

By-Product Gods: A Study of the Underlying Cognitive Processes Responsible for the  
Conceptualization and Transmission of Real-Time God Concepts

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## ABSTRACT

Comparative religion scholars in the past have explored differences between various religious traditions but have provided little information regarding fundamental similarities. By employing the cognitive science of religion, this project sought to examine the universal conceptualization and transmission of real-time god concepts. The methodology for completing this research involved the examination and analysis of literature surrounding three god concepts including Amida Buddha, Coyote, and the Christian Trinity. Deconstruction of each concept was used to analyze the cognitive process of conceptualization and compared that process with current theories explaining conceptualization. Evidence of violations and transferences of the person ontology were necessary to examine conceptualization of the counterintuitive concepts. Transmission of the god concepts was explored by examining practices and beliefs associated with the god concepts and evaluating whether these beliefs and practices minimized counterintuitive characteristics. The research suggested that practices and beliefs may successfully minimize counterintuitive characteristics allowing the believer to conceptualize each god in a way that does not overload capacity and in turn hinder the cognitive processes necessary for transmission.

## INTRODUCTION

In the past, religion studies has been limited to observation, comparison, and interpretation. Content with dissecting sacred traditions into rituals, doctrines, and the deities worshiped, scholars of comparative religion have placed an emphasis on the uniqueness of gods between cultures, while little research regarding similarities among different gods has been conducted. Scholars of emerging empirical disciplines have been prevented from studying in the field of religion based on the assumption that the profane can never explain the sacred. By employing cognitive science, similarities between gods and why those similarities exist can be studied. The construction of god concepts is universal among religions and will be examined by studying the gods of three religions: the Trinity of Christianity, Amida Buddha of Pure Land Buddhism, and Coyote of Southwest Native American Traditions.

Two points of clarification are necessary to make early on in this paper, the first being the definition that will be used when discussing gods. In this paper, a god is a supernatural agent that is of concern within a religious tradition. Secondly, it must be noted that there are two types of god concepts, as noted by Barrett (1996) that people tend to hold simultaneously, the “theological concept” and the “real-time concept.” “Theological correctness” refers to the attributes of a supernatural agent that have been standardized by the religious tradition (Barrett, 1996). Typically, theologically correct god concepts are clumsy and difficult to conceptualize due to the strain they put on cognitive inference processes. This clumsiness is the reason real-time concepts exist. The brain is capable of making anthropomorphic inferences more readily than theologically correct inferences, which tend to violate too many inferences at one time. The aim of the three case studies in this research is to explore how and why real-time concepts exist

rather than focusing on the theologically correct concepts that occupy little of the average person's religious experience.

## LITERATURE REVIEW

There are several arguments against using cognitive science to explain religious behavior. One such argument is used by both science and religion. Science has avoided researching anything religious under the premise that science can only explain phenomena that the laws of physics apply to, which religion does not claim to abide by. Religion does not feel that science is capable of explaining the sacred for the same reasons. However, religious behavior is just that, a behavior, and if psychology and cognitive science can explain behavior, religion should not be in some untouchable category. This separation has been falsified by experiments completed by people such as Barrett, in which real-time concepts are compared to theological concepts (Barrett, 2004). It is also worth pointing out that religious people make statements about science based on religious beliefs quite frequently, for example the Big Bang Theory and evolution.

A similar argument that asserts the necessity of keeping religion and science separate addresses the anthropomorphic base that researchers such as Barrett use as roots for studies. This argument suggests that anthropomorphic language is necessary because there is no other way to describe gods or supernatural beings that are ineffable. This argument, however, can be used to support the cognitive science of religion because it in itself demonstrates a cognitively constrained thought process. Our brain cannot think in ways that are ineffable because of cognitive constraint; this is why real-time concepts exist parallel to theologically correct concepts.

Another argument that some make against this kind of research is that they feel the way religious people think is not what is being studied in this approach. Referring again to Barrett's

research, it is evident that theological correctness differs from what is actually going on in a person's mind. The evidence that supports the cognitive science of religion is empirical.

A critique of studying religion in a way that seeks a universal construction of god concepts is that some religions, such as Buddhism, do not worship a deity. In advance, it should be acknowledge that while some religious traditions concentrate worship on a force (such as Brahmin) or nothing at all, the adherents of these religions still have relationships with gods, whether through syncretism or placing anthropomorphic attributes on non-god concepts. The focus of this study is not to prove or disprove anything beyond the cognitive mechanisms that underlie the construction of god concepts.

The last argument is against evolutionary psychology. Evolutionary psychology has been compared to a "just-so" story and the modularity of the brain has been questioned. While it is true that evolutionary psychologists are trying to look to the past to explain behaviors and mental processes of the present, it is also important to realize that even if the research of this paradigm is incorrect, science works by falsifying old hypotheses. This process is the essence of the scientific method, and this cycle of disproving and improving hypotheses leads to more accurate research. Therefore, this approach is part of science and is necessarily falsifiable just like any other discipline within science.

## METHODS

To explain the reason that real-time god concepts arise and persist in the same way, no matter the religion, a sampling of different deities from different traditions was selected including the Christian Trinity, Amida Buddha of Pure Land Buddhism, and Coyote of the Southwest Native American traditions. The cognitive science of religion was the paradigm used to analyze literature surrounding the three case studies. In the literature, examples of

anthropomorphic language were explored to demonstrate the ontological category that each concept belongs to. Next, violations and transferences of innate intelligence, which will later be explained, were separated and analyzed by reviewing the literature of each god. Lastly, attention was given to the context in which the gods are imagined to explore the minimizing of counterintuitive characteristics by generating nonreflective beliefs that activate more mental tools and aid in transmitting the concepts both vertically and horizontally. To explain the cognitive science terminology that appears in each case study, a precursory explanation detailing the cognitive science of religion follows this section.

## Cognitive Science

### *Inherent Cognitive Abilities*

#### *Innate Mental Tools*

Many mechanisms of the brain are engaged in the creation of real-time god concepts. These mechanisms did not originate in the brain for the function of creating gods. Gods are the by-product of a brain that is and has been constantly working with evolutionary forces for the survival of the individual. There are several tools that the brain has to work with including “categorizers”, “describers”, and “facilitators” (Barrett, 2004). One categorizer that is essential to survival is Agency Detection Device (or ADD). ADD serves the function of detecting living things in a person’s surroundings. At the sound of a twig snapping or the glimpse of sudden movement out of the corner of the eye, the brain quickly attributes that sound or movement to an agent. Later, the brain can falsify the detection of an agent by processing other observations. The brain works in this manner because survival necessitates this routine. It is safer to assume that there is a threat when there is none, than to assume there is no danger when in fact there is. Once an agent is detected, the brain will use the theory of mind module (TOMM), which is a describer, to infer the motivations of the agent. These motivations vary depending on other observations, but none the less, the fact that the other agent is thinking and making decisions is quickly applied so that a prompt assessment can be made and acted upon. The motivations also rely on which of the five categories the brain places an object into: person, animal, plant, man-made artifact, or natural artifact. To understand the process of building a concept, it is helpful to compare this procedure to the same procedure the hand held 20 Questions game uses. The first question the game will ask the player is which category the concept belongs to, and from this

information, future questions are directed to sort out which concept within the designated category the player has in mind.

Facilitators, like those involved in processes such as social exchange, are dictated by categorizers and describers. The describer mechanisms also include strategic information, which has a huge effect on social exchange. Strategic information is how much one agent knows about another.

For example, say coworker  $x$  was stealing copy paper from the copy room at the office. Coworker  $y$  was standing outside the copy room when coworker  $x$  was leaving after committing the theft. Coworker  $x$  is wondering several things. One, how long was coworker  $y$  standing at the door? Two, did coworker  $y$  see coworker  $x$  stealing the paper? Three, how likely would coworker  $y$  be to report the theft? To sum it up, coworker  $x$  needs to know how much strategic information coworker  $y$  now possesses. The answer to the third question depends on something a little more complicated. Coworker  $y$  could be a friend who would never report coworker  $x$ 's indiscretion, but coworker  $y$  could also be a competitor who will gladly report the incident. However, if coworker  $y$  is a competitor, he may not be so likely to report the incident if coworker  $x$  possesses strategic information about him.

Strategic information is also important when discussing god-concepts. A person is much more likely to expend energy on a god that has full access to strategic information than a god who does not. Even though this example seems long and complicated, these cognitive tools are applied quickly and unconsciously, what is known as “on-line” thinking (Barrett, 2004). On-line thinking happens involuntarily. No conscious decisions have to be made for these devices to work. The other type of cognition that can be used is “off-line”, which applies to theologically correct concepts rather than real-time gods (Barrett, 2004).

### *Innate Intelligences*

Intrinsic abilities are on-line, and are categorized as the above mentioned innate mental tools as well as innate intelligences and innate cognitive processes. Infants are born with a set of folk knowledge that makes survival possible. These innate intelligences include folk physics, folk biology, and folk psychology. Folk physics includes general knowledge about how things work such as two objects cannot occupy the same space, all things should fall to the ground, and so on. Folk biology is the general knowledge about living creatures such as the need to eat and drink. This knowledge extends to the understanding that two animals of one species cannot parent an entirely different species. Lastly, folk psychology is the understanding of emotions of others. In the building of god concepts, these intelligences are entirely necessary.

How real-time god concepts are constructed using innate mental tools is important, but innate intelligences are part of what makes them memorable and transmittable. For something to be both memorable and transmittable the concept must be “counterintuitive”, breaking what is normally expected of the concept (through “violations” and “transferences”) (Barrett, 2004). Violations of folk knowledge occur when something defies our expectations. This can be a plant that never dies or a person that does not need food to survive. Transference of folk knowledge occurs when one category (person, animal, plant, man-made artifact, or natural artifact) has characteristics that are typical of a different category. For instance, a flower that writes poetry or a person made of gold. This may be a memorable flower, but for a concept to be transmittable it must also possess strategic information which will be discussed later.

