culturally and within religious and secular experiences that use similar language tool kits that relate to the nature, sensations, textures, colors, and objects described by the subjects of such events. Third, that there are similarities in those altered state experiences induced by drugs outside of religion and those altered state experiences that are induced by religious means. It is these similarities that should bring into further question the similarities between religious experience and those altered state experiences. I believe the future of cognitive science and neurochemistry will help further this argument and bridge together new age science with decades long study of religious experience. The tools will be not in the form of iron hammers and steel beams but rather chemicals and compounds that help understand how the brain’s chemistry is involved in these altered state experiences.

What is DMT? (*N,N-dimethyltryptamine)*

 DMT is everywhere. It is in plants, it is in animals, and it’s in YOU! DMT is a molecule that has been the center of research as it relates to altered states of consciousness. Located in the middle of the brain is the Pineal gland, and it is most probably the origin of the brains production of DMT. During everyday life DMT is produced on such small amounts that we hardly notice its effect. It is possible that upon death or near death this gland releases a massive amount of DMT. It is also possible that the brains release or consumption of DMT can be triggered by practices such as meditation, fasting, or extreme aesthetics. And maybe it even has a role in dreaming. One thing that has been studied is the chemical or drug induced DMT experiences. It is by these experience we can relate other experiences, religious, dreaming, or NDE to induced chemically altered states by DMT. The descriptions of such altered state experiences are hyper-vivid, and impactful to one’s perception and subjectivity. There have only been a few studies on the effects of psychedelics, and only one that focus on the compound DMT. Before I discuss my case study of modern DMT research, I want to ask the question, why use this compound - DMT?

 *N,N-dimethyltryptamine* usefulness comes from the field of Neuroscience and brain chemistry. With help from the discovery of serotonin, brain chemistry has given scholars the ability to understand what the function of certain molecules has on the biological systems associated to consciousness and the brain. What is important is the molecular structure of these molecules. The ability for the body, plants, and animals to synthesize and metabolize such molecules makes them particularly interesting for study. Below is a sample of molecules with the same carbon base. Each have very few combinations but all result in some sort of change in brain chemistry when induced to the body. Some are more profound than others but include the similar impacts on consciousness. Most importantly on perception, subjectivity, objectivity and thresholds.

  

 Serotonin *N,N-dimethyltryptamine (DMT)* Psilocybin

 The similarity in the structure of these molecules allow those who study them to understand their function as it relates to brain chemistry. There are certain plants that hold a higher percentage of these compounds then others. Those with high percentages of these compounds have been utilized by cultures to induce altered states in a ritual and religious manner. These molecules occur naturally in our environment and our brains activity accept the induced states they produce. And in some cases these effects produce profound experiences on consciousness, perception, and subjectivity.

 Anthropologist and ethnographers have studied the use of a mixture of such plants in the rainforest of the Amazon. Indigenous tribes of the Amazon have used DMT and its profound effects as a medicine used for ritual purpose. The production of the medicine or Ayuwashca is knowledge past down from shaman to shaman and involves the combination of certain plants to produce a brown drink. Scholars who study Ayuwashca do not entirely known how these indigenous Amazonians learned which plants to combine. The combination of plants is essential to induce the intended altered state. DMT is a molecule which is broken down by an enzyme in our stomachs at very rapid rates. So fast that the molecules can’t reach the brain. The indigenous Amazonians learned that the leaves from one plant actually inhibit the enzyme in the stomach from reacting and breaking down the DMT. Thus turning what might be a five-minute experience into a five-hour experience with incredibly profound effects. The tradition was even adopted in the American culture by the UDV church. This church used Ayuwascah as a sacrament for its visionary experiences and even battled the US government for their right to use to potion based on the religious freedom act. They won and continued to use this potion for its profound induced altered states.

Its usefulness and case study for ritual and religious functions brings DMT and Ayuwascah to the center of my research and the research to follow into altered states of consciousness and religious experience. I want to reiterate that this study does not explain why these groups used these compounds for their visionary effects. Nor does it place value on the experiences these compounds produce. This research focuses these examples on the mere merit that they are experiences, which to the individual doing the experiencing, are *real experiences* with profound effects on subjectivity, objectivity, perception, and thresholds. This research uses the data on DMT and Ayuhascah in order to understand the neurological mechanisms of altered state experiences. In conclusion, theories about the mechanisms of such ancient visionary religious experiences and those altered state experiences induced by DMT, might be understood more clearly by using these methods from my research.

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