### *Innate Cognitive Processes*

Cognitive processes are also necessary at birth. The ability to make “cognitive inferences” and think in patterns or cognitive processes are nonrandom is necessary for survival

(Barrett, 2004). Cognitive inferences supplement the already existing category (person, animal, etc.). Imagine standing in front of a lion. Something that may come to mind immediately is that the lion seems hungry. The brain has just completed many on-line tasks to build this concept and assumption. First the brain detected a stimulus with ADD, then categorized the stimulus as an animal, and made inferences based on the characteristics of this animal. These characteristics are cognitive inferences, and the conclusion that the animal is a lion is the cognitive predisposition. A cognitive predisposition is how the brain sorted the characteristics to make further assumptions that are reasonable. It would not be reasonable, for instance, for the brain to take in all of the characteristics of a lion and determine that it was in fact a sailboat and of no concern. Returning to the example of the 20 Questions game, the questions that the game asks after establishing the category of the concept will lead to a reasonable prediction from that category.

Another cognitive process was also at work throughout this example, one that may not be so obvious. While our brain is busy categorizing and making inferences in a predictable way, these predictions, inferences, and categories are being constrained. “Cognitive constraint” is the inability to think about anything that our brain does not possess the tools to think about (Boyer, 1994). For instance, a person can imagine a cup that has wings and can fly and eats whatever someone pours into it. The brain can imagine a thing that flies because other things such as birds can fly. The brain can also imagine the cup eating because many other things eat. However, the brain cannot think of any characteristics that do not exist in reality. One could add more counterintuitive characteristics, but those characteristics are limited to what the brain is capable of thinking about.

The same can be said of god concepts. For instance, one can think of an agent that exists everywhere at the same time and yet is nowhere, is not limited by physical constraints, and can

do anything. This is a very simple theologically correct summary of a god that exists in several western religions. The brain struggles to think in all of these contradicting ways all at once. Barrett argues that theologically correct concepts are typically difficult to conceptualize because there are too many violations or transferences on what our brain naturally expects, so the cognitive predisposition process becomes too confused to lead to a predictable end (Barrett, 2004). Real-time god concepts are anthropomorphic and easier to process therefore making them more retainable and transmittable.

### *Gods as Counterintuitive Concepts*

These inherent cognitive abilities are part of the process of constructing any concept including gods, which are considered counterintuitive concepts. Anything can be counterintuitive, as many examples so far have demonstrated such as the poetry writing flower. It therefore becomes necessary to ask the question what makes gods more worship-worthy than other counterintuitive concepts. Religious myths include ghosts, angels, jinn, demons, and many more supernatural agents, but there are other myths with counterintuitive concepts. Beauty and the Beast is a good example. In this story, a witch approaches a vain man and gives him a moral test, which he fails and is turned into a beast. If this story was first presented to a person as part of her/ his religious tradition, would she/he hold it at the same value as the other religious stories she/he were raised on? One might feel obligated to take offerings to the witch once a year or perform a passion play in honor of the beast, but one would probably not spend too much of her/his devotional energy on either of these characters. Imagine, however, that the witch was not a witch but an omnipotent, omnipresent goddess who had secretly known that the beast would fail this test, and the Beast was the son of another god and the story had ended with His death, resurrection, and a promise that He will come again in end times. Devotional worship would

increase dramatically. The three following case studies will examine what processes that construct each god, regardless of the religious tradition that god comes from, and what makes that god transmittable.

There is more to a god concept than being counterintuitive, as shown in the above example, but more than that, it is necessary that any counterintuitive concept be “minimally counterintuitive” to be easily transmittable (Barrett, 2004). First, Barrett distinguishes between two types of transmission, horizontal and vertical. Horizontal transmission is transmission when limited to a period of time, or generation. For example, this could be something as simple as a group of children telling each other ghost stories at a sleep over, and then those stories getting swapped at a different party with different people. Vertical transmission is the diffusion of a concept across different periods of time. An example of vertical transmission is easily demonstrated by the Native American tradition of storytelling in the winter. Story tellers, typically elders, will teach younger generations about the gods and how things came to be. Once these children have their own grandchildren, the stories may be passed to yet another generation. When considering the later example, it is easy to understand how concepts that are characterized by many counterintuitive characteristics may lose some of these characteristics overtime, like a game of telephone. However, if the concept becomes too intuitive, it loses its memorable qualities, and the story is lost. In terms of horizontal transmission, nobody is going to tell a ghost story if there’s no ghost, but instead a person who does nothing out of the ordinary. At the same time, again, like a game of telephone, too counterintuitive concepts will either lose details or will be too difficult to transmit to others. Barrett argues that minimally counterintuitive concepts, or concepts that are counterintuitive enough to be memorable but also employ more mental tools than would be used if the concept was ordinary, are more transmittable.

## *Thinking and Beliefs*

### *On-line Thinking and Nonreflective Beliefs*

Most beliefs are arrived at without specifically taking time to reason about them. These “nonreflective beliefs” (Barrett, 2004) are the output of a variety of mental tools working unconsciously, or “on-line.” Real-time gods are nonreflective beliefs. In other words, real-time gods are the products of mental tools, such as ADD and TOMM, operating on a unconscious level. For this reason, when facilitators dictating social exchange, are functioning on-line, the god that one perceives to be communicating with is the real-time god rather than the theologically correct god. Slone refers to both theologically correct gods and real-time gods as two existing realities. People consider both types of gods, and even incorporate real-time beliefs into theological explanations of gods. As Tremlin (2006) says, “Usually working from a body of sacred texts or teachings and employing a mixture of logic and subjective experience, theologians craft remarkably detailed statements about their deities and how these beings intersect with the material world.” This use of, “logic and subjective experiences,” demonstrates that nonreflective beliefs influence theology.

### *Off-line Thinking and Reflective Beliefs*

Although this paper does not address theologically correct god concepts, it is important to note the difference between the theologically correct concept and the real-time. Whereas real-time gods are nonreflective beliefs that result from on-line thinking, theologically correct gods are *reflective* beliefs resulting from *off-line* thinking. While it is true that reflective beliefs are the product of nonreflective beliefs being considered using off-line, or conscious, thought processes, because theologically correct gods accumulate more counterintuitive characteristics, facilitators such as social exchange are not applied to these gods easily, or on-line. The

violations and transferences, such as omniscience, omnipotence, and omnipresence, defy too many folk intelligences and do not make enough connections to other mental tools to be considered using on-line thinking (Barrett, 2004). Theologically correct god concepts, as Slone (2004) explains, can be effectively transmitted, or achieve a state of “cognitive optimum” if religious leaders condition adherents to the doctrinal beliefs. Even if a god concept is very difficult to conceptualize, doing rituals that reinforce the belief will allow the adherents the ability to resolve cognitive dissonance (Barrett, 2004), or the internal conflict felt when one acts one way and believes another.

## Pure Land Buddhism

### *Amida Buddha*

#### *Introduction*

Pure Land Buddhism is currently the fastest growing form of Buddhism. There are some distinct differences between the form of Buddhism that appeared as a result of Shakyamuni and the Pure Land tradition in East Asia. Western societies are less familiar with the devotion-focused Mahayana (“Great Vehicle”) traditions and, as Gurdak (1981) points out, more aware of Theravada Buddhism associated with, “the rejection of gods, ritual, and superstition.” While most Buddhism theologically rejects gods, the adherents generally worship multiple gods, as evidenced by the syncretism associated with laypersons. Pure Land worship is the most openly devotional form of Buddhism, although in practice, Theravada Buddhists often worship gods as well. For the sake of clarity, this case study will study the anthropomorphic attitudes that are openly associated with Amida Buddha by tracking the historical and theological account of Pure Land Buddhism and examining the god concept and the rituals that surround him to explore the cognitive science involved with the real-time god concept of Amida Buddha.

#### *History of Pure Land Buddhism*

Amidism first arose in India approximately 100 CE, became popular in China, and took firm root in Japan in the Kamakura period, thirteenth century (Ellwood, 2008). The history of Pure Land that most clearly emphasizes the cognitive roots of the tradition can be found in the emergence of Amida and his pure land *gokuvaku* in Japanese belief and practice.

Buddhism first found its way to Japan between the sixth and eighth century through Korean immigrants (Ellwood, 2008). According to myth, however, Buddhism arrived in Japan by different means. It is said that a ruler received a statue of Buddha and had a Shinto religious

leader worship it as an experiment. The *kami* allegedly became angered and destroyed the man's home. After having disposed of the statue, an epidemic ravaged the area, so the Buddha was rectified once again (Ellwood, 2008). This anecdote is a clear and direct example of how strategic information, or ability in this case, makes a concept transmittable. The *kami* were angered, and because the *kami* possessed the knowledge of another deity being worshiped and the power to punish the man for it, the Shinto priest was quick to get rid of the statue. After experiencing an even worse circumstance, attributed to the anger of a rejected Buddha who fully possessed the knowledge and ability to also punish the man and the town, the people acted quickly. This myth defends the importance of both religious traditions in the lives of the people.

As Buddhism grew in popularity, especially among the wealthy, *kami* began being paired with Buddhist deities (Arichi, 2006). This act, as Amstutz and Blum (2006) and Ellwood (2008) suggest, was an effort to make shrines more prestigious. This may also be an effect of Shitoku's Constitution, which strongly encouraged the people to seek refuge in the three jewels. The *kami*, after being assigned a Buddhist deity, play the role of either the protectors of the dharma or students that learn the dharma (Ellwood, 2008). Lee (2006) makes the observation that Shinto beliefs are more associated with ideals concerning purity and life, therefore Buddhism fills in the gaps by focusing on death and what happens afterwards, which is an example of Barrett's description of concern with the afterlife. This example of the relationship between Shinto deities and Buddhist deities again demonstrates how strategic information lends to transmission. Because people are concerned with life and living a good life, they turn to a tradition that focuses on these issues. But at the same time, the focus on purity makes death a taboo in Shinto belief, so Buddhism became a natural fit for the other areas of life that Shinto did not address.

As a result of the pairing of *kami* with buddhas, an important Buddha, Dainichi became paired with Amaterasu, the sun Goddess of Shinto belief. Mahayana Buddhism concerns itself more with categorization than psychology, and so because Amaterasu is believed to be the ancestor of the Japanese people, the power of Dainichi was matched as being a cosmic Buddha, representative of the compassion and wisdom of the infinite universe (Ellwood, 2008). This Buddha became the hub for the religions of Shingon and Tendai in the ninth to twelfth century.

Shingon and Tendai view Dainichi, like the Christian Trinity, as manifested in different deities to depict different attributes. Each of these deities is also considered to be a cosmic buddha, and each has a corresponding bodhisattva, or “agent” that is awaiting enlightenment (Ellwood, 2008). Beneath the cosmic buddhas and the bodhisattvas are the dharma kings and guardian deities, which are represented in many *mandalas* (Ellwood, 2008). Ellwood quotes Jacqueline Stone as saying, “All visible forms are the Buddha’s body, all sounds the Buddha’s voice, and all thoughts are the Buddha’s mind, though the unenlightened do not discern this.” By making this statement, Stone expresses the difference between the theologically correct form of belief and the real-time beliefs as shown in the numerous god concepts afore mentioned. The brain cannot conceive so many ontological variations at once, and therefore resorts to classifying each deity as separate, regardless of theology.

During this point of Japanese history, Dainichi was the most important Buddhist figure. As Ellwood (2008) says:

“It will be noted that for esoteric Buddhism, the historical Buddha, he who lived and taught in ancient India, is relatively unimportant compared to Dainichi, who is here and now in all things; the former is significant only that he showed the possibility of enlightenment in this world and his teaching pointed in the right direction.”

Again, this points to the fact that people are not concerned with what does not affect them. Strategically informed agents are effective, and because the historical Buddha Shakyamuni does nothing for the people living and trying to become enlightened now, this figure is not the focus of their devotion.

The real time god concepts that people concern themselves the most with eventually became not only Dainichi but the other buddhas and bodhisattvas, as evidenced by the temples dedicated to them and not the lesser deities. As the devotional circles surrounding these concepts grew, pure lands became attributed to them. A pure land is a place where a person may go to achieve enlightenment without distractions. The pure lands were first believed to be locations where the Dharma had been given and received and thus been purified and are considered to be beyond space and time (Ellwood, 2008).

A Tendai monk named Honen (1133-1212) during the thirteenth century made the already quietly existing esoteric form of Amidism into one sect of the Pure Land (*Jodo-shu*) that exists today (Ellwood, 2008). Before Honen, Amidism consisted of the ritual *nembutsu zammai*, or a form of meditation that necessitates the repeated saying of *Namu Amida Butsu* (“Hail Amida Buddha”) (Ellwood, 2008). Honen reduced this requirement to simply saying the *nembutsu* without meditation, which opened the religion to many oppressed laity. Later, Honen made the distinction between relying on oneself *jiriki* and relying on the help of another *tariki*. It was necessary to rely on one’s self to recite the *nembutsu* and also reliant on Amida to bestow compassion upon the adherent. The Buddhism that was previously spreading across Japan did not provide anyone who was not trained in the rituals or could not afford them the opportunity for enlightenment. The gestures, chants, and rituals necessary for enlightenment were kept secret because it was viewed as irresponsible to give just anybody such power (Ellwood, 2008). For

this reason, Pure Land was very appealing to peasantry. However, Honen did not believe that certain offenses could be compensated for by any means including *nembutsu*, so the tradition was still unavailable to those who had committed the worst offenses. *Tariki* through the practice of *nembutsu* is what makes Pure Land the most devotional and appealing form of Buddhism, as will be explore later, and Honen's student, Shinran took the idea of *tariki* a step further and opened the tradition to everyone.

In Shinran's True Pure Land (*Jodo-Shinshu*) *jiriki* is thought to be detrimental because it may mistakenly induce the use of the ego. Relying solely on Amida by saying the *nembutsu* only once with sincerity, according to True Pure Land devotees, is the way to be reborn in the Pure Land. Because Shinran disagreed with his master about who could be saved using *nembutsu*, and actually affirmed that those who were the worst offenders were the most savable, the tradition was open to everyone.

#### *Amida as a Counterintuitive God Concept*

The history provided above is the history according to theologians. From the mythical history of Amida Buddha, as reported in the Larger Sutra, it is obvious that this god concept is an agent and a derivative of the person category. The mythical history of Amida Buddha demonstrates a step-by-step process of a person concept becoming a counterintuitive concept.

According to the Larger Sutra, Amida was once a king who "having heard the [Lokeshvararaja Buddha's] exposition of the Dharma, rejoiced in his heart and awakened aspiration for the highest perfect Enlightenment. He renounced his kingdom and the throne, and became a monk named Dharmakara." It goes without saying that both a king and a monk are people, so this change was just a vocational adjustment within the person category.

*Amida as a Bodhisattva*

Dharmakara asked Lokeshvararaja Buddha to tell him more about the Buddha-lands and by experiencing the Buddha-land and learning about it, Dharmakara the monk became a Dharmakara the bodhisattva. This change is more than vocational. Bodhisattvas of the Pure Land tradition have their own pure land, a place that has been purified because the dharma was taught there and where they help other sentient beings the dharma and help them to enlightenment. Bodhisattvas live fulfilling infinite wisdom and compassion while helping sentient beings attain enlightenment. This was the case for Dharmakara the bodhisattva.

Even though our concept still acts very much like a person by taking vows and such, it is necessary to pause a moment and consider what violations and transferences took place in turning Dharmakara the monk into a bodhisattva.

*Psychological violations:*

The Larger Sutra describes Dharmakara the bodhisattva as being without, “any thought of greed, hatred, or cruelty.” These are human characteristics that were removed from the person category, making this change a violation of folk psychology. No matter how kind a person is people are always regarded with the potential to act and think in terms of greed, hatred, and cruelty. This characteristic of humans, will affect survival and reproduction, as Barrett (2004) discusses, and will lead to coalition formations or identification of an enemy. Because Amida does not possess the potential to think in these human ways, offline thinking would suggest that a person should not be concerned with social interaction, but as we will see later this is not the case.

“His wisdom was unobstructed, and his mind free of falsehood and deceitfulness,” the Larger Sutra also states. Omniscience is a common characteristic of a god. It is not possible for

a person to know everything possible, so this is again another violation of folk psychology. This particular violation sets the stage for a highly transmittable concept because the social mental machinery that people possess will understand this unlimited access to strategic information as highly relevant to survival. It is important to remember that real-time thinking about strategic information, even in gods, treats those agents as an imminent threat, and knowing all there is to know about someone puts the informed agent in a position of power. Combining this with what is stated in the last part of the sentence, “his mind free of falsehood and deceitfulness,” theologically, the modules in the brain should not be concerned with survival, which will also be examined later in this paper.

*Biological transferences:*

The Larger Sutra says, “Fragrance issued from his mouth as from a blue lotus-flower, and every pore of his body emitted the scent of sandalwood, which permeated innumerable worlds.” Here is a very neat example of the transference of characteristics from one category to another. People do not normally smell like flowers unless they are wearing a perfume that does. Therefore this natural flowery scent of Dharmakara is an overlay of the characteristics of a plant category onto a person category. This is a transference that is relatively unimportant because it does not affect the devotee in any way. Instead, this characteristic of Dharmakara simply provides an interesting fact rather than something worthy of reflective thinking and transmission.

*Physical violations:*

“From his hands, inexhaustible treasures, clothes, food and drink, rare and exquisite flowers and incense, silken canopies, banners, and other ornaments were produced.” The ability to make or produce something from nothing violates the law of the conservation of matter, a key piece of knowledge in the field of physics. The describer modules do not possess

any descriptions like this that would fit any of the categories. Dharmakara's counterintuitive nature is enhanced by this violation.

### *Amida as a Buddha*

The above stated violations and transferences do not make Dharmakara any more important than any other bodhisattva at this point. As the Larger Sutra itself states, “[Shravakas and bodhisattvas] are fully endowed with transcendent wisdom and free in their exercise of majestic power; they could hold the entire world in their hands.” To understand why an entire faith has formed around Amida rather than other bodhisattvas, it is crucial to explore the last change that Amida underwent, from a bodhisattva to a buddha.

The concept of Amida, until this point known as Dharmakara the bodhisattva, has the ability like other bodhisattvas to help other attain enlightenment, which he does on his way to buddhahood. Amida as a buddha has other powers, that make this god concept more counterintuitive.

Listed are several traits that the bodhisattva Dharmakara did not possess that make Amida as a buddha an even more counterintuitive concept: (1) an unnaturally long life, (2) “to save the poor and the afflicted everywhere,” and (3) “remove the darkness of ignorance.”

### *Biological violations:*

When the Larger Sutra refers to Amida's unnaturally long life it is noted as comparable to adding up the lives of sentient beings. People and animals have life spans and a normal progression of development that do not apply to concepts such as Amida. This is one way that Amida is biologically counterintuitive.

*Physical violations:*

Amida as the buddha posses the power to save the poor everywhere. Both the physical restraints of time and space are violated by this characteristic. Physically, no person has the ability to help every person in the world, especially when it is something as complicated as teaching the dharma, as would be the means of saving by Amida. Secondly, even if someone could travel in this way, there would not be enough time to reach every person and save them before their death. Therefore, this ability is very intriguing to the counterintuitive process.

The next physical violation is the ability to remove ignorance. Ignorance can only be removed by educating, and as touched on above, the ability for a person to teach something as complicated as the dharma within everyone's lifetime is impossible. This last point concludes the theological counterintuitive part of Amida, and leads to the next discussion about the real-time concept of Amida Buddha.

*Real-Time Amida Buddha in Context*

Barrett (2004) describes the most transmittable god concepts as minimally counterintuitive. The Amida Buddha as described above has many violations and transferences placed over the person category that he was derived from. So the next question is how does a concept that hinders the natural cognitive processes so much through numerous violations and transferences become the central figure for the fastest growing form of Buddhism in the world? The answer to this question lies in how the devotees think about Amida Buddha in real-time.

*The Pure Land*

Many of the violations and transferences of Amida Buddha were physical. Like dispensationalism, stating that the physical properties of the world were different in earlier times, in Christianity explains the physically impossible accounts described in the Bible, Pure Land Buddhism establishes separate realities in which such occurrences are possible.

For something to be transmittable, Barrett (2004) says that something counterintuitive must have violations and transferences, but it cannot have too many of these alterations. What Barrett goes on to say in clarification is that if an object once it is counterintuitive can engage more mental tools than it could if it were intuitive, then the object is memorable and probably transmittable. This is what pure lands do for Amida. Amida has enough violations and transferences that he is interesting, but theologically hard to conceptualize. The pure lands form a new platform in which to consider Amida that engages more mental tools than would be active if someone was simply reflecting on the concept of Buddha. For example, the pure land provides a habitat for the god concept. No longer is the mind preoccupied with trying to remember facts, but can make connections between the agent and his surroundings such as what it is like to live in a pure land. These connections are supported by memories, experiences, and other reflective and nonreflective beliefs, as Barrett would say. The Larger Sutra gives several examples of how people think about what this alternate reality must be like.

To begin with, the Larger Sutra lays out an argument that the pure lands are the best places for rebirth, “Devas and humans in the land of Amitayus are each provided with robes, food and drink, flowers, perfume, ornaments, silken canopies and banners, and are surrounded by exquisite sounds. Their abodes, palaces, and pavilions are exactly in accordance with the size of their bodies.” Those things considered to be luxuries in this world are typical in Amida’s reality.

This serves as the foundation for reflective thinking. Other things that are normal in Amida's land are jeweled trees that grow in straight rows and are both musical and recite the dharma; perfectly symmetrical flowers arranged in patterns by color; waters that can be manipulated at will to rise, recede, pour, and make music; meals that appear on demand and do not have to be eaten to be satisfying.

From the above listed attributes of the Pure Land, it can be said that everything is a counterintuitive concept from a category. This allows many categorizers and describers to be activated when thinking about Amida and his relation to this pure land without experiencing too many adjuncts in cognitive processing.

#### *The nembutsu*

Another way that people think about Amida Buddha in real-time that allows them to avoid the processing overload that can occur when dealing with a counterintuitive object is by triggering social interaction mechanisms. Social interactions are critical to survival, and are possibly the most important area of the modular brain triggered when thinking about a god (Barrett, 2004). To put it simply, if a god could not interact with a person, would that person ever think about that god?

The answer is no. As mentioned above when discussing the traits of Amida, he is considered to have infinite knowledge. This knowledge, or strategic information, that this god concept possess is important because strategic information dictates social interaction. It can be thought of in this way; if one person knows something negative about another person, it would be in the second person's best interest to do everything possible to keep that information from being used against her/him. Now if the scenario is changed slightly so that the person who knows the negative something is in a position of power, imagine a manager for example, the

second person, in this metaphor the worker, will be concerned with lessening the potential damage that information could do. How would the worker go about this? By avoiding other activities that could be viewed as negative and trying to improve the relationship between herself/himself and the manager. Applying the manager/worker metaphor, Amida is thought of as the manager, but in Amida's case not only knows one thing but everything there is to possibly know, what would the people do?

In Pure Land, Amida Buddha can free one from samsara by allowing a person rebirth into a land free from worldly distractions such as the ego. This god concept has enormous power, especially since, going back to the history of Pure Land, the only other way to enlightenment is through very consuming rituals such as zazen. Since the average person does not have the time to do such rituals, Amida Buddha is the only way to reach Nirvana, but then the question is how to reach Amida.

The *nembutsu* is the phrase, "Hail Amida Buddha." If a person wants to gain favor with a god, this is the way to accomplish it. Here some would argue that the point of *nembutsu* is not to gain favor, but to sequester the other-power that only Amida can provide. While this is true, it is also necessary to point out that another point of social interaction is exchange. Devotion is given in exchange for the compassion Amida will shed on the devotee. Because of the strategic information Amida possess, if the devotion given is not given with a sincere heart, then Amida will not grant one his compassion. This compassion, as doctrine says, will awaken the buddha-seed inside of everyone and allow the person to be reborn into a pure land.

### *Conclusion*

Amida Buddha as a real-time god concept was created through the use of the same mental tools and cognitive process that are used to create any counterintuitive concept. As can especially be seen from this example, the need for activation of more mental tools once a concept is counterintuitive versus an intuitive form of the concept was given by creating a foundation, a pure land, which was full of other counterintuitive concepts that could be related to one another and thought about both reflectively and nonreflectively. Also, from examining the *nembutsu* the importance for social exchange is emphasized to make a counterintuitive concept relevant and transmittable.

## Southwest Native American Traditions

### *Coyote*

#### *Introduction*

In many Southwest Native American traditions, the trickster Coyote plays the roles of a creator, medicine man, shape shifter, and sometimes he is represented as a coyote. This study seeks to show how in all cases, including the instances in which Coyote is considered theologically to be an animal, this real-time god concept is also a counterintuitive conception of a person. Several reasons led to Coyote being chosen to be a representative of real-time god concepts. The first reason is that Coyote comes from an indigenous tradition. Because this god can be explored by examining pre and post-contact representations the influence of another religion will be a factor in the amount of counterintuitive characteristics of the god, a change that facilitates transmission in a changing climate. Secondly, Coyote is a god from oral traditions and more than that, Coyote is not necessarily a god one can approach, but rather a god one should learn from and be careful to avoid. Being a trickster, Coyote is not considered to be a major god, or even a god at all in more recent times. The range of the portrayals of Coyote enriches the discussion. As Seale and Slapin (2005) point out, “As with most trickster figures, [Coyote] is both more, and less, than human. Besides being such a fool, he is also a supernatural being.” The last reason for choosing Coyote is that writers have paid a great deal of attention to him, allowing for many samples of literature to be drawn from. In this study, Coyote will be discussed in several roles from different Southwest traditions. The two representations to be examined both exemplify person-like characteristics, the differences being how many counterintuitive characteristics each representation contains and also whether the story is traditional or adapted.

### *Coyote as a Counterintuitive God Concept*

Believing in minds in animals is both a reflective and nonreflective belief, as Barrett (2004) explains. Barrett gives the example of a person noticing that their dog wants to play or that his or her cat thinks that a laser pointer is a small animal. What science has shown is that a person's ADD will detect that the animal is an agent, and then TOMM will assign a mind to that agent. Science has also shown that a cat's reaction to a laser pointer or a dog's energy level may not be the object of an animal's desires or mind because what people perceive to be minds in animals are simply by-products of the animal's biological wiring. It is quite common for people to attribute minds to animals. In a sense, the brain alters the animals so that the animal is no longer of the animal category, but of the person category with an animal's physicality. Related to the theology of Coyote, Kroeber says, "Trickster may arouse diverse, even antithetical, feelings because he is never to be identified with any fixed state of being: He can appear anywhere doing anything." However, Coyote stories tend to demonstrate Barrett's point that people make animals human with person like characteristics, especially in the case of this real-time god. What is interesting about the Coyote god concept is that Coyote is not a major god, but still has many stories surrounding him. Not only is he a minor god, but Coyote is not even a good god. He has done a few good deeds, but as Seale and Slapin (2005) explain, "In some ways, [Coyote] is us, frequently in some of our worst aspects." For this reason, in the roles that Coyote plays, a great deal of attention will be paid to why people are communicating the stories of a misbehaving god to their children.

Coyote stories are generally told to children by elders in the winter. There is a sense that even saying Coyote's name before the first frost may bring bad luck. Besides the superstitious

beliefs that surround Coyote, there are varying versions of Coyote in both the traditional and adapted versions. Both the traditional Coyote concept and the adapted Coyote concept is believed to have been one of the *chip-chap-tiqulk* in the Salish tribe or “animal people” that readied the earth for people. “To the younger generations, *chip-chap-tiqulk* are improbable stories; that is a result of the white man’s schools. But to the old Indians, *chip-chap-tiqulk* are not at all improbable; they are accounts of what really happened when the world was very young,” (Dove, 1934). This observation by Dove is evidenced by the adapted versions of Coyote stories. Jay Miller’s introduction (1990) to Mourning Dove’s book *Coyote Stories* (1934) explains the belief in *chip-chap-tiqulk* in this way:

Throughout the Americas, not just among the Salishans, the original inhabitants of the world were indeed people, but they were other-than-human and amorphous. Their essential form was that which later became restricted to the human species, with arms, legs, hands, head, and overall vulnerability. In addition, these primal people also had the attributes of spirits and species. Sometimes, they are described as shimmering and iridescent. Through tricks of light and shadow, they could change shape and attributes as need or whim arose.

Kroeber (2004) states that, “Trickster may arouse diverse, even antithetical, feelings because he is never to be identified with any fixed state of being: he can appear anywhere doing anything.” Another theme that exists in both traditional and adapted stories about Coyote is that he is a very mischievous character. The difference between the two representations is in the sort of trouble Coyote finds himself in and the amount of counterintuitive characteristics he has. Because there is an array of representations of Coyote, the representations have been broken into traditional and adapted representations. It is true that even the recorded traditional stories bare

the marks of contact such as in the numbers that are associated with the stories or the idea of the creation of the world, which was introduced to most tribes when Christianity first came to the Americas. In this study, traditional Coyote stories are stories that maintain the vulgarities of Coyote's character or place him in a role as a demi-creator or designer responsible for the way things are to this day. The adapted stories are those that have been modified to communicate with both Native and Nonnative audiences and portray Coyote as "cute" as said by Seale and Slapin (2005). By cute, what is meant is that the Coyote stories lose their edge that makes Coyote a truly antithetical character. Often the less traditional representations of Coyote are vague about Coyote's magic, if it is ever mentioned, and are compiled in a way that leaves out direct mention of Coyote's death and everything about his sexual exploits. The different ways Coyote has been forced to adapt post-contact is best explained by Berk and Dunn (2008):

Stories are told to bring us closer to the past. For native peoples, stories make connections between landscape, family, neighbors, ancestors, animals, and future generations. We forget so easily, but stories can bring the forgotten things home. Yet the stories we need the most, like the river, are sometimes forced to change course and, like water, sometimes go underground for a time, appearing to be lost themselves.

#### *Traditional Representations of Coyote*

First, it is important to consider the counterintuitive aspects of Coyote, and how those aspects make him a god. For being a god, Coyote has very limited abilities. The only true magic he possesses was given to him by Creator. When Creator was giving all of the animal-people their medicine, or magic, by pointing at their chests, Coyote mistakenly thought that Creator had pointed to his abdomen and assumed that his feces were magical (Monroe & Williamson, 1987).

Even though Coyote is believed to have made an error, this is still considered to be the source of his medicine.

“In the early days following Creation, there was only a thin line (if any at all) between humans and animals. In those mythic times, the shapes of things were not set. Animals could become people; people could become animals, and animals could even become other animals,” states Berke and Dunn (2008). The Chumash believes in a Sky Coyote as a “celestial being” this representation of Coyote, “looks over people,” (Monroe & Williamson, 1987). Klamath hold that, “when the world was new, Coyote was a cousin to humans and they lived and talked together,” (Monroe & Williamson, 1987). Coyote was created from a cloud according to the Achumawi tribe (Berk & Dunn, 2008). These examples demonstrate that Coyote in the traditional sense is indeed a derivative from the human category. In all stories, Coyote possess the ability to talk, reason, and has very human-like relationships with other gods. Typically, Coyote is portrayed as being married to Mole, another animal-person, and living in some sort of shelter, such as a teepee in Dove’s renditions (1934).

### *Psychological violations*

The psychological violations that are attributed to the Coyote concept depend on representation particular to the story’s context. For example, some stories may portray Coyote as an animal, but because these stories tend to be adapted versions, they will be discussed later. The traditional Coyote tends to be able to shape shift into a Coyote, and therefore is more of a person than an animal. Psychological violations are fewer in traditional stories *because* Coyote is human. As the Chemehuevis explain, “[Coyote] embodies *all* the human traits: laziness and patient industry or frantic exertion; foolishness and skillful planning; selfishness and concern for others...he is the incomplete and the imperfect.” Coyote’s mischief, what makes him a Trickster

and what makes his stories suitable to teach children moral lessons, must be something that humans are capable of. If Coyote had super powers that made him the misbehaving character that he is, people could not relate so well to the stories. It is the human emotions of Coyote that make him as important as he is.

One psychological violation that occurs in a Klamath story is that Coyote falls in love with a star (Monroe & Williamson, 1987). It is not typically for humans to have romantic feelings for stars, and in this story, he even convinces the star to dance with him. If a person were to explain that he or she had amorous feelings for a star or any other object, it would definitely defy something expected of a person.

Another psychological violation is that Coyote consistently believes he is capable of committing feats that other animal-people can create. In several stories, such as in the Salish story “Coyote Imitates Bear and Kingfisher,” Coyote believes that he can turn pebbles and other objects into food, when it is not in his power to do so. In this same story, Coyote also believes that he can do things such as fly and ends up hurting himself. These types of beliefs violate what a person should hold to be true physically, and yet Coyote believes that he somehow surpasses the laws of physics.

Lastly, in one of Kroeber’s Wishram stories, Coyote talks to the bones of his children and they respond. This is a violation because, ignoring the fact that bones should not respond, people do not typically expect a response from bones. This transference is a good example of powers Coyote holds.

### *Biological violations*

Traditional representations of Coyote carry many biological variations and transferences. In the Auchmawi tribe, Coyote is believed to have been created from a cloud. People, since that

what Coyote is in essence, are born from other people, not natural artifacts, which demonstrates a violation of biological expectations.

In a Klamath story, Coyote is said to be cousin to the humans (Monroe & Williamson, 1987). Although the story “Coyote Loves a Star” does not explicitly explain whether Coyote is physically more human or animal, the fact that he is a cousin of humans rather than a human outright shows that biologically he is somehow different.

Coyote demonstrates another biological violation in the way that he creates fog in a Salish story. After stealing food, weapons, and canoes from a group of people, Coyote creates fog by ejaculating (Dove, 1934). It goes without saying that fog is not something that a human creates as a result of an ejaculation, therefore, this violates what is biologically expected of the person category.

In a Wishram story (Kroeber, 2004), Coyote borrows an old man’s penis to rape a woman. The penis he borrows breaks off in the woman, making her ill. After transforming himself into a medicine man and fleeing the scene, people seek him to help make the woman well again. To accomplish this, Coyote again rapes her until the broken piece of the penis reattaches itself with the original piece. This is a very strong example of a biological violation. It is not expected of the person category for a man to be able to borrow another man’s penis, which involves the first man physically removing it so that the other man can attach it to his own body. Biologically, this is impossible due to anatomy in general. Secondly, penises are not expected to break off during intercourse and then reattach themselves. Again, this violates folk biology completely.

Another physical violation is that Coyote has the ability to remove his eyes without harm. In Dove’s story about Coyote and Chickadee, Coyote removes his eyes and juggles them (1934).

After juggling and losing his eyes, he borrows the eyes of other creatures until he gets new eyes made from pine pitch. Again, borrowing the body parts of another animal is not biologically intuitive. Transplants are the closest possible comparison to this event, but even then, just removing somebody's heart and putting it in another's body would not be enough for the heart to function. The way Coyote borrows the eyes of others and eventually makes his own working eyes from pitch is a violation of folk biology.

Lastly, and perhaps the most unique of Coyote's biological characteristics, is the source of his medicine. Creator was said to be pointing at different animal-people's chests and giving them power. By mistake, Coyote thought that Creator was pointing to his intestines and accordingly believed that his feces were endowed with magical powers (Dove, 1934). It is a very person-like mistake to misunderstand another person, but this misunderstanding was made special by the fact that magic and gods were involved. Even more special is the fact that this is considered to be the source of Coyote's medicine, even though it is still believed to be a mistake. Again, it is obvious that feces, whether from human or animal, are not naturally endowed with magical powers, thus biologically violating the concept.

#### *Physical violations and transferences*

Physically, the traditional Coyote concept has many violations and transferences. The most important physical transference is Coyote's ability to shape shift. By shape shifting into a leave, stone, a handsome man, and a woman (Dove, 1934) Coyote shows that his physical characteristics are not constrained as those of a person are. The ability to change into a leave and stone shows transference from the person category to the natural artifact category. The change that occurs when Coyote becomes a handsome man and woman are within the person category, and are therefore violations. A typical person would not be able to change physical

characteristics whenever they chose. In Wishram mythology, Coyote changes himself into a stick, a baby boy, and an old medicine man (Kroeber, 2004). The stick, again, shows transference from person to natural artifact while the baby boy and medicine man are objects of a violation within the person category. Although Coyote can perform all of these tricks by talking to his medicine, his tricks rarely keep him from avoiding harm. This serves as a device to show children that no matter how clever they are or how many tricks they can perform, doing the right thing is important. The physical violations and transferences that Coyote possess make him counterintuitive, but the lack of psychological counterintuitive characteristics makes Coyote relatable and minimally counterintuitive.

#### *Adapted Representations of Coyote*

As above mentioned, Coyote post-contact has become considerably less counterintuitive. Not only has Coyote recently become less counterintuitive due to the motivation of tribes to make educational material about Coyote accessible to children of Nonnative, but also because of the syncretism and introduction of other religious ideas into the Native theology. An example is that Coyote is not portrayed as a magic-possessing medicine man as is typical of traditional stories, but as a doctor. The most radical example of this syncretistic existence of Coyote is shown in the illustration by Wendy Watson in Bierhorse (1987). In one illustration, Coyote is shown leaving a Christian church in a funeral procession for another animal-person. Because of the competing religious traditions that exist post-contact, even Coyote, a native god, has converted.

Because the less counterintuitive Coyote is portrayed more as an animal, or even a cartoon character, this representation will be examined from the main category of animal, although there are still many person characteristics involved in the concept.

### *Psychological transferences*

Viewing this representation as an animal, the Coyote concept has psychological transferences from the person category. Being able to talk, reason, and showing interests in human things such as gold, Coyote is very much a person. In Bierhorst's (1987) retelling of Aztec Coyote stories, Coyote does many things that would be expected of a person and never of an animal, such as wearing clothes, driving a truck, and having pets and livestock. Things that are not important, necessary, or even possible for an animal are being done by this concept, obviously represented as an animal by the illustrations. Another example from Bierhorst's stories is that Coyote hunts with other animal-people with a gun. Clothes, trucks, guns, and livestock are transferences because animals do not typically possess or even concern themselves with such things.

### *Biological violations*

One biological violation that is seen in the adapted representation of the Coyote concept is that he is considered to be the brother of Fox. This is true in the traditional stories as well, but in those stories, both Coyote and Fox are presented as humans, so it is not a biological violation. However, two animals of different species being siblings violates folk biology. It is understood that an animal should never give birth to an offspring of a different species, that is, after all, how the word species is defined.

In an adapted Navajo story, Coyote makes a bet with the beaver-people and loses his skin (Roessel & Platero, 1974). Even though Coyote is portrayed as being in a great deal of pain, it violates biological expectations of an animal for that animal to be able to remove his own skin

and still live. The biological violations go even further when the Beaver-people pity Coyote and take him to Badger who gives him one of his skins. This is another biological violation on the Coyote concept.

#### *Physical violations and transferences*

Physical violations and transferences are very few. The few physical violations and transferences that do occur in Coyote stories, usually take place surrounding another animal-person. This fact makes Coyote minimally counterintuitive and less god-like. Returning to the previously mentioned quote by Dove (1934), “To the younger generations, [animal-people] are improbable stories.” The fact that Coyote has psychological and biological violations and transferences makes him enough counterintuitive to be memorable and transmittable without becoming a theologically messy concept.

#### *Real-Time Coyote in Context*

##### *The Time before New People*

Most of the Coyote stories used in this study are theologically considered to have taken place before humans lived on Earth. Some believe that the animal-people were getting the world ready for humans, while other stories did not discuss while animal-people existed before humans. This theme, similar to dispensationalism in Christianity, shows how a context for the counterintuitive occurrences activates more cognitive processes making the events more reflectively believable (Barrett, 2004). Like what the Pure Land does for Amida Buddha, Coyote becomes more transmittable because more mental tools are engaged when there is a context for the violations and transferences surrounding the concept. If one is trying to theologically map Coyote, theological correctness can confound the cognitive processes involved in thinking about Coyote. However, by giving Coyote, as a real-time concept, a context more mental tools can

draw connections between the concept and the context, simplifying the process and activating more mental tools that would have been activated if Coyote were merely an animal existing in the world as it is. By allowing Coyote to be counterintuitive, but also having very human like psychology, relationships, and living in the same world people do but in an earlier time, the brain can understand Coyote and the way his world works. This god is now not only real-time, but has cognitive support from reflective and nonreflective beliefs, which, again, enhances the transmittable nature of the god.

Examples of some of the occurrences in this pre-person world include councils of gods, such as in Monroe and Williamson's stories (1987). Gods come together to decide how the world should be in these accounts, and they use very person-like reasoning to make very god-like decisions. Another aspect of the pre-human world is that these animal-people all have a special medicine, or power (Dove, 1934). Although these special powers exist, each one is specific to the animal-person, and can only do so much for the survival of that agent. Many Coyote stories revolve around Coyote trying to perform the medicine of another animal to aid in his own survival and demonstrate how he fails miserably. The constraints make the survival of these animal-people still a concern. For instance, Coyote, his wife, and his children still experience hunger when Coyote has been too lazy to get food. They also have to have shelter, as demonstrated by the fact that most animal-people live in a home that correlates to the homes of the tribe the story comes from. In this way, the same concerns and hardships that the people telling the story face exist in this magical world before humans. Again, the brain can relate to these problems and this makes them memorable and transmittable. Somebody telling or hearing the story can probably think of one example of somebody whose family went hungry because the head of the household was lazy or was trying to trick others into doing work that they should

have been doing. Reflective and nonreflective beliefs enhance the potential for transmission of the real-time Coyote god concept.

### *Conclusion*

The real-time Coyote concept explored in this study has many counterintuitive characteristics that are arrived at by violations and transferences like other god concepts. Also, like other god concepts, the traditional Coyote concept is derived from the person category, and even the animal category that serves as a pattern for the adapted representation has more person-like psychological capabilities. This supports the transmission, both vertical, or generation to generation, and horizontal, from person to person, of the Coyote concept. Being as psychologically similar to humans as this god concept is, Coyote is nonreflectively believed because he is supported by reflective and nonreflective beliefs. Lastly, the context for Coyote and other animal-people in a time before people were on the earth demonstrates that the more mental tools activated, the more nonreflective beliefs can be formed about this god concept, again, lending to his transmittable nature.

## Christianity

### *The Christian Trinity*

#### *Introduction*

The Christian Trinity was selected for this study because it is representative of a Western god, and this real-time god concept theologically is one god with three aspects. The real-time Trinity, however, is not one god but three. However, the violations associated with a god being one god with three aspects is too cognitively messy, and therefore, the real-time trinity is composed of three different gods. Each real-time concept will be examined individually by reviewing psychological, biological, and physical violations and transferences. Before this part of the study takes place, however, it is necessary to show that these concepts like Amida Buddha and Coyote are derived from the person ontology.

#### *Real-time Christian Trinity*

According to the Nicaea Creed, God is one with three aspects that are not at all separate. God the Father, Jesus Christ the Son, and the Holy Spirit are the three aspects described in the Creed. As mentioned above, the brain is unable to think of a concept being both one and three things simultaneously, and therefore, the brain defaults to thinking about the Trinity as three individual concepts. The on-line thinking process that creates the three individual real-time god concepts is the process that is being explored in this study, and for that reason, the theologically correct Trinity will not be a concern in this paper. By simply examining the language used when talking about the Trinity, one can see the on-line thinking that clearly shows how the three concepts are separate. For example, Brochu and Baragar-Brcic (2007) when explaining the way for adults to teach children about God that “in turning deep within ourselves and to the indwelling of the Spirit, we are helped to deliberately turn our faces toward God, in both

response and in hopes of a personal encounter and partnership.” This is an example of how the real-time God the Father and the Holy Spirit are separate concepts are even separated spatially since it is said that God is outward and the Holy Spirit is inward. Later, Brochu and Baragar-Brcic (2007) go on to say that, “The Spirit that Jesus left as his parting gift at his Ascension often needs to be rediscovered as an inner source of wisdom and covenantal connection to our God.” This statement in addition to the one previous described, is another example of thinking about the Trinity as three separate gods.

Probably the most obvious example of people thinking about God as a person is in the common phrase, “So God created people in his own image; God patterned them after himself; male and female he created them.” This reflects on-line thinking regarding people and God being similar physically. There are many instances in which God is represented as having distinctly human characteristics such as the ability to rationalize, enter covenants, and speak. However, there are even more direct examples of thinking about God as a person, such as saying things such as, “Lord is king,” such as in Psalm 99. Animals, plants, artifacts natural or man-made are never kings. The only category that can be referred to as a king is a concept from the person category. Psalm 99 also says, “Bow low before his feet,” again referencing the human-like qualities of God. Psalms particularly are full of references to the physical body of God. “When I look at the night sky and see the work of your fingers,” says Psalm 8. “He heard me from his sanctuary; my cry reached his ears,” “Smoke poured from his nostrils; fierce flames leaped from his mouth,” and “dark storm clouds were beneath his feet” are descriptions of a physical body in Psalm 18. There are numerous references throughout the Psalms of God’s right hand. There are also appeals to God asking him to, “hear my prayer,” Psalm 84 and 86. Simple things such as telling a child that God sees all shows that God’s senses are comparable to those

of a human. His emotions are also very human such as those found in Psalm 107, “His faithful love endures forever.” Theologians acknowledge his agency. Hodges (1979) refers to God by saying that, “the presentation of the All-Agency as an intelligent purposeful Agent, and the unconditionality and infinity of the Absolute, which seems to forbid us to endow it with quasi-personal characteristics.” Although he is stating that it is incorrect to think of God using personal characteristics, he acknowledges agency, which exists only in the categories of person and animal, and goes even further by acknowledging the theological concern with people using anthropomorphic terminology to describe God’s character. He goes on to say, “In the religion of the western group the personalised God prevails. Their sacred stories all presuppose a God whose mind moves like that of a man, though of course a very wise and very great man.” This acknowledgement of what he sees as limited to western thinking demonstrates that God is thought of as a person, although a counterintuitive person. On this note, Hodges references Baillie in saying that religious visions or experiences of God are, “elaborated into mythologies and rationalised into theologies.” This demonstrates the recognition of the real-time concept existing and then the theologically correct concept that tries to make sense of the counterintuitive characteristics of the real-time god. More than this reference to the existence of both the theological and real-time god, this statement by Baillie also shows that nonreflective beliefs are the foundation for reflective beliefs.

Jesus is by far the Christian concept most commonly referred to as a person since even theology describes him as such. Bosco explains the reason that God sent Jesus to die for the sins of people by saying, “But this debt was so great that, although man alone owed the debt, still God alone was able to pay it, so that same person would have to be both man and God. Hence it was necessary that God assume human nature into the unity of His person, so that the one who in

his nature owed the debt and could not pay it should be in His Person, able to pay it” (Aslem, 1969). This is just one of many theological references to Jesus as a person, although this quote describes Jesus as not being apart from God the Father as theology describes. Still, the idea that Jesus was a person is not disputed, and images that demonstrate this fact can be found in everything from stained glass windows to pendants of figures that represent Jesus on crucifixes. Like all humans, Jesus was born into the world and died to leave the world, although these events were far from normal. These typical life events made counterintuitive will be explored later in this paper.

Perhaps the concept of the Spirit is the most difficult to elaborate because this concept’s relationship to the other two agents of the Trinity is much debated even in theology. While the Spirit is commonly referred to as a “bridge” or a kind of go-between or mediator (Lampe, 1977), Lampe also describes the Spirit’s role in a Christian’s life by exploring how this concept is important to mission work, faith healing, and other aspects of Christian faith. Lampe states referring to God as the Spirit and this concept’s personal qualities:

Among the many images which express this idea of God in relationship are those of the ‘word’ which God addresses, the ‘angel’ which he sends or which is his own self-manifestation, the ‘arm’ or ‘hand’ or ‘finger’ which to signify his intervention power, ‘power’ itself, which is God in action, his ‘face’ which may be turned towards men or averted from them, the ‘wisdom’ which is God’s creative counsel and purpose and which he also give to human being to enable them to fulfill his purposes and respond to his demands.

Although Lampe refers to the words in parentheses as “analogical” in nature, an analogy implies similarity and relationship. Lampe goes on to address why people are concerned less

with theology by saying, “The question is not what God can do but what he does,” and what God does is typically through the Holy Spirit.

As above mentioned, each god concept will be explored individually followed by a brief exploration of other beliefs that activate more mental tools and encourage transmission. The *New Believer’s Bible: First Steps for New Christians* explains the relationship of the Trinity in the following way:

The *New Believer’s Bible* has a small section devoted specifically to explaining, “How the Holy Spirit Works with the Father and the Son.” The passage reads:

- The Father chooses us and makes us his children.
- Jesus redeems us, having died for us while we were still sinners.
- The Holy Spirit draws us to the Lord and continues to work in our lives to make us pleasing to God.

This Bible is one of the best sources of real-time thinking and is thorough in describing what type of relationship one should expect to encounter with each concept within the Christian Trinity upon entering the Christian faith.

#### *God the Father*

The *New Believer’s Bible* prefaces the answer to the question, “Who is God?” by explaining that, “It is difficult for our limited minds to grasp the limitless, eternal God. It has been said, ‘If God were small enough for your minds, he wouldn’t be big enough for you needs.’” For that reason, don’t be exasperated if you can’t fully understand who God is or why he does certain things.” This honest acknowledgment of the fact that God is a theologically difficult character to understand allows the reader to go on to understand the most fundamental characteristics of God, which are listed and described later as:

1. God Is All-Knowing, Ever Present, and All-Powerful.
2. God Is Holy.
3. God Is Loving and Just.
4. God Is Personal.
5. God Is in Control.
6. The God of the Bible Is the One True God.

These attributes are the basic format, as outlined by the *New Believer's Bible*, for thinking about God the Father. In the following section, these characteristics will be explored based how they defy the person category. The only characteristic that will not be examined is, “God Is Personal” because this attribute is simply verification of God the Father being derived from the person category, and should be considered in conjunction with all of the subsequent characteristics. It should also be remembered, however, that this description in addition to God being a derivative of the person category shows that God the Father is capable of being communicated with using the same facilitator responsible for social exchange, also used to communicate with other concepts belonging to the person category.

#### *Psychological violations*

The theological attributes of God the Father are that He is all knowing. Laurie (1996) states, “The Creator of the Universe knows every intimate detail of his creation.” A person is limited in their knowledge, and God the Father, is represented here as having unlimited strategic information. Logically, if anybody is endowed with unrestricted information about anyone they like, all others would be very concerned with this person. However, it is impossible for one person to know everything and anything about all other people, so this is a psychological violation associated with the Father concept. Coupled with His unlimited knowledge about His

creation, God the Father is in “Control” as is mentioned in the fifth characteristic. This control that God has over everything and everybody will be explored later in the physical violations and transferences section, but it is important to mention here that it is a logical consequence of the ability to know-all.

Concerning the control God has, Laurie states, “It is important to remember that God is still in control, even if things around us seem to be in chaos.” Another way to simply say this is that God knows best. This is supported by the description of God’s ability to love and sense of justice. The explanation of God the Father being both “Loving and Just” is a common theme throughout the Bible and Christian thinking. However, to simply say that God is loving and just does not do justice to the extent of these traits. While being loving and having a concern for justice are very human qualities, God the Father exemplifies these qualities. He is believed to be *so* loving and *so* just that the control previously mentioned that God the Father has over his creation should not be a concern if one acts according to his wishes. As Laurie explains this quality of God, “In spite of his extensive knowledge of our sinfulness and unworthiness, he has declared, ‘I have loved you, my people, with an everlasting love. With unfailing love I have drawn you to myself’ (Jeremiah 31:3). God does more than love even when He knows the darkest secrets of people. The most popularly referenced symbol of the love that God the Father shows towards people is His sacrifice of Jesus, his son. Both of these examples demonstrate that the love and justice that God lavishes upon His people is beyond comparison to anything a person is capable of. Still, the emotions are common to people, again showing that God the Father is a derivative of the person category, and the increased intensity of the emotions are counterintuitive characteristics, specifically psychological violations.

Lastly, God is described as “Holy.” To elaborate on this description, Laurie says, “The seraphim are on type of angel. Although they are without sin and are constantly in the very presence of God, they showed their reverence and awe for him by covering their faces and their feet with their wings.” In this description shows that God is so pure or holy that even those who have never done something wrong are less than Him. This intrinsic goodness is also described by Laurie as, “God is most holy. There is no one holier than he.” Because God the Father has never done anything wrong, it is psychologically counterintuitive to think of a concept in this way. This is yet another psychological violation of the person category.

#### *Biological violations*

God the Father is without a birth, death, and is not thought of as aging. There is not one story that describes God these ways. Furthermore, God is not believed to have a physical body, although he is still described, as above mentioned, as having a face, hands, arms, and so on. Immortality is a clear example of biological violation. Psalm 90 states, “Before the Mountains were created, before you made the earth and the world, you are God, without beginning or end.” Another reference to God’s immortality can be found in Psalm 92, “You, O Lord, continue forever.” Anything belonging to the person category is expected to have been born, age, and eventually die. This biological violation is another one of God the Father’s counterintuitive characteristics.

“While some insist on the existence of many gods, only the God of the Bible is the true, living God, worthy of our devotion,” as said by Laurie, is a summary statement that equates saying that there is nothing like God, even other gods. By saying that there is nothing like God the Father, we see that God violates all expectations psychologically, biologically, and physically, and all of these violations in total make this concept special and unique. Something

described as an agent that is the only one of its kind is in itself a biological violation. This also interferes with folk biology in the fact that God is the only one of His kind, and yet He has a son, Jesus. However, this violation is compensated for by the belief that God procreates with a person, not another god comparable to Himself, because the real-time god concept is thought of as a person. Again, we see that God's biology is not limited, and even though there is nothing comparable in nature to God being the only one of His kind, He still possess the ability to reproduce.

#### *Physical violations*

God is described as “ever present,” which is a physically impossible feat for people. The ability to be everywhere all at once (because God is also not limited by time as evidenced by Psalm 90, “For you, a thousand years are as yesterday! They are like a few hours!”) is an extremely difficult characteristic to cognitively process. Although this is a very common attribute associated with God the Father, it perhaps borderlines theology because it is also very common for one to think of God as existing in heaven, an idea that will be later explored. The Bible references God, heaven, and even a throne where God resides multiple times such as in Psalm 92, “But you are exalted in the heavens,” or in Psalms 17, 18, and 86 which respectively reference God being located somewhere above and separate from Earth: “Bend down and listen as I pray”, “He heard me from his sanctuary...He opened the heavens and came down”, and “Bend down, O Lord, and hear my prayer.” Either one of these views, either of God being everywhere all at once or living in a place elevated above Earth, is physically impossible for people, and therefore, is a physical violation of the person category.

Laurie also describes God the Father as, “All-Powerful,” or capable of all things, unlimited. This unlimited ability means that God is not limited at all by the laws of physics that

govern the earth. If God wants to send a plague, He can control nature to do so. The same can be said about His abilities to create. Nothing hinders His will. Nash (1983) presents a good example of the belief that time is irrelevant to God:

Imagine a person who has just learned that a loved one has been involved in a plane crash. The first reports indicate that of the one hundred people on the plane, eight-five died. It would be natural for any person in that situation to breathe a prayer that her loved one on the plane might have been spared. Since the even in question belongs to the past and the people now dead have been dead for hours, this prayer appears to be a request that god change the past. Does such a prayer make sense?

The above quotation demonstrates the naturalness of assuming God the Father is able to perform any act he so chooses in this case, even if it means to violate time. This is the most direct and all encompassing physical violation. There is no person that can claim this ability, making this characteristic a physical violation.

### *Jesus Christ*

Jesus, being the son of God, has many counterintuitive characteristics. Unlike God, however, Jesus does experience a human life cycle. Laurie establishes an outline of Jesus by stating the following:

1. Jesus is Human.
2. Jesus is Divine.
3. Jesus Had a Specific Mission to Accomplish.
4. Jesus Made the Ultimate Sacrifice.
5. Jesus Has Great Power to Transform People.
6. Jesus Has an Eternal Dominion.

### *Psychological violations*

While Jesus did lead a human life, that does not mean that all of his characteristics are human. For example, Jesus' "Power to Transform People" is a statement of the belief that anyone who has a relationship with Jesus will experience salvation. It is not unheard of for somebody to meet someone else and afterwards have a feeling of being a better person for it, but the fact is that somebody does not have to physically meet Jesus to be transformed is counterintuitive. It's not like reading an autobiography of a great person and wanting to lead a purer life accordingly, but more like establishing a relationship with that person. The ability to completely change a person's life just by meeting them and establishing a relationship is not so impressive, but the ways people perceive their lives to be changed is counterintuitive. Cram (2001) has interviewed numerous adults who experience Jesus by undergoing bullying as a child, and their lives have turned around accordingly. This ability to by merely knowing a person and changing them is counterintuitive and a violation of folk psychology.

Another psychological violation that the Jesus concept has is the ability to make predictions. According to the Bible, Jesus predicts his death and betrayal such as in Mark 9:30-32, "The Son of Man is going to be betrayed. He will be killed, but three days later he will rise from the dead." Other concepts from the person category are able to make predictions based on the past, but not to unquestionably know what will happen in the future. This is a very clear example of a psychological violation.

### *Biological violations*

There are several ways that the real-time god concept Jesus violates folk biology, the first being that Jesus is believed to have been born from a virgin woman. It is understood that babies are a product of intercourse, and being born from a woman who did not have sex is

counterintuitive. This is one of the prominent characteristics of Jesus, and the one feature that pertains to Jesus being both human and divine.

Another biological violation that the Jesus concept possesses is that he died and was able to resurrect. “During the forty days after his crucifixion, he appeared to the apostles from time to time and proved to them in many ways that he was actually alive” (Acts 1:3). The life cycle ends in death, and there is no activity in the person afterwards. In Jesus, however, he comes to visit, talk to, and eat with his followers. After death, these activities are not possible, so Jesus’ death becomes counterintuitive because it violates folk biology.

#### *Physical violations*

Besides having psychological and biological violations, Jesus has one very specific physical violation, the ability to heal or as Laurie states, “transform people.” Throughout the Bible, Jesus heals multiple people suffering from an array of ailments including paralysis, leprosy, blindness, and even death. The Bible describes an account, for example, in which, “Jesus reached out and touched the man. ‘I want to,’ he said. ‘Be healed!’ And instantly the leprosy disappeared” (Luke 5:13). Without the aid of therapies, people cannot physically remove illness. The ability to bring someone back to life, as demonstrated in Mark 5:21-43 and John 10:38-44 is another violation of physical abilities because once something is dead a person is not capable of resurrecting that person by touch or by command. Again, Jesus performs a miracle that violates physical expectations. Jesus also is capable of healing people afflicted with evil spirits, which in its self is counterintuitive. However, ignoring the counterintuitive aspects for a moment and looking at the side effects of the possession as written in Luke 9:37-41, we see that indeed Jesus is capable of ending if nothing else symptoms. For example, the symptoms described are screaming, convulsing, and foaming at the mouth. By casting out the demon, the

boy was healed of these symptoms, again demonstrating physical abilities that ordinary people do not possess. The ability to affect the body of another through casting out spirits or touching a person violates physical expectations of people and creates another counterintuitive facet of the real-time Jesus god concept.

Another ability Jesus has that is physically impossible for other people is the ability to create food to feed many people such as in Mark 8: 1-10. The ability to take a few fish and several loaves of bread, and feed an enormous crowd with this small amount of food by blessing it violates the basic *Law of Conservation of Matter* that recognizes the inability to create matter. Again Jesus performed a physically impossible feat adding another counterintuitive characteristic to this concept.

Possibly one of the physical violations most associated with the Jesus concept is the anecdote of which he walks on water. There are several properties of physics that should restrict the ability to walk on water including gravity and buoyancy, but still, this god concept is completely capable of violating these laws. Again, this is a solid example of a physical violation.

### *Holy Spirit*

Like God the Father and Jesus, the Holy Spirit is a derivative of the person category. While Laurie acknowledges that grappling with the theologically correct trinity is nearly impossible, “we will never fully grasp the concept this side of heaven.” He also states, “Some, however, have wrongly thought of the Holy Spirit as more of an ‘it’ than a ‘him.’” Laurie evidences this statement by making references to the Bible’s mention of the Holy Spirit and saying, “Note the use of the pronoun *he*. The Holy Spirit has a distinct personality, and he also has specific work that he wants to do in our lives as followers of Jesus Christ.” While the New

Believer's Bible does give an outline for the qualities of the Holy Spirit, Withrow (1996) better demonstrates real-time thinking about this concept, "The Holy Spirit indwells a believer, cleanses the person's life, gives power over temptation, and provides a greater purpose for living." This real-time god concept, a product of the person category, has violations and transference that make Him counterintuitive like the other concepts.

### *Psychological violations*

"Filled with" or "Full of the Holy Spirit" are phrases typically surrounding this third concept (Stagg, 1973). Stagg recognizes several places in the Bible that give him reason to identify the Holy Spirit as the "Creative Activity of God" and finds other instances in which the Spirit brings prophecies. However, these aspects of the Spirit seem restricted to theology. Psychological violations for this concept are not common in real-time belief. That is not to say that the Holy Spirit does not possess psychological abilities that aid in things such as personal conversion and missions (Stagg, 1973). These abilities are in fact an important aspect of the Spirit. However, these aspects cannot be classified as violations of psychology because conversion, whether personal or done through mission work, is a change of belief from one to the other. While the Spirit does have the ability to amend any person's beliefs to aid the person in his or her conversion to Christianity, for the Spirit to be able to work, the person has to accept Jesus and be willing to accept the Spirit's teachings and knowledge to change their lives. Thinking about this analogically, the job of the Spirit is comparable to the duties of a pastor or missionary. The person who wants to become Christian has to be accepting of the teaching and make a personal commitment to Jesus. It should be evident by this comparison that the ability to ultimately effect somebody's beliefs and lifestyle is not counterintuitive because it happens quite frequently. To broaden the analogy, a lawyer is somebody who makes a living changing the

beliefs of jury members. While the Spirit has a more spiritual vocation, the act of changing the beliefs of a person with the ultimate goal of guiding them to a Christian lifestyle, we can see that these acts can and are often accomplished by people leaving this god concept without psychological violations. The counterintuitive attributes most associated with this real-time god are typically violations and transferences of folk biology and physics.

#### *Biological violations*

“Another false notion is that the Holy Spirit first came at the Pentecost,” according to Stagg (1973), revealing a real-time belief about Holy Spirit that defies theology. The belief that this god was a gift given at Jesus’ Ascension is common among Christian believers. Act 2:1-47 is one of the roots of much of Christian belief. There is no description of the Spirit being born; He just exists. This belief being another by-product of the person category, and existing without parents or birth is counterintuitive. It is intuitive because of folk biology for a person to be born of a male and female person. Because these event do not take place in the case of the Spirit, folk biology is violated.

#### *Physical violations and transferences*

The dwelling place of the Spirit completely violates physical expectations of a person. While it is common to think of a person living in a house or some other form of shelter, it is not at all familiar to think of a person living inside of another person. The Spirit is believed to live inside all people, especially Christians where the Spirit plays an active role in the person’s life. The Spirit is also believed to have other dwelling places such as churches, but the Spirit dwells in all of these places at once, another physical violation. In an instructional article for Catholic teachers by Brochu and Baragar-Brcic (2007) mentions the dwelling place of the Spirit by saying, “In turning deep within ourselves and to the indwelling of the Spirit, we are helped to

deliberately turn our faces toward God, in both response and in hopes of a personal encounter and partnership.” The “indwelling of the Spirit” is a common understanding of the location of the Spirit, but it is also common to think of the Spirit residing in the church. Thinking of religious ceremonies including weddings, confirmations, baptisms, and weekly services, it is easy to understand that because the Spirit is believed to exist as a bridge between God and His creation, the church where the Spirit is present is thought of as a physically good location to hold important rituals. Both living inside of people and in more than one location are violations of physics. People cannot physically live inside of other people, and people cannot physically exist in more than one place at once. These are the most prominent counterintuitive beliefs about the Holy Spirit.

Another physical violation on the Holy Spirit is the belief that the Spirit is felt not seen. While agency detection device makes a person sensitive to any signs of an agent giving people the feeling of being in the presence of something else, but one expects to be able to physically see the agent if it is there. Not being able to see the Spirit is a violation of folk physics. There is one common belief or image of the Holy Spirit that is commonly portrayed in iconography in which the Spirit manifests as a dove. People cannot change into animals, and the Spirit in the form of a dove that can be found in the story of Jesus’ baptism is a transference of folk psychology because the Spirit is of the person category but has the physical properties of a concept of the animal category.

### *Real-Time Christian Trinity in Context*

#### *Dispensationalism*

Dispensationalism is not common to all forms of Christianity, but in some protestant denominations, Dispensationalism is a typical belief. This belief that the world’s physical laws

were different at different periods of time is comparable to both other case studies. Recall that *mappo*, or the belief that devotion or faith alone is the only way to save a person from the ending chaos of the world. In the Southwest traditions that encircle Coyote, the “Time Before New People” was a time when the world was being ready for mortal people by many animal-people. In Dispensationalism, it is believed that the world has existed in seven different periods, and in those periods the physical laws of the world were different, making Biblical stories entirely possible. Like distinction of a new period *mappo* allows a personal connection with Amida that was not plausible before and the Time Before New People makes it fathomable that animal-people ran the world, Dispensationalism changes the rules of the world to create a rational context in which the myths of Christianity can reasonably take place in the literal sense. In all three cases, the context of the god activates more mental tools that make the god more transmittable. Without a context, the concept would be too counterintuitive to be easily transmitted, but with the many activated mental tools and the minimally counterintuitive characteristics of the god, the adherents generate many nonreflective beliefs.

### *Heaven*

Dispensationalism is not the only context for Christian beliefs, and is probably not the most popular context. Like the Pure Land of Amida, heaven is a place where many counterintuitive concepts exist in a separate reality. In John 14:2, “There are many rooms in my Father’s home, and I am going to prepare a place for you,” says Jesus about heaven (New Believer’s Bible). This passage commonly recited at funerals describes what can be expected in heaven. The word “rooms” is sometimes substituted for “mansions,” but the message that something comparable to the lives we experience on Earth is conveyed in either variation. Psalm 11 describes heaven as having a “holy Temple.” Again, the imagery of buildings makes the idea

of heaven, a place where loved ones exist after death, a very familiar reality, although a very different reality.

### *Conclusion*

Each concept of the Christian Trinity, like the gods of the other two studies, is a by-product of cognitive processes relating to the person category. These three concepts that make up the Trinity each have violations and/or transferences that make the concept counterintuitive. Vertical and horizontal transmission is possible by the fact that Dispensationalism and heaven create a context for the god concepts. Because of the context, nonreflective beliefs about the reality of heaven and Biblical periods can be used to form reflective beliefs about the god concepts. The ability for these concepts to be easily transmitted coupled with the beliefs that form around these concepts make Christianity a worldwide religious tradition.

## RESULTS

The literature surrounding the three case studies suggests several similarities between the gods. The first similarity is that each god was derived from the person category. For instance, all though a god might have unlimited knowledge, knowledge is still a characteristic of the person category and the belief that the god's knowledge is unlimited demonstrates a counterintuitive psychological characteristic. Another important implication of the three case studies was the lack of any counterintuitive characteristic that could not be classified as a violation or transference of folk psychology, biology, or physics. This demonstrates the cognitive constraint that thought processes are limited by. Also, the context in which these real-time gods are thought of allow the adherent to form nonreflective beliefs about the concept that minimize counterintuitive characteristics by activating more mental tools than would be activated if thinking about the concept as a person without counterintuitive characteristics. Being minimally counterintuitive enhances the ability for transmission both vertically and horizontally. Lastly, the fact that all god concepts are derived from the person category, are counterintuitive because of violations and transferences on folk intelligences, and have a context in which nonreflective beliefs can be formed demonstrates that the brain, regardless of culture, conceives of gods using the same cognitive processes. None of the concepts that were examined in these studies defied the cognitive processes that have been previously outlined by scholars such as Barrett, Boyer, Slone, and Tremplin.

## CONCLUSION

These three case studies support the findings of scholars exploring the cognitive science of religion. The studies focused on three gods from different cultures with the aim to demonstrate that the cognitive processes responsible for the conception and transmission of real-time god concepts is the same regardless of the society the religious tradition comes from. The processes recognized by these studies, while making direct suggestions about the way that god concepts are conceptualized and transmitted, can be broadened to make assumptions about the cognitive processes relating to other concepts. The similarities that are found to exist between these concepts that are thought to be from very different religious traditions also demonstrate how these differences are only surface level. No matter what the religion, adherents are using brains that employ cognitive processes that are the same, and for that reason the by-products of those cognitive processes are also very similar. Gods are by-products of cognitive processes that aid in the survival and reproductive capacity of a person. The innate mental tools, innate intelligences, and cognitive processes are the same regardless of the person because survival and reproductive needs are similar, and for this reason all by-products of these processes will bare unmistakable similarities as well.

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